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ART-LOVER.

"EVERY man's proper mansion-house, and home, being the theater of his hospitality, the seat of self-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kind of private principedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."—SIR HENRY WOTTON.

"OUR English word To BUILD is the Anglo-Saxon Bylġan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things as well as to dwelling-places."—DIVERSIONS OF PURLEY.

"ALWAYS be ready to speak your mind, and a base man will avoid you."—WILLIAM BLAKE.

OFFICE: CATHERINE ST. STRAND LONDON W.C.

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DESIGN FOR THE PEARL ASSURANCE COMPANY'S OFFICES, HOLBORN. BY PROFESSOR HERBERT PITE, F.R.I.B.A. HOUSE AT WORPLESDON. MR. LEONARD MARTIN, F.R.I.B.A., ARCHITECT.

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OUR REGENT'S QUADRANT COMPETITION.

WHEN we originally contemplated promoting a competition for designs for the completion of the Regent's Quadrant façade, we confess that whatever our hopes may have been we hardly ventured to anticipate so wide a response to our invitation. That 138 designs have been submitted is naturally, therefore, a source of gratification, as it seems to show that our effort to interest the profession in the solution of a most difficult problem has not failed of its purpose.

This problem of the architectural treatment of the shop front in harmony with modern requirements is one of the first importance, yet it is, we think, too often shirked, and as far as possible evaded by those who are called upon to deal with it. Instead of accepting the practical conditions and requirements with enthusiasm, and from them drawing inspiration for characteristic and

expressive designs, as did the architects of all the great periods of the past, modern designers are too apt to look upon them as restrictions which, conflicting with their preconceived ideas and with the architectural conventions of the moment, tend to paralyse their efforts.

Under our present code of building laws, and with our present building methods, any such logical solution of the treatment of shop façades as was foreshadowed by Viollet-le-duc, and has since to some extent been realised here and there on the Continent, is for the time impossible, but even under our present conditions there is much to be done, if only the subject can be approached sympathetically.

At the root of the whole matter, no doubt, lies the question of town planning—the proper location of buildings, such as shops, which need a special architectural treatment. If all buildings were placed in accordance with their relative

importance in the life of the community, half the difficulties would disappear. In this particular case the town-planner may well take the view that, although drapers' shops are necessary to the community, they are not of such outstanding importance as to demand the angle site at the junction of the two most important West-end thoroughfares in London dominating an important open place containing such semi-public buildings as a theatre and a music-hall.

He might think that the relative importance of the shop would be sufficiently expressed and its practical necessities sufficiently provided for by a frontage in some less dominating position.

This angle seems to call for a feature of some strength, and if the whole district were replanned it would probably be reserved for a public building, or at any rate for one of a character which naturally demanded sufficient solidity of

treatment. To place here a building which naturally demands a glass base would seem, from this point of view, to be deliberately looking for trouble, and we are inclined to the opinion that in a well-organised town such a problem as here confronts us would never be allowed to arise. We are aware that every trade in London would like to occupy such a site, but it is difficult to imagine a town-planner allocating it to one more than to another.

We suppose it is generally recognised by most architects that in a shopping street the shops should predominate and give the characteristic note, and that the buildings above them should be kept quiet in treatment to serve as background or foil to the rich and varied display in the shops, and to the colour, life, and movement, and human interest in the street itself. Here the points of view of both architect and retail trader seem to coincide, or at least to present no absolute contradiction, and on some such general principle there should be no special difficulty in creating a façade which should be satisfactory to both parties, as long as no attempt was made to erect it in a position where its characteristic treatment would be out of place in the general scheme of the city.

Had this been all that was required here, there would have been no need for our competition, as the only special difficulty would be the treatment of the finish to Piccadilly-circus. The special problem that excited our interest was the possibility of creating a characteristic shopping façade in harmony with one which is not generally considered characteristic.

Our readers may remember that in announcing our intentions we asked for "an architectural design that, while accepting the present façade as a *fait accompli*, shall continue it in such a fashion as may not be open to the destructive criticism that has been levelled at Mr. Norman Shaw's design," while the terms of the competition stated that it was "for designs suggesting a façade in harmony with the Piccadilly Hotel, but giving more consideration to the requirements of the retail trader."

This, then, was the problem, and it is for the assessors to say how far any of the designs submitted afford a reasonable solution.

Nothing is more interesting than to notice the different ways in which the terms of the competition have been interpreted. The designs range from those which continue the treatment and features of the Piccadilly Hotel, with a consideration for the retail trader which is well-nigh infinitesimal, to those which practically ignore the hotel and proceed as if it were not in existence, aiming at a harmony of general effect. Broadly speaking, perhaps, it might be said that all those who have made a genuine attempt to solve the particular problem involved may be divided into two classes which appear to have approached the problem from opposite directions. On the one hand are those who start with the hotel and endeavour to carry on the same style and character so far as consideration for the retail traders will permit, and on the other hand those who start to design a suitable shop façade

for Regent-street, making such concessions as they felt necessary to bring it into harmony with the hotel.

As the majority of the competitors might perhaps be expected to consider any exact reproduction of the style of the present building to be a restriction which fettered the free expression of ideas, it is not altogether to be wondered at that, generally speaking, the more interesting of the designs are those in which the author has allowed himself as free a hand as possible, and has trusted to obtaining a general harmony by other means than the literal retention of the style and features of the hotel.

From the retail traders' point of view we understand that the objectionable features of the present design are the ground-floor arches with their deep reveals, the great depth of the entablature, the heavy cornice, and the loss of space and light involved in the recessed frontage on the upper floors. In dealing with such features many nice questions must have arisen capable of being looked at from many different points of view. How far the traders should be expected to make concessions to the general appearance of the street, or how far such features can be altered while preserving a reasonable degree of harmony with the present façade, are questions which each competitor has answered for himself.

In fact, this competition appears to have been a most useful exercise in the art of adjusting conflicting interests under circumstances somewhat different to those which usually obtain in the daily routine of an architect's practice—an exercise in artistic judgment rather than invention. We feel confident also that it will not be without its effect in bringing home to those who have not hitherto given much consideration to the matter that every street should be treated in accordance with its character, and that guiding principles can be evolved which are applicable in every particular case.

We offer our heartiest congratulations to the winners, and our thanks to the assessors, and to all those who have contributed to the success of what we believe will prove a most useful competition. We hope next week to illustrate some of the selected designs, and to make further reference to the exhibition now on view in the gallery which the Architectural Association have kindly placed at our disposal. Our indebtedness to the Association is further increased by their courtesy in allowing the drawings to remain on exhibition till 6 p.m. on Wednesday, 10th inst.

THE INCORPORATED CHURCH BUILDING SOCIETY.
The Secretary of the Incorporated Church Building Society, 7, Dean's-yard, Westminster, has received a bank-note for 1,000l. from an anonymous contributor.

NOTABLE LONDON HOUSES FOR SALE.

Some notable London houses have just been placed in the market. The category comprises No. 14, Melbury-road, Kensington, built for the late Colin Hunter, A.R.A., after designs by J. J. Stevenson; Lovthor Lodge, Kensington Gore, by Mr. R. Norman Shaw, R.A., for the late Hon. William Lovthor; Nos. 125 and 125A, Mount-street, Grosvenor-square, by W. H. Powell, F.R.I.B.A.; J. M. Whistler's home, No. 74, Cheyne-walk, Chelsea, by E. W. Godwin, F.S.A.; and Dudley House, Park-lane, the residence of William, Lord Ward, first Earl of Dudley, which his son, the Hon. John Ward, has purchased from Sir J. B. Robinson.

FIRST CAUSES.

IT is well sometimes, not "on occasion" but on no occasion at all, and even in the press of practical actuality, to draw little aside and wonder what, after all, we are doing in this matter of architecture besides, with more or less success, gaining our livelihood thereby. The danger of becoming too enamoured of contemplation, of abstract inquiry, as well as of the inhibitive tendencies of its too anxious prosecution and partial results, is not one which unduly besets us as a race, although it undoubtedly exists. What success we have, in a world of doubt and experiment, is to a great extent due to our instructive avoidance of these perils, and what failure and meagreness of achievement we must confess to as artists and, to be particular, as architects must be ascribed in a determining measure to that self-same characteristic attitude of our minds. For a great architecture is the product not of the moderation, which is our boast, but of steadfast temerity and a sort of passionate patience, rather than of our customary rule, not "of thumb" even, but of expediency. That rule of procedure has enabled us, in other directions, to do so well in disordered situations and in times of dissolutions and untried beginnings, such as the century past is now being realised to have been.

To do so well indeed, in the hurly burly, that we must sometimes, architects especially, because not only their pleasure but their profit also is concerned—must sometimes surely sit back wondering, and inquire, not with petulance, but musingly, how it is that the arts and architecture also have not prospered more than they have. We are doing better; we have in cases done well; but have we, we architects, done proportionately well? And we can but admit that, taking us all together, we have not. We know, each one in his own case, that given the conditions we suffer we could not have done much otherwise; that given some other conditions we would have done much better. It is not inability alone, we feel, that holds us from some realisation, a little more nearly complete, of our dreams. And if we will analyse our troubles we discover that they all, in as far as they lie not within ourselves, have their root in the mental attitudes of three sets of persons—since persons form, alas, the bulk of the medium in which we have to work!—our clients, that is to say, our craftsmen and those varieties of persons in the mass, the public authorities. But this amounts to all our environment, if we except for the moment the ever-present Past. And we have come to the conclusion that good architecture (we will not think yet of great architecture) is rendered difficult by the condition, mental and spiritual, of all our countrymen, of the whole race: in which aggregation the inquirer is a unit, so that it is possible, as far as most of us are concerned, that even were the circumambient conditions ever so otherwise. . . . But we do not pursue further the exasperating vista thus disclosed. We rest tired and discontented on our great conclusion, wording it, in our curious language of *chichés* and phrases: "That in the onrush of

material progress the Arts and Graces tend to be left behind," or something, if what one sees written is anything to go by, like that.

Now, as in many other cases in these days, when we are so content with extraordinarily slipshod expression—that contentment itself being a symptom of our condition which must disappear before fine architecture comes once more amongst us—our ready-made phrase about the advance of material prosperity was as wrong in all its implications as the conclusion, on which we thought it based, is inevitable, indubitable, and right. Our phrase implied that material prosperity was, and is, the cause of our falling off—the two phenomena being contemporary as regards, at any rate, their inception—and, further, that it always was so. It is, too, possibly a soothing thought that we are only paying for what, as compensatory purchase, we undeniably have—a great measure of material comfort; and that, through no fault of our own, but by the operation of a cosmic principle, our work is not as good as it might be, or as we could make it, were we not otherwise so exceptionally favoured. Even this shred of support, however, and cushion of resignation, a glance at the course of history will destroy for us. Athens of the great age of Pericles offers economically a very close parallel to this country to-day. Rome grew in wealth and appreciation of art as she expanded materially and in empire. Florence was never so great in either art or commerce as when she was strongest in both. Venice, too; and even this country at various times. Consider East Anglia when the wool trade and the building of great churches went together, and wonder if, after all, the unprecedented ugliness of much of the building to-day, which seems to delight the vulgar, may not be strangely beautiful.

Yet we know it is not so. We know that it has been called all the despairing names with reason; that there may be others perhaps worse still in store. So we must abandon our indictment of material progress. That alone is plainly not to be blamed. Where, then, for we are thrown back upon our first conclusion that all is not as it should be with the conditions of our time, is the seed of misfortune? We turn to the sociologists; they have their answers. We go to the economists, to the politicians, and to all the sects of reformers; they all have their replies, contradictory very often, and ready, easy cures. But none of these appear to have sufficient bearing upon the condition of architecture, the object of our solicitude. All the things they say are wrong have been just as wrong at one time or another, at one or more of the great periods of the art, or can with little difficulty be paralleled. The sects themselves, big and little sects, as we inquire more deeply and variously, show but as symptoms of the trouble; and their very plentitude, far from being hopeful, seems almost to constitute the disease. Thus, although we found that our inhibitive conditions lay all about us and beyond our control, we can discover nothing to our purpose by looking round save that in other walks, as in our own affairs, there is a great searching of

hearts and apparently, if we may judge by results, little to be done.

In some few directions certainly modernity thrives and finds possibility of advancement. Do we unduly perturb a quiet soliloquy by breathing the names of these so alien notes? Cinematograph, aviation, aero-telegraphy—dare we mention them? And motor-cars, all swifter means of transit—*motor*! That is the basic theme—change, departure, speed, and somehow *motion*—all surely inimical to architecture—architecture that has been defined as "building for eternity." But is there nothing new to building, too, nothing which will enable us to do differently, to enjoy, or labour under, possibilities not held out to any age but this? Perhaps we find one. It is only a system of construction, made possible by modern knowledge and the manufacture of steel, at least, by so much therefore, ours alone. It is known as useful in certain situations, especially in those of what we are in the habit of calling a "purely utilitarian" nature. But it often also now underlies an innocent-looking floor, makes possible any very dubious arch, and fills with hidden sap and strength the stale old lines and detail of some overburdened columnar support.

All to what end? That we may build to greater scale, cover more space, enclose more atmosphere? That sounds so crude and quantitative and like the talk of these times. But build more daringly, too, and to the utmost, once again, of our power and skill; and so express the age which is upon us. For what do we think of that age as doing for us, materially only, since none can tell its effect upon the soul of man? Will it not, has it not already, made the world smaller, lessened the distance between man and man, or, as we put it, bombastically, "annihilated space"? And the new building, will it not do yet a little more to decrease the dwindling stature of man himself?

Maybe; but what's all this to us? Motion, rhythmic motion, speed and time, dimension, and space—and the diminishing of cubits. . . . Let us leave these realms before we be utterly lost. Never forgetting though—has it been known for centuries?—that it was not because they had ten realms and of Muses only nine (in a mystic square) that Urania of architecture also had for her own the rhythmic measured movements of the stars. It is well to remember that; and yet, to have pressed our inquiry so into the future, in order to vanquish despair, avails us little in the matter of our asking, what, after all, we are about.

Why, to question our great postulate even, does architecture exist; why in all its history should the forms we take for granted be so interesting and why so diverse? Why should we trouble to give to building—for we do trouble and strive unceasingly—any form at all beyond that positively required by practical necessity? Surely not for the eye alone: as well might we say that doorways are made just for the pleasure it gives us to pass through them. There is so little really, if there be anything, for the eye's delight and nothing else—the eye being merely, as has been said, the window of the soul. So that it would be

as if, going back to that hard metaphor of the door, as if the door were to be pleased by our passing rather than opened to our need. Let us take a piece of the purest decoration—anything will do—so that it have not the remotest hint of a "meaning." Do we not find even with this that it gratifies the eye only in that degree in which that eye is informed by the intellect behind it?

No; that way will not do. All our eyes are much the same, yet the foods we desire to feed them with are so diverse. "Eye alone" proves an answer that turns upon us only to reiterate our query. But if we substitute the use and wont of the eye and say that our vision grows to love for its own sake the forms to which it is accustomed? Why, then, do those forms ever change? Does not that hypothesis imply one habit of our mind, one custom slowly turning through the ages?—a thing unknown except perhaps in China. No; forms have changed more rapidly than can be accounted for by that reasoning. We may object that the forms of buildings do, or should, express their purposes, and so do differ, alter, and progress. But, although the objection is irrelevant, since we are thinking of the forms which constitute "style," common to all the buildings of a period, that is not so either. The plan and grand outlines of a Hellenic temple and a Gothic minster are very different, although their purposes were, it would seem, sufficiently alike to render their forms substantially the same. No one ever denies the difference. But we are now seeking the reason; for if we find anything, it will tell us something helpful perhaps to our quest—our quest of the cause, not so much of the difference between the Parthenon and the cathedral at Amiens—shall we say?—as of our inability to make the best we can do to-day—let opinions differ as to what that may be—anything but indubitably inferior to either.

NOTES.

A Suggested Whitehall Improvement

WE publish in another column a letter and plan we have received from Mr. E. Howley Sim with reference to our scheme for a Whitehall Improvement. The position of the proposed new building, as given on this plan, ignoring, as it does, the frontages to both Whitehall and the Embankment, certainly appears to render some protest necessary, and we quite agree with Mr. Howley [Sim] that the matter might be seriously considered by the Institute and representations made before it is too late. We presume such a matter as this would come within the province of the Town Planning Committee, and if they are not already taking action we commend it to their attention.

Lambeth Bridge.

THE report of the Improvements Committee of the London County Council that the Committee are now considering what action to take with reference to the rejection by Parliament of the Council's Bill for the reconstruction of Lambeth Bridge raises a point of some interest. We think it was generally understood at the time that, apart from some traffic

objection to the proposal for a narrower bridge than had been originally contemplated, there was a certain underlying feeling that the design was not altogether worthy of its position in close relationship to the Houses of Parliament and to the centre of National—or even Imperial—life, and that something better was desirable from the Imperial point of view. We are quite of opinion that if London is to be allowed to reap the profits and enjoy the dignity and prestige of the capital of the Empire she must be prepared to live up to her position, to shoulder the corresponding responsibilities, and to carry out her improvements in a befitting manner, but, all the same, there must be a limit to the burdens which the Empire can rightly place on the backs of the London ratepayer. Without expressing any opinion on the merits of the Lambeth Bridge scheme it would seem only reasonable, as a general principle, that where improvements have, for Imperial reasons, to be carried out on a much larger and more costly scale than would suffice for the reasonable local needs of the town, the Imperial Exchequer should make some contributions to this extra cost. After all, the obligation to provide and maintain a city which shall be a worthy capital for the whole empire is not entirely confined to those who happen to make their living in it.

The Advertisement Nuisance.

We are pleased to see that the London County Council appears to be making a determined effort to deal with some aspects of the advertisement nuisance by proposing by-laws under the Advertisement Regulations Act, by which no advertisement will be allowed within sight of 108 open spaces which have been scheduled by the Committee. It would be interesting to know what principles guided the Committee in their selection of spots to be scheduled, or whether they have any definite point of view as to the nature of the places where advertisements are permissible or not. The first place we should be inclined to schedule is the River Thames, and we hope the Council is alive to the desirability of preserving its mystery and romantic beauty from the electric light monstrosities which now disfigure it. The trouble is that from the point of view of civic design any advertisement is in its nature a monstrosity. Any feature which jumps out of the picture and does not sink into the general composition tends to destroy the unity of the whole effect, and is to be deprecated, but unless it does so it is no use as an advertisement. The very idea of an advertisement is to force itself upon our attention by striking a discordant note in the general harmony. Although efforts have lately been made to raise the standard of pictorial advertisements and to invest them with certain artistic qualities, yet we think it cannot be disputed that their general underlying idea is inartistic and subversive of all the principles which are essential to the creation of the perfect city. It may be that at the present moment they are an unavoidable evil, but, if our towns are ever to be as beautiful as they are large, we must look forward to the day

when public advertisements will be forbidden by law or taxed out of existence. We trust this action by the County Council will prove to be the beginning of the end.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS: THE EXAMINATIONS.

IN reference to the Royal Institute of British Architects' Final Examination we have received the following announcement with regard to the alternative scheme of testimonies of study.—The alternative scheme of testimonies of study for the Final Examination will come into operation at the option of the candidates in November next, and after the end of the year 1913 the existing testimonies of study for this examination will be abolished. Six alternative problems in design will be set by the Board of Architectural Education each year, and candidates for the Final Examination must submit designs in answer to at least four of these problems. These alternative problems will be published twice a year, three sets in January and three in July. This is done for the convenience of candidates, but it must be distinctly understood that the time for sending in the designs in answer to these problems is strictly limited. Thus the designs for Subject IV. must be sent in to the Secretary, R.I.B.A., by August 31, 1912; those for Subject V. by October 31; and those for Subject VI. by December 31. (This time will be extended for students in the Colonies; see dates following list of subjects below.)

The drawings must be on imperial sheets, and candidates must affix their full name and address to each drawing submitted.

The subjects for the second half of the year 1912 are as follows:—

Subject IV.

(a) A Senate House, on an isolated site, for a modern University, to consist of a council chamber to seat sixty persons, with anteroom, waiting-room, and cloakroom, and two committee-rooms, each to seat twenty persons round a table. Plans, sections, and elevations to be to $\frac{1}{2}$ scale. Details, both external and internal, to $\frac{1}{4}$ -in. scale and shaded.

(b) A Bridge carrying a road 25 ft. wide between parapets over a canal 40 ft. wide. The bridge may be built of brick, stone, or ferro-concrete. Drawings to be to $\frac{1}{4}$ -in. scale and to show complete construction. Important details to 1-in. scale. Calculations to be given.

Subject V.

(a) A Picture Gallery in a public park, consisting of six galleries of varying size, but of not more than 8,000 super. ft. in all. The galleries are to be arranged with cloakrooms etc., so that they can be used for receptions. A room for a curator and a packing-room are to be included. Plans, sections, and elevations to be made to $\frac{1}{2}$ scale. Details, both external and internal, to $\frac{1}{4}$ -in. scale and shaded.

(b) A Village Church to seat 300. May be in any style, but with complete details of construction. Drawings required to $\frac{1}{4}$ -in. and $\frac{1}{2}$ -in. scale.

Subject VI.

(a) A Colonnaded Screen, 100 ft. long, joining two wings of a public building 60 ft. high. The screen to have two carriage entrances through it. Shaded drawings to $\frac{1}{4}$ -in. scale with 1-in. scale details.

(b) A Fire-Resisting Lock-Up Warehouse on a site 40 ft. by 80 ft., with two frontages 40 ft. wide to two parallel streets. The site is between buildings, so that no light can be obtained on the 80 ft. sides.

The building is to have six stories, and each floor is to be capable of sustaining a load of 4 cwt. per super. foot. Drawings required, $\frac{1}{4}$ -in. and $\frac{1}{2}$ -in. with $\frac{1}{2}$ -in. full-size details of important parts of any steel construction.

N.B.—A sketch perspective may be included in any of the foregoing, but is not compulsory.

BRITISH ARCHAEOLOGICAL ASSOCIATION:

CONGRESS AT GLOUCESTER.

AFTER an interval of sixty-six years the venerable British Archaeological Association migrated to the ancient city of the West, and there held its annual Congress, the proceedings commencing on Monday, June 24, and extending throughout the week. In 1843 the Association was then young, the Gloucester Congress being the third of the series, its previous assemblies having been held at Canterbury and Winchester. It could then boast of many great names in the archaeological firmament, such as those of John Britton, J. T. Pettigrew, Charles Roach Smith, Thomas Wright, Sir Samuel Rush Meyrick, whose memories are ever green amongst the students of antiquarian lore. Some years ago the venerable Association displayed some signs of age and a decrease of energy; but that period of decrepitude has passed. Thanks to the energy of its President, Mr. Charles E. Keyser, M.A., F.S.A., its Treasurer, Mr. R. Bagster, its Hon. Secretary, Mr. Allen Walker, and its active Council, the Association has taken a new lease of life, and may be trusted to carry on its useful mission for many years to come.

It was a happy thought to select Gloucester as the centre of the Congress for this year, and to revive the memories of the society's distinguished past history. Gloucestershire is a county rich in historical and archaeological associations. Its magnificent abbeys, its castles, its remains of prehistoric antiquities, its splendid relics of Roman rule, its grand churches, invite the members of such a society as the British, and repay the closest study. It is an ideal county for antiquaries and architects to roam, a land of bold natural contours of hill and dale, of rolling ridge and dipping combe, a land where timber and good building stone abound. The Cotswold region boasts of an architectural style of its own, where the masons of to-day carry on the traditional style of building handed down by their sires, and build naturally and unaffectedly. Wherever we roamed, driving in the Severn Vale or amongst the Cotswold Hills, we saw cottages, farmhouses, and manor-houses with many gables or projecting wings, ranging from the Tudor to the "Classic" of the Georgian period. We saw many splendid examples of domestic architecture, built of stone, with steep pitched gables, mullioned windows, with drip-stones over them, some with round-shaped mullions, others with hollow mouldings, high-pitched roofs covered with brown stone slabs. The chimney-stacks present interesting studies—the grand brick elaborate masterpieces of Thornbury Castle, or the simple farmhouse stacks composed of several chimneys, built of dressed stone, set together in diagonal clusters, massive and solid, and yet giving an impression of grace, variety and lightness. Here and there we saw those modern monstrosities of red-brick and blue slates, devised by jerry-builders, which when placed in juxtaposition to the creations of the old masons are a terrible eyesore.

Gloucestershire is a hospitable county, and the Association was welcomed with a heartiness which was gratifying in the highest degree. A strong local Reception Committee, composed of the Bishop and Dean of Gloucester, the Mayors of the chief towns and city, county gentlemen, and clergy, with an admirable local Congress Secretary, Mr. Roland Austin, made excellent arrangements for the comfort, convenience, and instruction of the visitors. Moreover, the county can boast of an active and vigorous archaeological society, which has for many years done good service in investigating the history and antiquities of the shire, and its Chairman, Canon Bazeley, placed at the

Dates for Submission of Designs.

	Subject IV.	Subject V.	Subject VI.
United Kingdom	31 August, 1912	31 October, 1912	31 December, 1912.
Johannesburg	31 October, 1912	31 December, 1912	28 February, 1913.
Melbourne	30 November, 1912	31 January, 1913	31 March, 1913.
Sydney	30 November, 1912	31 January, 1913	31 March, 1913.
Toronto	30 September, 1912	30 November, 1912	31 January, 1913.

disposal of the Congress his very complete knowledge of the story of abbeys and churches, castles and mansions, accompanied the party on all the excursions, and gave graphic descriptions of every object of interest which we met with during our travels.

The Congress opened on Monday, June 24, with a visit to the cathedral, formerly the Minster Church of St. Peter's Abbey, where the Very Reverend the Dean met the party, which numbered seventy persons, and told the story of that ancient fane—a story which it is almost unnecessary to repeat in the columns of the *Builder*, as it will be well known to most of our readers.

Cowkesbury Abbey, of course, is very similar, and was probably built by the same masons some ten years later than Gloucester. The Dean said that the first impression of the cathedral as they gazed on the exterior and saw the great Perpendicular tower, the story windows, and other features, that it was a Perpendicular church; but on entering the church they saw that it was really a Romanesque structure. The western arches of the nave were rebuilt in the Early English style with pointed arches when the west end had been ruined by a fire at the end of the XIIth century. The speaker described the church as it was when the whole of the nave was coloured and gilded, when a dozen altars stood with light gleaming, and there was a handsome wood-screen rich with golden colour, and the floor was paved with rich tiles. He disliked the present screen and the hideous flooring laid down 150 years ago. The Dean claims that Gloucester Cathedral was the birthplace of the Perpendicular style, and when we visited the south transept he maintained that theory. The Dean conducted the visitors to the choir, ambulatories, and Lady Chapel, and at each spot explained in his own graphic and interesting style the wealth of interest which each step in the pilgrimage revealed. Canon Bazeley and Mr. Waller, the Architect for the Dean and Chapter, also took charge of parties and explained many architectural details. Subsequently the Dean received the Association in the Cloister Garth and conducted them over the Deanery.

Reception at the Guildhall.

In the evening of Monday the Mayor of Gloucester, Councillor and Mrs. W. J. Johnston-Taughan held a reception in the Guildhall, when there was a large gathering of the principal people of the city and neighbourhood, and an exhibition of the Corporation insignia, charters, and records in which the city is specially rich. The earliest Council book bears the date 1486; the earliest Charter was granted to Gloucester by King Henry II. in 1155. These civic records are described in a volume of the "Reports of the Historical Manuscripts Commission," and reveal many matters of unique interest.

The Corporation insignia include two swords of State, one of which was provided under the Charter of Richard III., and the other under that of Charles I. in 1627; the Cap of Maintenance, worn by the Sword Bearer on State occasions; two handsome Maces; the Mayor's and Sheriff's chain and badge; the silver ear, an emblem of maritime jurisdiction vested in the Corporation, and several seals. The most interesting pieces of plate possessed by the civic authorities are the great Somers Salver, constructed in 1659 and weighing 203 oz., a large silver punch-bowl, given by George Augustus Selwyn in 1768, and a loving-cup presented in 1767.

The Mayor gave a hearty welcome to the Association, and said that he was glad that it had fallen to his lot to extend the city's greetings to its members for the second time in its history. He alluded to the richness of the shire in the remains of the British, Roman, Saxon, and mediæval periods, its ecclesiastical and other buildings of every style of architecture, and the city's share in the national annals, including the famous siege of Gloucester in the Civil War. Canon Bazeley, Chairman of the County Society, also welcomed the visitors, and Mr. Turry, its Secretary, read an address of welcome, in which he pointed out the benefits conferred upon a city by a visit of an Association in stimulating local effort and evoking attention to the antiquities of the neighbourhood. Many of the suggestions made at the Congress of 1846 had been carried into effect, including the foundation of a museum of antiquities in Gloucester, and the Bristol and Gloucester-

shire Archaeological Society, which was in a flourishing condition and had 600 members, would cordially welcome any pronouncement by the older Association which would tend to a better understanding of the antiquarian treasures left as a heritage of past ages and to a more reverent treatment of those which can be preserved from further damage or decay.

Presidential Address.

Then followed the Presidential address by Mr. Keyser, who referred to the early history of the Association, and remarked that, considering the wealth of material within easy reach of that most interesting city, it was surprising that no Congress had been held in Gloucester since 1846. The county, however, had not been entirely neglected, as Congresses had been held at Bristol and Cirencester, and just over the border at Bath, Evesham, and Great Malvern. Allusion was made to the grand scenery of the Cotswolds and the Forest of Dean and to the abundance of prehistoric and Roman remains and the admirable specimens of mediæval architecture. Unfortunately it had not been possible to include in their programme a visit to any of the earthworks, camps, and other early antiquities, and only a small portion of the remains of the Roman period would be inspected. An attempt had been made to see the splendid pavements at Woodchester, but it had proved entirely unsuccessful. The vicar of the parish had wisely protected them from the damaging effects of the English climate, but it was unfortunate that they should be hermetically sealed at a time when a society like the British Archaeological Association was anxious to view them and was willing to contribute materially to the cost of their exposure. The President then referred to the programme which had been arranged and to the important places to be visited, and proceeded to bring under the notice of Gloucestershire antiquaries three cases where he thought they might intervene in the interest of science in the one instance, and of religious sentiment in the other two. With regard to the Roman villa at Woodchester, which possessed the finest tessellated pavements discovered in this country, it did seem a pity that it should be sealed up, and that it should rest entirely on the caprice of one gentleman as to whether or not they should again become accessible to the outside world. He suggested that the pavements should be again uncovered, and the necessary protection provided, the cost of which would be defrayed by the contributions of visitors and by the financial assistance of the Association and other kindred bodies.

Mr. Keyser then called attention to the Priory Church of Stanley St. Leonards, containing some of the richest Norman work in the country. The west and south doorways had been unfortunately blocked up and the site of the Priory buildings was occupied by a farmhouse with very menial sheds and various farming requisites stored under the shelter of the walls of the church on the south and west sides. Could not some efforts be made to improve the surroundings of that beautiful church? At Deerhurst also there was room for improvement. The fine Saxon arch forming opening to the eastern apse had been blocked up, and a refuse heap filled up the apse, and it had been stated that the stones of that most ancient portion of the building had been removed to repair the neighbouring roads.* It was sad to see the site of the high altar where the most sacred rites of the Church were celebrated more than a thousand years ago desecrated and degraded in the manner described. The county was to be congratulated on the survival of two out of the four great abbey churches, St. Peter's, Gloucester, and Tewkesbury, which had been preserved through the public spirit of the citizens of that ancient borough. One could not but lament that the same sentiment was not exhibited at Cirencester and Winchcombe, and at Evesham, Abingdon, and Reading in the counties adjoining.

P. H. D.

(To be concluded next week.)

* Two days later, when the Association visited Deerhurst, the vicar strenuously denied that any stones had been removed and broken up, and that the site which had been lost to the church at the time of the Dissolution of the Monastery was only used for ordinary agricultural purposes. An inspection, however, showed how desirable it was that Mr. Keyser's suggestion should be carried into effect.

THE LONDON SOCIETY.

A MEETING of the London Society was held on June 27 at the Royal Society of Arts, Adelphi, when the debate was resumed on Mr. Rafles Davison's paper on "London as It Is and as It Might Be." A full report of the paper appeared in the *Builder* of May 31. Professor Beresford Pile presided.

Colonel R. C. Hellard,

of the Traffic Department of the Board of Trade, opened the discussion by explaining the principles on which the recommendations as to the proposed new roads of the Traffic Commission have been made. The speaker exhibited a number of diagrams and maps showing the distribution of population, the density in the various districts in Central and Outer London, the averages of commercial and passenger vehicles, etc. One map showed the new roads, bypasses, and road widenings suggested by the Traffic Department of the Board of Trade. He pointed out that the question had been considered by his department from the point of view of the effect on the convenience of the inhabitants in their daily life, but in dealing with the matter from the utilitarian point of view he did not undervalue the artistic conception which might be forthcoming. There were many cases where a pleasing effect could be produced at the same cost as a discordant effect, and even where the cost of obtaining a pleasant effect was more costly it might be that the money would be well laid out. He felt, however, that all such expenditure should be based on some utilitarian scheme, and two things were absolutely essential to a successful improvement. The first was the planning of a general scheme to which all new projects for improvement should conform; and the second was real co-operation amongst all the authorities and agencies concerned. As the result of the investigations of the department 125 miles of new roads were suggested and the improvement of 34 miles of old roads. In every case the proposed routes had been walked over, and he was satisfied there were at present no very serious engineering difficulties involved in the proposals, although obviously at any moment the matter might become complicated by the erection of new buildings. He deplored the production of paper schemes, which had not been worked out on the ground. He had examined a scheme for a circumferential road, which it would be absolutely impossible to construct. Such schemes confused local authorities. The matter was a pressing one because at the present moment many of the local authorities were considering town-planning schemes, and if something was not done these schemes would have matured independently, quite regardless of the general requirements of London, and the hope of getting arterial roads constructed at anything like a moderate cost would be banished. Of the 125 miles of suggested new roads, 40 miles would pass through areas where town-planning schemes were now under consideration, whilst at least another 20 miles lay across agricultural land. The road from Cromwell-road across Hammersmith to Hounslow, which would relieve the Brentford high-road which every one complained of, was now under consideration, as was also the Croydon bypass and the Surbiton bypass. The Cromwell-road to Hounslow-road would be 10 miles long, and was estimated to cost 1,750,000. It was a cost which alarmed people, but it must be remembered that this road would run through built-on land to a great extent. The first 2 miles would cost 1,000,000, and the second 2 miles about 500,000, and the remaining six only 250,000. He regarded it of great importance that building lines should be at once fixed in the areas so that when buildings came down the frontages should be set back, and this should be specially done in the case of villages like Elstree and Radlett, Enfield, and along the Cambridge-road. Garden frontages ought not to be allowed to be built upon. The London County Council had the Euston-road under consideration, and he thought that would be one of the first roads which would show them what a road should be, but there were other roads which should be looked to as likely to form parts of great north and south roads. By simply taking the gardens and forecourts, for instance, the Caledonian-road could be widened to 80 ft. or 90 ft. In conclusion, the speaker laid emphasis on the necessity for reserving sites for important public buildings, and for prohibiting the erection

of hideous buildings in important thoroughfares. He also thought that plans for business premises should not be passed unless provision was made for the necessary loading and unloading of carts on the premises instead of in the streets.

Mr. Paul Waterhouse

agreed that it was a perfectly sound doctrine that the improvement of London must be based on the utilitarian ground; and some people who had not been brought up in the profession of architecture might take the view that art had nothing to do with the question. But in architecture, which he took to be the greatest of arts, they had an extraordinary illustration of the truth that beauty and utility could go hand-and-hand together. He took it that the problem before them was simply like the problem of architecture, but on a large scale, and it was their duty to see that it was treated architecturally and not merely from the workman's point of view. The bypass had been mentioned, and he would plead very urgently for the use of bypasses in the villages. Anyone who had travelled through Edgware and noticed how the street had been widened by removing the faces of the houses would realise what a deplorable thing it was to mutilate a village in that way. Use and beauty might both be served by employing the bypass system in nearly every case where an important village had to be dealt with in the making of a road. The Fuston-road had been mentioned, but in that case an Act of Parliament had proved absolutely useless in the face of certain authorities who gave way. Last year he was invited to read a paper on this subject before the Royal Institute of British Architects, and his main point was that this being really an artistic problem in the large and wide sense of the word "art," it was one which ought to be carried out by artists. He did not think any sense of decency should prevent an architect saying that it was obvious artists of some sort must be engaged before this thing could be carried through, and he suggested that the Borough Councils should engage artistic advisers to see that the plans they passed were at least up to a certain minimum standard of architectural decency. If this supreme work of art, the regeneration of London, was to be helped forward by the Society there must be a point somewhere where artists must be employed.

Mr. Arthur Crow

considered the roads shown them by Colonel Hellard were admirable in their way in taking people out from the centre of London, but nothing had been done with regard to the through traffic in the centre of the City. The speaker exhibited a series of photographs to illustrate his suggestion for a new street which would run from Newgate-street, through the unloading yard of the old General Post Office, thence curving slightly to the north (and incidentally opening up Wren's beautiful church of St. Vedast in Foster-lane), and going by the back of the Guildhall to Moorgate-street by London-wall. Such a new street would lessen the journey to Liverpool-street by a quarter of a mile. If such a street was to be made it was essential that the Government should be at once approached, as the old General Post Office was to be demolished, and a building for the telephone department erected, which would extend over the loading yard facing Newgate-street. Mr. Crow also urged that it was true proper building lines for London were fixed and all the trouble of going to a Tribunal of Appeal regarding certificates of the Superintending Architect done away with.



Newgate-street and St. Vedast.

Mr. Gordon, L.C.C.,

also considered that the centre of London had been neglected by the Board of Trade, and he pointed out the difficulty of dealing with the various local authorities in regard to the allocation of the Road Board's grant for the construction of the new Western-road. It seemed to him that the improvements now needed in Central London were far more important than the Board of Trade now suggested. He knew there were gentlemen who would design beautiful schemes, but those who had to administer affairs had to be utilitarian. The party in power at Spring-gardens said that the amount which should be spent in London should be fixed by a 5d. rate, but to him that appeared to be an altogether fallacious criterion by which they should judge the improvements of London. Personally he did not think they would get an improved London till they had a unified London. They must have a scientific plan which must be centrally administered.

Mr. Raymond Unwin

said it might be worth while to remember the experience of another great capital of Europe which had had the same difficulty. Berlin found itself congested in the centre with a large number of outside authorities carrying out town-planning schemes made entirely from their own point of view rather than from the point of view of the centre. They would get differences of opinion between the inside and outside authorities of London if town-planning schemes were formed without the whole thing being co-ordinated. After a great deal of agitation they got the different bodies around Berlin together and instituted a competition for the laying-out of Outer Berlin. As a result it became evident to the inhabitants that a central authority was wanted to control the whole thing, and now they had got such an authority consisting of representatives from all the districts. They had laid down a plan, and when any district formed a town-planning scheme it must embody the main lines determined upon by the central authority. If they were going to do anything for London that was the thing they must concentrate upon. The present Government had said they would not create a Traffic Board, and now they must ask them what form of central control they would adopt. One important point for consideration was the question of uniting the railways and so avoiding the road traffic from station to station. In Berlin the conclusion seemed to be fairly unanimous as to the evil of the cross traffic from station to station. The point was of great importance when they considered such a scheme as the removal of Charing Cross Station to the south of the river. They would have to consider whether it would not be the right thing to link up Charing Cross, Paddington, and King's Cross, so as to eliminate the cross traffic from the streets. If they did not have a central authority they would get into a muddle.

The Chairman

said he would like to give what weight he could to the important remarks of Mr. Unwin. They realised that night what the Government had done in establishing a Traffic Department of the Board of Trade. If they cast their minds back they could scarcely have believed it possible for a Government Department to have initiated such a magnificently-worked-out scheme as Colonel Hellard had put before them. It was something for which they as Londoners must be profoundly thankful for. But the point of Mr. Unwin's was that no authority existed for putting these schemes into operation. They were face to face with numerous town-planning schemes which only applied to limited areas; whilst the Local Government Board administered the Town Planning Acts and the Board of Trade made these proposals for roads. The London County Council as at present constituted was not a body capable of dealing with the matter, for their area was comparatively small in relation to the area affected. There was urgent and serious need of legislation for London at the present moment, not only for the creation of roads, but for the harmony of a multitude of interests which circled round this great metropolis. They were gathered together in that Society with a new and larger enthusiasm for London of the future—not merely a more social London, but a more orderly and more beautiful London; and let them strive with the strong impetus they had had that night on the utilitarian side of the subject to cultivate the hope that with new roads they would find new

beauties, and seek for new hopes for London which must come.

Colonel Hellard

briefly replied on the discussion, and said it was true he had not largely gone into the matter of new roads for Central London that night. The cost of dealing with such proposals was rather prohibitive. At present he thought it better to turn one's attention to the prevention of further obstacles on the outskirts, because after all, the expense of dealing with roads in the centre would be no more expensive five or ten years hence. They had to remember that if they paid attention to the outskirts now they would get twenty times the result for the money spent; and if town-planning schemes were adopted without some relation to main roads they would never get such an opportunity again. He might add that the Traffic Department of the Board of Trade was in the closest touch with the Local Government Board.

THE GAS LIGHT AND COKE COMPANY.

On the 26th ult., the centenary of the Gas Light and Coke Company was celebrated at a dinner at the White City, when Mr. Corb Woodall (Governor of the company) presided over a company of visitors and the staff of the company numbering about a thousand. The Chairman was supported by the Lord Mayors of London and Manchester, Lord Shaw of Dunfermline, Lord Joicy, Sir William Richmond, Sir William Lucy, many of the mayors of the Metropolitan Borough Councils, Mr. D. Milb Watson (General Manager), and others.

The usual loyal toasts were enthusiastically received, as was also the toast of "The Imperial Forces," proposed by Sir E. A. Cornwall, M.P., and acknowledged by Major-General W. Fry. The Lord Mayor submitted the toast "The Gas Light and Coke Company" in brief speech, in which he recalled the day of his youth before lucifer matches were invented, and when he illustrated the principle of the gasometer to his people in the Lincolnshire Fens by the aid of a churchwarden pipe, the end of which was sealed with clay. He thought that every person who had had the opportunity of using gas must be grateful to the pioneers of the company.

The Chairman, in reply, said that was a great day for the company, for they met under circumstances which would excite feelings of pride and thankfulness. Although they had reached a hundred years, their sight was not dimmed, but it was rather increasing in brightness each year. When the Gas Light and Coke Company was launched it was a day of simple things. The company's capital was limited to 200,000*l.*, but now it was nearly 20,000,000*l.* It then occupied no more than 10 acres of land, and now it occupied more than 1,000. The coal carbonised in 1812 was less than 4.0 tons, and in the current year the consumption would not be less than 2,250,000 tons. Although the quantity used in 1812 was small, there would appear to have been some difficulty in getting it, because he read in a minute-book that on Christmas Eve one of the directors found there was not enough coal left the night, and he had to go out and buy some more on his own responsibility. In 18 the rates paid by the company were only 150*l.* 10*s.* 4*d.*, whilst during the present year the amount would exceed 300,000*l.* During the past five years there had been a steady reduction in the price of gas by a penny 1,000 ft. per year, which might seem a small reduction, but it amounted to 100,000*l.* per year. As to labour co-partnership, they had interested their employees in the pecuniary gains of the company, because they believed it was the best way known of meeting their interests. The late Sir George Livesey, who first introduced the system, recognised that it would be comparatively easy to join works shareholders, and consumers, and give each a share in the advantages accruing from economy and improvement in the methods of manufacture. The system had worked admirably. He recognised that it might be difficult to apply it to all industries, but believed it could certainly be adopted by public companies, including the railways.

Lord Shaw proposed "The Lord Mayor of London, the London County Council, and the London Borough Councils," and the toast was responded to by the Lord Mayor and J. Whittaker Thompson (the Mayor of Kingston).

Mr. N. V. J. Burke submitted the toast of "The Visitors."

Sir William Richmond, in reply, said he was not there as an artist, but as the President of the Coal Smoke Abatement Society. For twenty years it had been his ambition to attempt to diminish the smoke evil. How the enormous improvement that was really necessary was to be brought about he did not know, but he was perfectly convinced that the scientific energy of the country was absolutely incapable of dealing with even such a monstrous and entirely undesirable nuisance. If future generations would be able to say that London again becomes a place where flowers could grow and where all that was undesirable in its atmosphere had been eliminated, then science would have made an enormous stride for the benefit of the human race, second to none which it had yet achieved.

The Chairman submitted the toast of "The Staff," and remarked that there were about 900 officers of the company present. He believed they had a good staff, who did their best to increase the prosperity of the company.

Mr. D. Milne Watson (General Manager) said that such an occasion brought a lump into his throat. The staff of the company had a splendid centenary. In 1835 the staff was only thirty-five in number, and now they were upwards of 900. It was only by each one of them doing their duty that they could relieve the anxieties of the directors. Everyone of them felt grateful to the directors for the co-operation they gave them a short time ago. They would hope to still carry the torch of the company on as it had been so well carried in the past. He might add that the staff proposed to present the Governor with his portrait as a souvenir of the centenary of the company.

The proceedings concluded with loud cheers for the Chairman.

STOCKPORT UNION: MENTAL WARDS COMPETITION.

As we announced last week, the following is the result of the recent competition for the new Mental Wards adjacent to the Stockport Workhouse Infirmary:—

First premium, 100*l.*, Messrs. E. T. Hall & Stanley Hall, of London; second premium, 50*l.*, Mr. Arthur Marshall, A.R.I.B.A., of Nottingham; third premium, 25*l.*, Messrs.

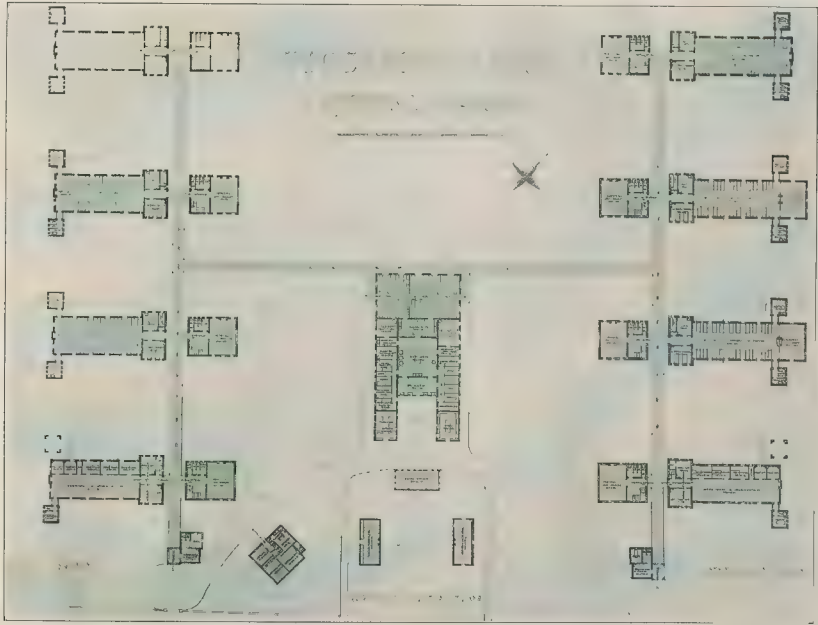
Spalding & Theakston, of London. The competition was limited to thirty invited architects, among whom were firms well-known for their hospital and asylum work. Mr. H. W. Wills, A.R.I.B.A., of London, was the assessor.

The conditions required that the new buildings should provide accommodation for sixty-six males and eighteen females in the mental wards; eighteen males and twenty-four females in the sick wards; eighteen males and forty-four female epileptics; and for three male and three female short-period cases, the latter being severe cases which will be temporarily accommodated pending their removal to other institutions. All epileptic, sick, and short-period cases, and all day-room accommodation for mental cases were to be on the ground floor; dormitories for mental cases were to be provided on the first floor. Adequate administration buildings were required, including quarters for steward, resident and non-resident staff, and a common dining hall, with kitchen, scullery, and stores, and the usual complement of workshops and laundry. The requirements were set forth on very broad lines, considerable latitude being allowed to competitors as to the planning and provision of the details of the accommodation. The cost was limited to 100*l.* per bed, so that the expenditure will be upwards of 26,000*l.*

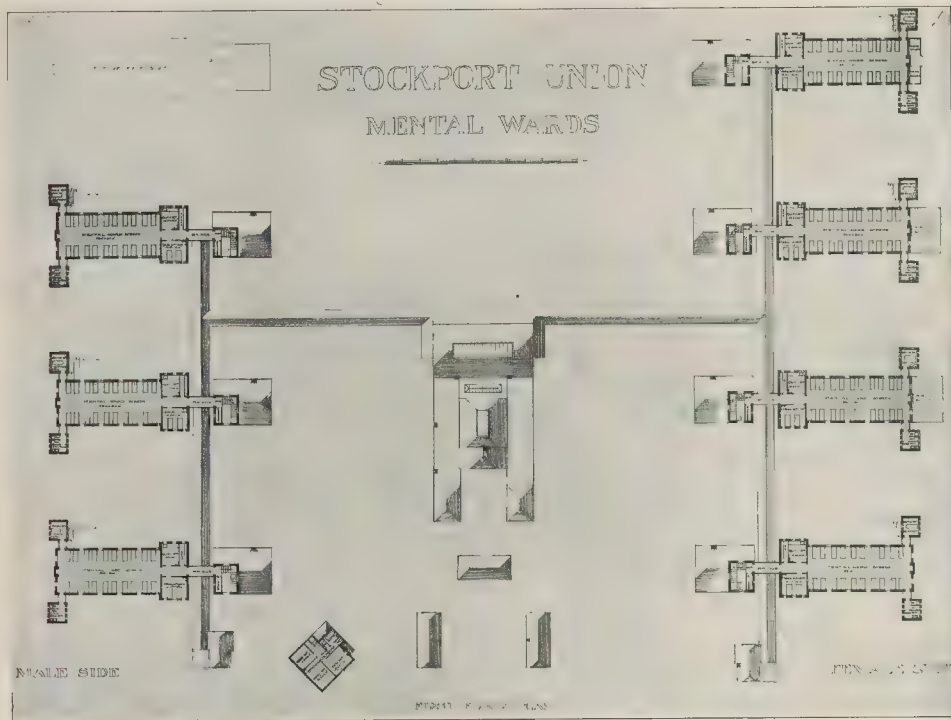
The new buildings will be erected on a site of 10½ acres immediately behind the present Workhouse Infirmary, a group of buildings of an interesting type of architecture, adding no more interest than is usually the case with poor-law buildings to a rather fine stretch of country, which enhances the value of the site immensely as a position for a hospital or an asylum, and which will in all probability continue to do so for some time in spite of neighbouring encroachments of the jerry-builder, as it is dedicated to the pastime of golf. The north point lies diagonally across the plan of the site, so that as regards aspect the axes of the wards might be equally well parallel to the side or the front boundaries. Two definite alternative methods are therefore presented. Most competitors took their cue from the present buildings and placed their wards parallel to the sides on a cross corridor reaching out on either side of a central administration block; whereas the first and second designs are the only schemes in which the other alternative was adopted, and evidently by reason of this found favour in the eyes of the

assessor. This arrangement is not necessarily the better, but by following it boldly to its logical conclusion in the placing of their patients' entrances Messrs. Hall have achieved a masterly plan, and have avoided the initial blunder of almost all the other competitors. There is no separate approach to the new buildings. They are reached from the present main entrance round the flanks of the existing hospital, and most schemes show a central entrance block to the new buildings axial with the present entrance, and, as most of the patients are housed in wards reaching out far on each side of the centre, they will have to travel a prodigious distance after entering the institution at the lodge before reaching their ultimate destination. The winners place their patients' entrances at the ends of their outer corridors, thus giving as direct means of approach as was possible. They also avoid another mistake of which the exhibition furnishes numerous examples. The favoured—in fact, inevitable—position for the dining-room is in the central block; the favoured arrangement of its approach means collision between patients on their way to the hall and the traffic from the main entrance, or at any rate unwelcome observation of one by the other. The winning plan by providing a separate cross corridor from the ward blocks on either side to the dining hall avoids both.

It is, of course, the design of the block plan that matters above all else in the case of an institution like this; the rest is not much more than a filling in of details. Fine strokes of broad planning tell in the former; care and ingenuity in the latter. The winners have undoubtedly scored in respect of the block plan—it is unquestionably the best, and the assessor could not do otherwise than place it first. We could wish, however, that it had been accompanied by more studied planning of detail. It is good hospital planning, but hardly appropriate to an asylum. It would almost seem as though the authors had first planned an infirmary and had then wrenched their plan into asylum shape—the bends and joins are so evident. Little regard has been paid to the fact that the mental patients do not live in their wards. The male patients' day-rooms have a north-east aspect, whereas the wards have been carefully studied in this respect. The administration arrangements, however, suggest an experienced hand. The kitchen block is admirable, and the new



First Premiated Design: By Messrs. E. T. Hall, F.R.I.B.A., & E. Stanley Hall, A.R.I.B.A.



First Premiated Design: By Messrs. E. T. Hall, F.R.I.B.A., & E. Stanley Hall, A.R.I.P.A.

workshops are well placed in a group with the present ones, this being due to the fact that the authors have resisted the temptation to give their buildings a façade behind the present hospital.

The second premiated design appears on paper to be more congested than the first, and, although it lacks extreme simplicity in its block plan, this is due to the more careful elaboration of details. Special care is evident in the planning of the rooms used by mental patients during the day, the airing courts, and the attendant conveniences being well thought out—and this is surely an important consideration. The scheme is a really fine piece of asylum planning. Great care has been taken to give the best aspect to the day-rooms; unfortunately this does not always ensure a good outlook as well, for, while the rooms will be sunny, they often command a dreary expanse

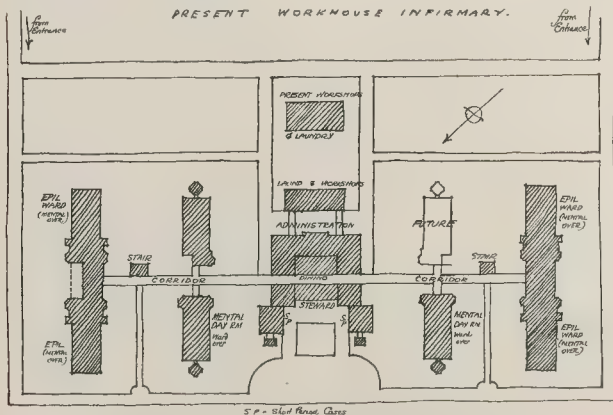
of corridor or wards. One of the difficulties of this competition has been to provide sufficiently direct communication between the day-rooms for mental patients on the ground floor and the dormitories on the first floor, as the latter have to be planned over epileptic departments, which are distinct from the mental day-rooms. In this scheme, as in many others, this communication is not well devised. In almost all other details the scheme is the most efficient in the exhibition.

The third design is entirely different in principle from the first and second, and follows in its block plan the alternative adopted by the majority of the competitors, of wards parallel to those of the present hospital linked together by a main cross corridor. The idea of an entrance façade has appealed to the authors no less than to most of the competitors,

but instead of allowing it to face the existing buildings they treat the other side of the whole group as a façade, at the same time providing entrances on the nearer side. This has led to a sound block plan, one of the advantages being the grouping of the new and the present workshops together. The epileptic patients' day-rooms have good aspect, but the staircase to the first-floor dormitories from the mental patients' day-room might with advantage be nearer to the latter. We do not think that a vast common day-room for all the inmates of each sex for this class of patient is ideal. The elevations are not the negligible quantity the most of the others are.

Messrs. Briggs & Wolstenholme submit a block plan most interesting because it shows an attempt to group the various departments more clearly than any of the others. This brings the mental patients' day-rooms into better relation to their dormitories, but it has involved some congestion at the entrances and staircases and a sacrifice of simplicity. The scheme is carefully thought out and contains many instances of good planning, but we must except the arrangement whereby patients *en route* for the dining-room are brought so near to the receiving entrance. The elevations in this case are entirely successful and appropriate.

We welcome one or two good schemes from Manchester architects. Messrs. Sykes & Eyal submit a clear and well-thought-out block plan which might with advantage be spread out a little more. They have evidently given much study to the aspect of the various rooms; the working arrangements are admirable, but the accommodation for short-period cases is not so well devised. Mr. J. D. Holt's plan sounds in all but the way in which he cuts up the spaces between his buildings by sanitary towers and other projections. Mr. J. Lodge submits a careful scheme upon ingenious lines distinguished mainly by the diagonal axis which have figured largely in some of his plans of late. It is a plucky attempt to obtain the best possible aspect—an alliance with a refractory north point whereby a handicap of fort five degrees of sunny aspect results, but at the cost of coherence in the block plan.



Third Premiated Design: By Messrs. Spalding & Theakston.

all thoroughly worked out and excellent in details, and we remarked that Mr. Lodge, in company with the winners, have not brought their patients' entrance to the middle of the stup.

GENERAL NEWS.

University Awards in Architecture.

University of London, King's College.
The First-Class Certificate in Architecture, exempting from the Intermediate Examination the Royal Institute of British Architects, has been awarded to A. M. Aly, M. A. Atalla, F. E. Hudson, and H. Izzy. The external examiner is Mr. H. D. Seares-Wood, F.R.I.B.A. The winning special prizes have also been awarded the day classes:—Studio, M. A. Atalla, Bronze Medal; H. Izzy, prize in books. Architectural story: (a) Classic, prize in books, W. Holden; European, Bronze Medal, L. W. Walker; Building Construction: (e) Preliminary and Crease Work, prize in books, F. E. Hudson; Work of the Finishing Trades, Bronze Medal; Holden; (g) Sanitation and Advanced Construction, Bronze Medal, H. Izzy.

University of Sheffield.

The Diploma in Architecture has been awarded as follows:—First-class, John C. P. Othill; second-class, Harry B. S. Gibbs. Certificate in Architecture—First-class, John H. Othill; second-class, Henry B. Leighton, George A. Booker (on completion of design), the course for the diploma is a five years' the Diploma in Architecture is now awarded the first time. The external examiner is Professor F. M. Simpson, F.R.I.B.A.

Sir F. W. Willis, Knt., F.R.I.B.A.

Sir Frank W. Willis, Lord Mayor of Bristol, on whom the King conferred the honour of knighthood on Friday last, is a Past-President of the Bristol Society of Architects. He was elected a Fellow of the Royal Institute of British Architects in 1900, and served as a member of Council. He was the architect of the Red Maids' School, St. George's Public Library, Taunton School Chapel, the Municipal Art Gallery, the Bristol Museum extension scheme, and many other public and private buildings in Bristol and around.

Cathedrals of England and Wales.

Mr. B. T. Batsford will publish in a few days new and re-illustrated edition of Mr. Francis and "Cathedrals of England and Wales."

Appointment: British Museum, Prints and Drawings Department.

The vacancy caused by the retirement of Sir Henry Colvin, Keeper of the Prints and Drawings, has been filled by the appointment of Mr. Campbell Dodgson, M.A. Oxon., who has been assistant in the department during twenty years past. Mr. Dodgson was a scholar of Manchester and New College, and graduated in 1910; he has compiled a catalogue of early English and German woodcuts.

Telegraph-hill, Hampstead.

The Hampstead Heath Protection Society writes co-operation in their efforts to preserve the public the 5 acres of Telegraph-hill which lies on the western side of the Heath, between West Heath-road and Platt's-lane, and on the property of Sir Spencer Mayon-Hill, lord of the manor. Telegraph-hill, to an altitude of some 300 ft. above sea level, commands a beautiful prospect of the northern and western environs of London, which extends as far as Windsor Castle.

Richmond Bridge.

The Richmond and Twickenham Councils have revived the project to widen Richmond Bridge and to improve the approaches by lowering their gradient-rates, and have jointly petitioned the county authorities in the matter, a alternative scheme is suggested—the construction of a new bridge lower down the river in alignment with the main road from Kew. Richmond Bridge, one of the most beautiful of the Thames (old) bridges, was built in 1774-77, under the designs of James Paine, or Payne

(who subsequently built the old bridge at Kew), assisted by Kenton Couse, of the then Board of Works, at a total expense of 26,000. The Act 13 Geo. III., c. 83, enabled the Commissioners to purchase the lessee's interests in the ferry, which yielded some 1,300l. per annum. The bridge, as the Act provides, has a middle arch of 60 ft. span and 25 ft. high from low-water line, the side arches decreasing proportionately; there are also five brick arches on the Middlesex shore for the escape of flood waters. The width between the parapets is 24 ft. On January 3, 1903, we published a two-page view of the bridge, from a drawing by Mr. W. Monk.

Westmorland Ancient Monuments.

Mr. J. F. Curwen, F.S.A., Mr. W. G. Collingwood, F.S.A., and Professor Haverfield have prepared a lengthy report on the ancient buildings, earthworks, and other monuments of antiquity in the county of Westmorland. Referring to an accompanying schedule, they observe:—"We would ask you [the members of the County Council] not to deem any item as unworthy of protection because it is little known or scarcely visible to the eye. Forming as they do the landmarks of topography and history, each one contributes to our knowledge of Westmorland, and, however doubtful some may be until further explored, they are all the more worthy of care, because they have not yet told their story. We have desired to schedule medieval grave-slabs, and also sculptured fragments at present sheltered in the churches. At first sight this may appear unnecessary, but sculptured stones are protected in the Scottish churches, and without this there is nothing to prevent any incumbent from turning such relics out of doors." After urging the importance of putting the Ancient Monuments Acts into operation, the report points out that, however careful the present owners may be, it does not follow that the monuments will not, at some time, pass into the hands of those who have no interest in them, and the fact is indisputable that each year numbers of earthworks are destroyed, and, by gradual splitting, masonry falls to the ground. For example, the keep of Brough Castle is bound to collapse before long unless attended to, and Arnside Tower is in considerable danger.

The schedule of "monuments" which it is suggested should be brought under the protection of the Acts includes Shap Abbey, founded in 1191; St. Mary's Chapel, Askham Hall, dating from the time of Henry IV., and now used as a dairy; Nether Bridge, Kendal, built before 1376; Devil's Bridge, Kirkby Lonsdale (prior to 1275); Appleby Castle (1174); Brough Castle (1170); Brougham Castle (1220); Kendal Castle (1184); Pendragon Castle (1180); some twenty pre-Norman (VIIIth to XIth century) crosses and carved stone monuments; post-Norman market crosses at Ambleside, Appleby, Milnthorpe, and other places; about 100 earthworks, forty-eight medieval grave-slabs, nearly a score of megaliths, fifteen pele towers, several holy or historic wells, etc.

An Engineering Visit.

A party of engineers, members of the London and South-Western Railway staff at Reading, have recently visited Manchester, spending three days there. They visited the following works:—British Westinghouse Electric and Manufacturing Company, Ltd., Trafford Park; Great Central Railway Companies Works, Gorton; Crossley Brothers, Openshaw; Messrs. B. & S. Massey's Steam Hammer Works, Openshaw; Craven Brothers, Vauxhall Works, and Reddish. The arrangements were carried out by Messrs. Penningtons, Engineering Tutors, Oxford-road, Manchester. The visit was a success, and is likely to be the precursor of others.

BOOKS.

Housing and Town Planning. Edited by THOMAS COLE, Assoc.M.Inst.C.E. (London: E. & F. N. Spon, Ltd. 10s. 6d. net.)

This volume consists of seventeen papers presented for discussion at the Conference with delegates from local authorities on Housing and Town Planning held under the auspices of the Institution of Municipal and County Engineers at West Bromwich in July, 1911. A complete illustrated report of both papers and discussion at such an important Conference

as this forms a record of considerable value. The papers cover a wide field and deal with many aspects of the question, and acquire a special interest for the reason that, having been contributed by members of the Institution of Municipal and Borough Engineers and others holding similar official positions, they afford an insight into the point of view and give the experience of those directly connected with the administration of the Act. Of special value is the record of work done in such large towns as Leeds, Sheffield, and Liverpool. Apart from the diagrams in the text, a collection of thirty-nine illustrations bearing on the general question adds to the interest of the volume as a book of reference.

The Law of Town Planning for Scotland. By ALEXANDER WHITE, LL.B., W.S. (Edinburgh and London: William Green & Sons, Law Publishers. 1912. Price 5s. net.)

THIS excellent little handbook should be found very useful by county or borough officials and by all those in any way concerned with the administration of the Town Planning Act in Scotland. It discusses briefly and lucidly the different aspects of the Act under such headings as Beauty, Prevention of Overcrowding, Traffic Facilities, Open Spaces, etc., and deals also in like manner with the necessary procedure and such questions as compensation, finance, and the encouragement of building societies. A valuable feature of the book is an Appendix containing the statute with explanatory notes, schedules, procedure, regulations, and the forms of the various notices, resolutions, etc., which are applicable to the different stages of the proceedings. There is a useful index, and paper, printing, and binding are good. We welcome every attempt to bring home to local authorities the advantages and possibilities of this Act.

CORRESPONDENCE.

A Suggested Whitehall Improvement.

SIR,—In reference to the article appearing in the "Monthly Review of Civic Design" in your issue of the 7th ult., and the plan for a proposed new street which, as you point out, would provide for a fine architectural treatment of the east side of Whitehall.

The Public Offices (Sites) Bill, now before Parliament, deals with the matter of the acquisition of the site for a new block of Government offices between Horse Guards-avenue on the north and Montague House on the south, and the plans prepared show that it is intended to place the new building behind and parallel with the Banqueting Hall, while the Embankment frontage is to be on a line drawn from the angle of New Scotland-yard Buildings to Whitehall-court.

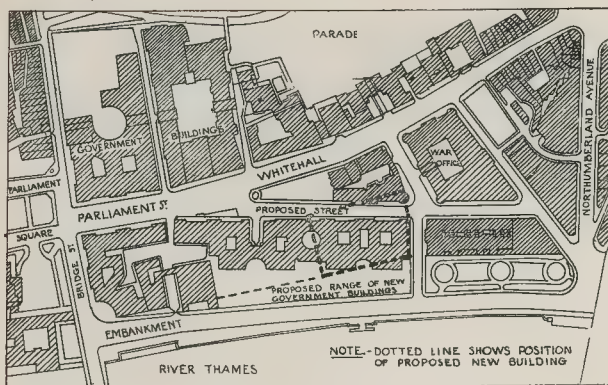
This arrangement, if proceeded with, would effectually and permanently prevent any such improvement as suggested in your plan, and would be, I venture to think, a most inadequate treatment for so important a thoroughfare.

As it is apparent that, with the steady increase in the number of Government offices, the whole of this area between Horse Guards-avenue and Bridge-street will eventually be required for public buildings, it is urgently necessary that the first step in laying-out this area should be to provide for future extension.

The triangular shape of this district makes this a matter for careful consideration, and the chief question appears to be as to whether it is better to keep the Embankment frontage to the line of Whitehall-court, etc., or to treat Whitehall as the important frontage and arrange the buildings to open this out and produce a fine architectural effect.

From an architectural, historical, and practical point of view it seems to be obvious that the latter solution is the correct one, and the provision of the suggested new street or some similar plan should be adopted.

The present proposal would leave the Banqueting Hall, United Service Institution, and Gwydir House standing as a detached island without any architectural coherence, it would not in any way improve the traffic route, and the opportunity would be lost of making both a fine monumental site at the junction of the proposed new street and also a magnificent vista looking down the new street with Westminster Abbey as the culminating-point.



A Suggested Whitehall Improvement.

This is a matter which might be seriously considered by the Institute and representations made to the authorities before the plans have progressed too far to allow of alteration; but as the Sites Bill is now being considered these measures should be taken at once.

E. HOWLEY SIM.

Timber Specifications.

SIR, The correspondence which has appeared recently on the above subject in your valuable paper has, I am sure, been followed with great interest by those who have from time to time come into contact with specifications which have certainly not been "up to date."

"A Reader" has set out his ideal specification, but upon analysis it proves to be unpracticable owing, apart from the question of cost, to the fact that the import of timber of the qualities he mentions for joinery, and also for yellow floorings, are not sufficiently large to do a twentieth part of the contract work of this country, and if such a specification was generally accepted by the architectural profession it would simply mean that the shippers would be compelled to meet the demand by reducing the standard of their shipments—i.e., that what are now known as firsts would have added to them the seconds and possibly some thirds, all to be called "firsts" to make sufficient to meet the demand of the architects' specification, so that the new position would be worse than the old.

Referring to his general clause at the end, I, together with many other readers, would be glad to know his definition of "thoroughly seasoned" timber as applied to (1) carcassing timber, (2) joinery timber, (3) flooring; the term is so generally used and so little understood that any assistance he can give in this direction would be much appreciated.

To specify particular brands and shipments must surely be quite out of the question, as pointed out by your correspondent last week, and for the further reason that should a contractor have a large stock of timber of equally good quality, which has been in stock several years, he is precluded from using it, and to comply with the specification to buy and use other timber which is no better, and not nearly so dry, thus giving no encouragement to the contractor to stock timber at all, but to purchase from hand to mouth as he requires it.

The question is one altogether too lengthy to discuss in detail by correspondence. What is wanted is a conference between the interested parties, which, I think, would lead to a much better understanding than now exists. Our thanks are due to "A Reader" for having initiated the discussion, and to you for the part you have taken in the furtherance of this much-needed reform.

ANOTHER READER.

SIR—I have read with much interest Mr. James Davies' letter in the current issue of the *Builder*, and, with your permission, wish to clear up some points he raises in connexion with my letter published on 21st ult.

Mr. Davies refers in his second paragraph to "new clauses based upon limited information, conveying an illusory suggestion of up-to-

date knowledge," and in the fourth paragraph he says that I have "been well advised."

Why does he assume that the clauses are new and based upon limited information? They are not new so far as I am concerned, for I can show my specifications quite similar extending back to 1895. I say similar, because I do not always specify the same; it depends on the quality and locality of the work, on the availability and condition of the stocks in the market, revisions of nomenclature due to alterations of quality, classification, and changes of ownership of forests and mills, etc. Then I object to "limited information" and "well advised." If he infers that my information is limited, because I confined myself in the letter to a few shippers of each kind of material, I would refer him to the letter, in which it is stated, "I could give others equally as good." As to well advised, it does not follow that when a professional man evinces a knowledge of trade technicalities he has taken advice from a member of a trade; and the suggestions of "well advised" and "limited information" both fall to the ground when I say that I have had no information or advice given me *en arrive*. As to "conveying an illusory suggestion of up-to-date knowledge," Mr. Davies knows perfectly well that all the shippers I quoted are large present-day exporters of high-class material, so where does the illusion come in?

In his fourth paragraph, also, Mr. Davies asks, "What is the builder to do when those shipments are not up to their usual standard, or when they are not available at all?" And he also states "there would not be anything like enough of their higher qualities to go round," etc. If he will refer to my letter he will see that I have provided for these contingencies, for I say (sixth paragraph), "I qualify the specifying for certain reasons," etc. In the next paragraph I say, "Chiefly for best-class work," and further on, "The stocks available and their immediate conditions would guide me personally as to whom I should include." Now, I ask, suppose he was having a building erected in a certain place, and at a certain time, would he not stipulate what shipments and market qualities of timber were to be used in his own building, gauging his requirements according to what he proposed to spend? That is exactly what I do, being guided entirely by what is available and suited as regards its immediate condition and value, and by the character, situation, and geographical locality of the work it is required for.

Fifth paragraph of Mr. Davies' letter. I may, perhaps, remind him that a building owner, through his specifier, or otherwise, has equally as much right to say exactly what shipments, qualities, etc., of wood goods he desires, as the timber merchant has to choose which shipments, etc., he will buy from the exporter, always, of course, providing he asks for something which is obtainable.

I quite agree with the sixth paragraph of Mr. Davies' letter, in which he re-echoes what I said in the early part of my seventh paragraph as to general perfection: also my specification makes due allowance for centres, knots, and sapwood in deal. I do not suppose any reasonable man would expect in deal the perfection yielded by more expensive woods; but if he is using an article with the avowed intention of saving money, it is only right such money should actually go to the client's credit. In contract work the price to be paid by the building owner is fixed before the goods are supplied, and if by latitude in specifying the contractor is able to supply an article

which costs less money than he anticipated in estimating, you cannot blame him; therefore the specification should define what this saving is to be by specifying definite goods which will really save the money to the building owner by their cheapness and suitability taken together.

I think it is undoubtedly due both to the building owner and the contractor that the former should get the best materials for the specific purpose at a fair price, and that the latter should have sufficiently definite information given him in the bills of quantities to enable him to base his price on practically the same net cost as his competitor, and these would not obtain by using the specification suggested in Mr. Davies' letter. For one building, seconds of certain shipments might be most suitable and economical in the long run, for another building perhaps fourths, and several different contractors, could start their prices at as many different rates per standard or load, according to their judgment of what the specifier would or would not pass. I mean that those acquainted with the specifier in previous works would know his peculiarities, and thus gain an advantage over those who did not, which, I submit, is not fair competition.

Apologising for trespassing on your valuable space,
B. E. LAINE-PEARSON,
Quality, Quantity, and Value Surveyor.

[* * The purpose of this correspondence having been fulfilled, we cannot continue it.—Ed.]

Machinery Used in Construction of Roads.

SIR,—At a meeting of the Committee appointed by the Local Organising Council of the International Road Congress (London, 1913) to report on machinery used in the construction and maintenance of roads it was resolved that information relating to improvements effected during the last two years in sweeping machines, water vans and carts, light and heavy rollers, tarmacadam and concrete mixers, stone driers, and heaters, transport engines and wagons, stone crushers, pulsmeter pumps, woodblock renovators, and any other machinery used for the above purpose, should be collected.

Manufacturers and others willing to supply particulars are invited to send catalogues to J. S. Killick, Engineering Inspector, the Road Board, Queen Anne's Chambers, Westminster, S.W. (Sgd.) W. REES JEFFREYS,

Hon. Secretary.

Permanent International Association of Road Congresses, Local Organising Committee, London Congress, 1913.

The Architect as Arbitrator.

SIR,—In the short article under the above heading in your issue of June 28 the writer suggests that, but for its inclusion in the new edition of a certain well-known work, the important case of C. R. Roberts & Co. v. Hickman & Co. would have passed unnoticed.

May I point out that a good report of it appeared in your own columns in the issue of May 12 last year, and also that the case has been much discussed during the last few months in connexion with certain papers read at the Royal Institute of British Architects?

E. GREENOP.

INTERCOMMUNICATION COLUMN.

Mural Painting.

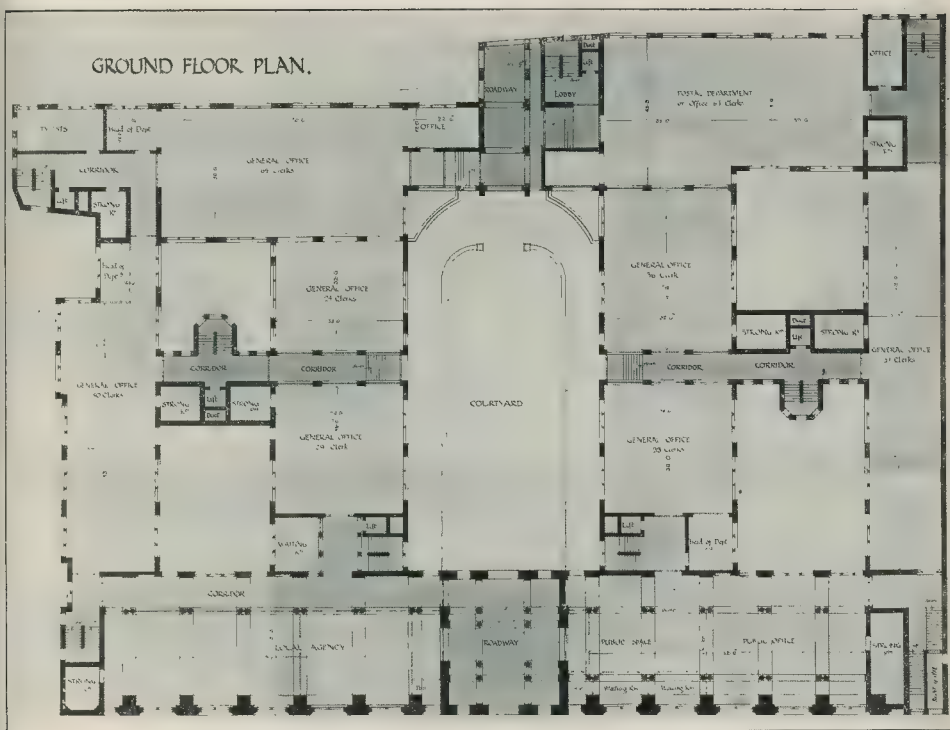
SIR,—I am about to execute a mural painting on the walls of a new church, and am anxious to avoid disaster from damp. I purpose to work on canvas in tempera. Can your readers advise me as to how the canvas should be treated and fixed to the wall, so as to avoid "sagging" and the ill-effects of damp?

MURAL PAINTER.

Foundation for Maple-Boarded Floor.

SIR,—I should be much obliged if you would be so kind as to let me know what is considered to be the best foundation for a maple boarded floor in a squash racket court. I am building one near York, in which it is decided to use maple boards, and I am told that a concrete breeze floor under it, and to which it would be nailed direct, is a good thing, but would be glad to know whether you confirm this. The court is 35 ft. by 20 ft. inside walls are brick.

ERNEST R. WALKER.



Design for the Pearl Assurance Offices.

By Professor Beresford Pite, F.R.I.B.A.

ILLUSTRATIONS.

Liverpool Garden Suburb.

THIS illustration is given in connexion with an article in our Monthly Review of Civic Design on page 13, where a description of the garden suburb will be found.

Design for the Pearl Assurance Offices.

PROFESSOR PRIME's design was submitted in the limited competition recently held for the offices of the Pearl Assurance Company, now of Adelaide-place, London Bridge, proposed to be erected upon a large site on the south side of Holborn, where the thoroughfare widens near Lincoln's-Inn-fields. The dignity of a great office and the entrance to a quadrangle and series of courts are the elements to be expressed, granite and Portland stone being the materials specified.

Mr. H. Percy Monckton, F.R.I.B.A., was successful in the competition. The building is now in progress, and it is hoped that it will be ready for occupation next year. The estimated cost is about 158,000*l*.

Church Hall, New Brighton, Cheshire.

This building, which is now in course of construction, is situated at New Brighton, immediately opposite St. James's Church, with which it is connected. It is being built out of funds left by the late Mr. Frederic North for this purpose. The walls are faced with 2-in. mixed red bricks from Basingstoke, and similar moulded brick dressings, relieved with stone gable copings, and the stonework around the west entrance and outer doorways. The roof is covered with grey slates from North Lancashire. The window jambs and mullions are of stone, with moulded brick jambs, heads, and sills around them on the outside, and are glazed with leaded lights and iron casements.

Internally the hall is arranged with three classrooms on the north side, which are divided from it and from each other with sliding glazed screens, so that the whole may be used as one hall when desired. Underneath the retiring-rooms behind the stage a gymnasium for boys is arranged. The builders are Messrs. Jones & Sons, of Liverpool, and the architect is Mr. E. Guy Dawber, F.R.I.B.A., of London. The drawing is exhibited at the Royal Academy.

House at Worplesdon.

THE drawing which is reproduced herewith is exhibited in the Royal Academy, and illustrates a house which has recently been completed at Worplesdon. The site selected is a most beautiful one of ten acres immediately adjoining Worplesdon Golf Links and within a mile of Brookwood Station. It is well wooded, and slopes gently to the south, giving plenty of

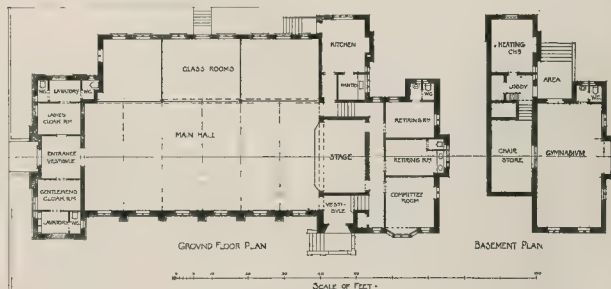
scope for the architect in his treatment of the gardens.

The house itself is built of Lawrence's 2-in. red bricks of varied hues of reds and of beautiful texture; the windows are of Monks Park stone, with steel casements. The roofs are covered with Ames & Hunter's red tiles, also of varied colours, the whole effect of colour being that of an old house harmonising well with the setting of trees.

The ceilings of several of the rooms are treated with modelled plasterwork by the Bromsgrove Guild, who also supplied the lead rainwater heads.

The electric lighting is by Messrs. Elliott & Co., of Oxford; and the heating by Messrs. Jeffries & Co., of Old Queen-street, S.W. The sanitary fittings have been supplied by Messrs. John Bolding & Sons; and the grates and chimneypieces by the Well Fire Company.

The sewage is treated by means of bacteria beds, supplied by Messrs. Tuke & Bell.



Church Hall, New Brighton.

Mr. E. Guy Dawber, F.R.I.B.A., Architect.

The whole scheme of building includes three lodges and a garage. The general contractors are Messrs. G. E. Wallis & Sons, of Maidstone; and the architect is Mr. Leonard Martin, F.R.I.B.A., of Seymour House, Waterloo-place, Pall Mall, S.W.

MEETINGS.

JULY 4, 5, AND 6.

Liverpool Architectural Society (Incorporated).—The Architectural Associations of London and Dublin will visit Liverpool on Thursday, Friday, and Saturday. It has been arranged by the Council to entertain the visitors to a supper, to be held at the University Club, on the evening of Saturday, July 6, at 8 p.m.

MONDAY, JULY 8.

The Incorporated Clerks of Works' Association (Carpenters' Hall, London-west).—Paper by Mr. W. E. Robson, M.Inst.E.E., on "Electric Railways." 8 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 27.

Our Regent's Quadrant Competition.

We have received the Assessors' Report in this competition, which we print *verbatim* here-with:—

The award has been made as follows:—

First place, Design No. 129.

A prize of Ten Guineas each to designs Nos. 103 and 99.

The Assessors consider that the principles embodied in the design placed first, as illustrated in the alternative sketch, are effective as carrying on the main horizontal lines laid down by the Piccadilly Hotel frontage, while preserving a scale of architecture suitable for the width of this particular street. They regret that the shop fronts and frieze of the windows under the main cornice were not detailed on the eighth-scale drawing, as they are shown on the alternative sketch.

No. 103 shows the same regard for practical considerations and general proportions as the above, but the use of pediments on this curved frontage is questionable, and the depth of the recessing between the two end blocks is too great. The detail would require to be more scholarly in execution than suggested on the drawing.

No. 99. The great architectural ability and accomplishment of this design is evident, but the scale of portions of the building is dangerously large, and that part of it above the present hotel cornice line is quite out of keeping with the street, except at the end overlooking the Circus. The Assessors also desire to

mention Design No. 26 on account of the ingenious and effective treatment of the shop frontage and story over.

WILLIAM FLOCKHART, F.R.I.B.A.

E. A. RICKARDS, F.R.I.B.A.

ALAN E. MUNBY, M.A., A.R.I.B.A."

From a letter accompanying this Report we understand that the Assessors assume that the three designs specially mentioned, together with No. 26, will be considered by Messrs. Swan & Edgar, who have interested themselves in this matter, "and it is their hope" that the authors of all designs recommended may find themselves engaged in some way in the rebuilding of Regent-street.

We have pleasure in giving the names of the successful competitors as follows:—

No. 129.—Messrs. A. E. Richardson & C. L. Gill, A.R.I.B.A., London.

No. 103.—Mr. Albert W. Moore, F.R.I.B.A., London.

No. 99.—Messrs. Tait & Whitelaw, London.

No. 26.—Mr. George Drysdale, A.R.I.B.A., London.

Cheques for the following amounts are being forwarded to the successful competitors. First premium, twenty-five guineas; to the authors of designs placed second and third, ten guineas each; and five guineas to the author of design No. 26.

The "Lee's Rest Houses," Hull.

The executors under the will of the late Dr. Lee, of Hull, invited local architects, with a limited number of others, to submit designs in competition for a proposed scheme of Rest Houses. Mr. Edwin Cooper, F.R.I.B.A., was appointed assessor. The result of the competition is announced as follows:—First, Mr. Henry T. Hare, F.R.I.B.A., London; second (50L), Messrs. W. S. Walker & Son, Hull; third (25L), Messrs. Wills & Anderson, London, bracketed with Mr. H. S. East, A.R.I.B.A., London.

Nethertown Institute, Dunfermline.

This competition was instituted in connexion with the Carnegie Dunfermline Trust. The cost of the building was not to exceed 7,000L. Mr. Ernest Auldjo Jamieson, of Edinburgh, was appointed professional assessor, and the following results are declared:—

First premiated design (20L), Messrs. Williamson & Reid, 6, High-street, Inverkeithing; second premiated design (15L), Mr. James D. Cairns, 63, George-street, Edinburgh; third premiated design (10L), Messrs. Walgate & Clough, 13, Lamont-road, Chelsea, S.W. The designs were exhibited at St. Margaret's Lecture Hall, Dunfermline.

Llandudno Police Court.

In the competition for designs for this building Mr. Joseph Holt, F.R.I.B.A., 9, Albert-square, Manchester, was successful.

Welsh National Memorial Sanatorium.

Owing to the expressions of dissatisfaction with the original conditions, the Executive Committee of the Welsh National Memorial to King Edward VII. have decided to dispense with the preliminary competition concerning pencil sketches, and to invite architects at a later date to send in full and completed designs. The new competition will be an open one for plans to be prepared for buildings on the given site, and in the selection the Committee will be assisted by the advice of an assessor.

New School at Northampton.

The Finance Sub-Committee of the Education Committee of Northampton Town Council have decided, subject to the usual sanction, to take steps for the erection of a permanent public elementary school on a site in the Main-road, St. James's District. The school is to accommodate 1,200 scholars in three departments of 400 each, and to have a centre for manual instruction and a centre for the teaching of cookery and laundry work. The Committee have also decided to obtain the designs for the new school from competing architects of the town and county, and to appoint an assessor to adjudicate upon the plans submitted.

ARCHITECTURAL SOCIETIES.

Hampshire and Isle of Wight Association of Architects.

A general meeting of this Association was held at 45, Jewry-street, Winchester, on Monday last, Sir William Portal, Bt., F.S.A., President, and representatives from Portsmouth, Southampton, and Bournemouth being present. After a list of candidates had been brought forward and voted upon (four new members being admitted), the draft rules, temporarily adopted on the formation of the Association last March, were reconsidered in detail and finally adopted with a few alterations. A Council of Management was formed, consisting of the President, the Vice-President (Mr. N. C. H. Nisbett), the Hon. Secretary and Treasurer (Mr. R. M. Lucas), the Assistant Hon. Secretary (Mr. Ingall Sanders), and four Fellows of the Association, namely, Mr. R. E. Chisholm (Portsmouth), Mr. H. L. G. Hill (Winchester), Mr. G. A. Bligh Liversay (Bournemouth), and Mr. Percy G. Stone (Isle of Wight).

In due course the Council will arrange a series of meetings to take place at various towns during the winter months. Information can be obtained from the Hon. Secretaries Bar-gate Chambers, Southampton.

Royal Institute of the Architects of Ireland.

A special meeting of the Council of this Institute was held at the Institute Rooms, No. 31, South Frederick-street, Dublin, on July 1. The President, Mr. A. E. Murray, R.H.A., F.R.I.B.A., was in the chair. There were also present:—Messrs. A. G. C. Millar, C. H. Ashworth, G. P. Sheridan, P. L. Dickenson, H. Allberry, F. Hayes, F. G. Hicks, L. O'Callaghan, J. H. Webb, R. Caulfield Orpen, Professor W. A. Scott, and C. A. Owen, Hon. Secretary.

Some correspondence from the Architectural Association of Ireland in connexion with the design of labourers' cottages was read.

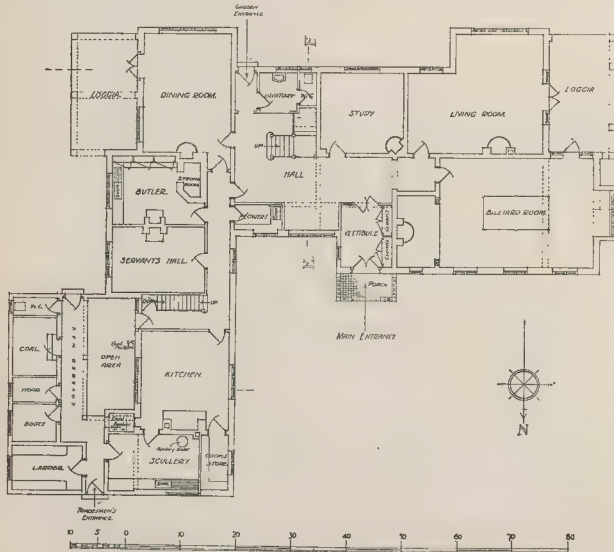
A report was read from the Committee appointed to arrange a public meeting to emphasise the institution of the Chair of Architecture at the National University. It was decided to postpone the matter until October, and the Committee were directed to arrange for a public meeting early in that month. It was decided to hold a special meeting on July 15 to consider the matter.

BOOKS RECEIVED.

THE MAIN DRAINAGE OF TOWNS. By F. Noel Taylor. (London: C. Griffin & Co. 12s. 6d. net.)

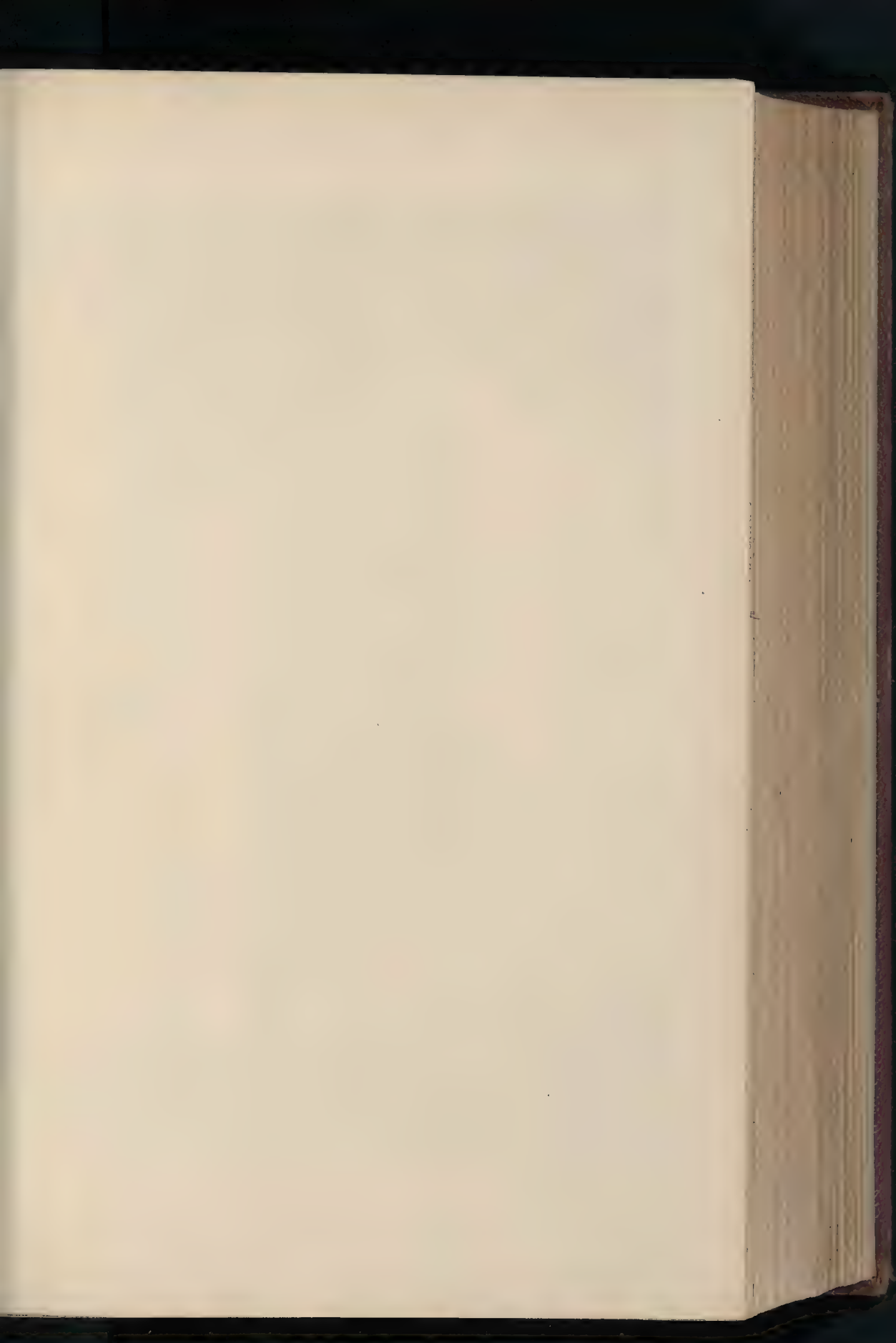
ENGLISH MEDIEVAL ARCHITECTURE, in two volumes. By Cyril E. Power, A.R.I.B.A. (London: Messrs. Talbot. 2s. 6d. net each.)

COUNTY CHURCHES, SUFFOLK. By T. H. Bryant. (London: George Allen & Co. 2 vols. 2s. 6d. net each.)

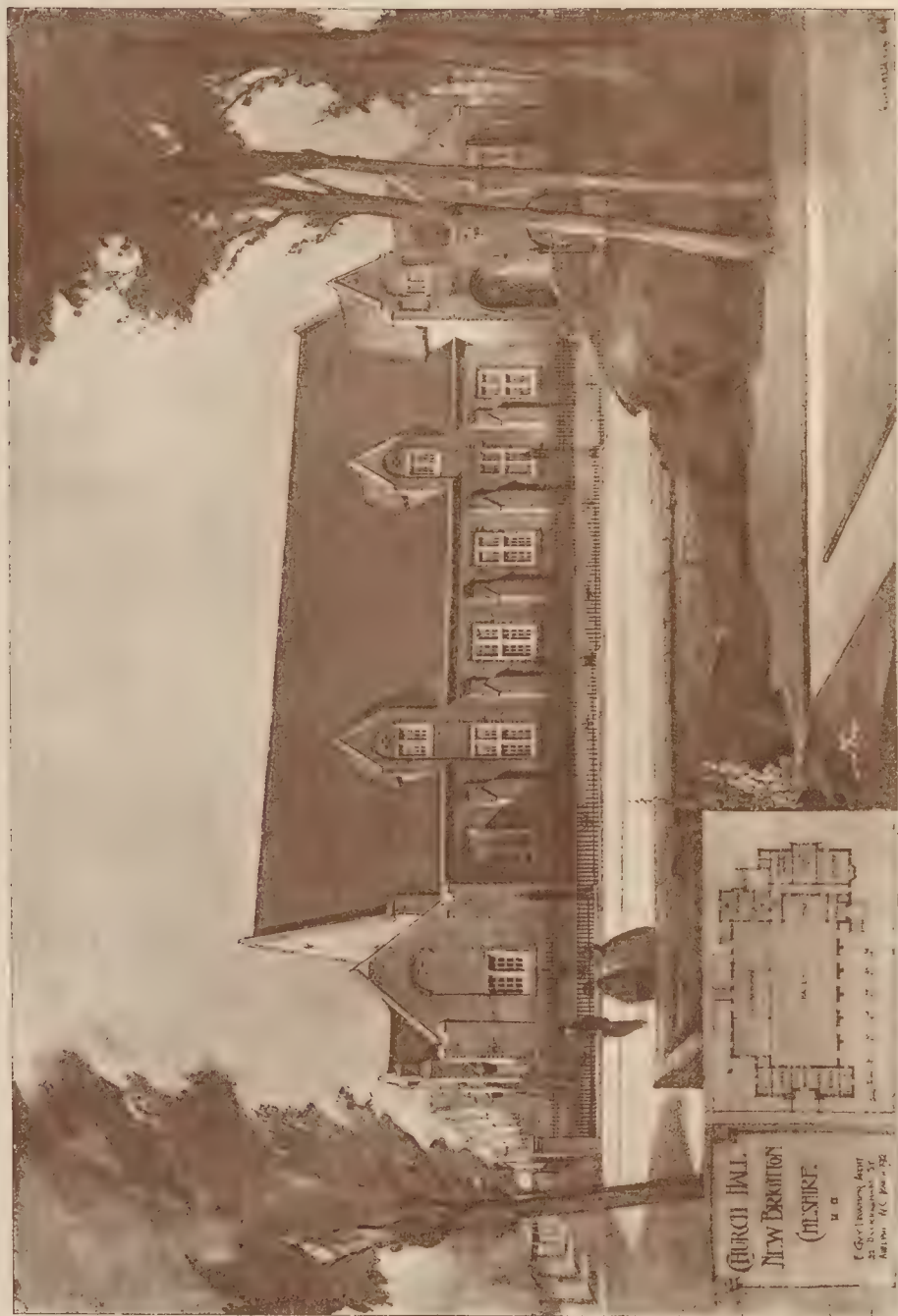


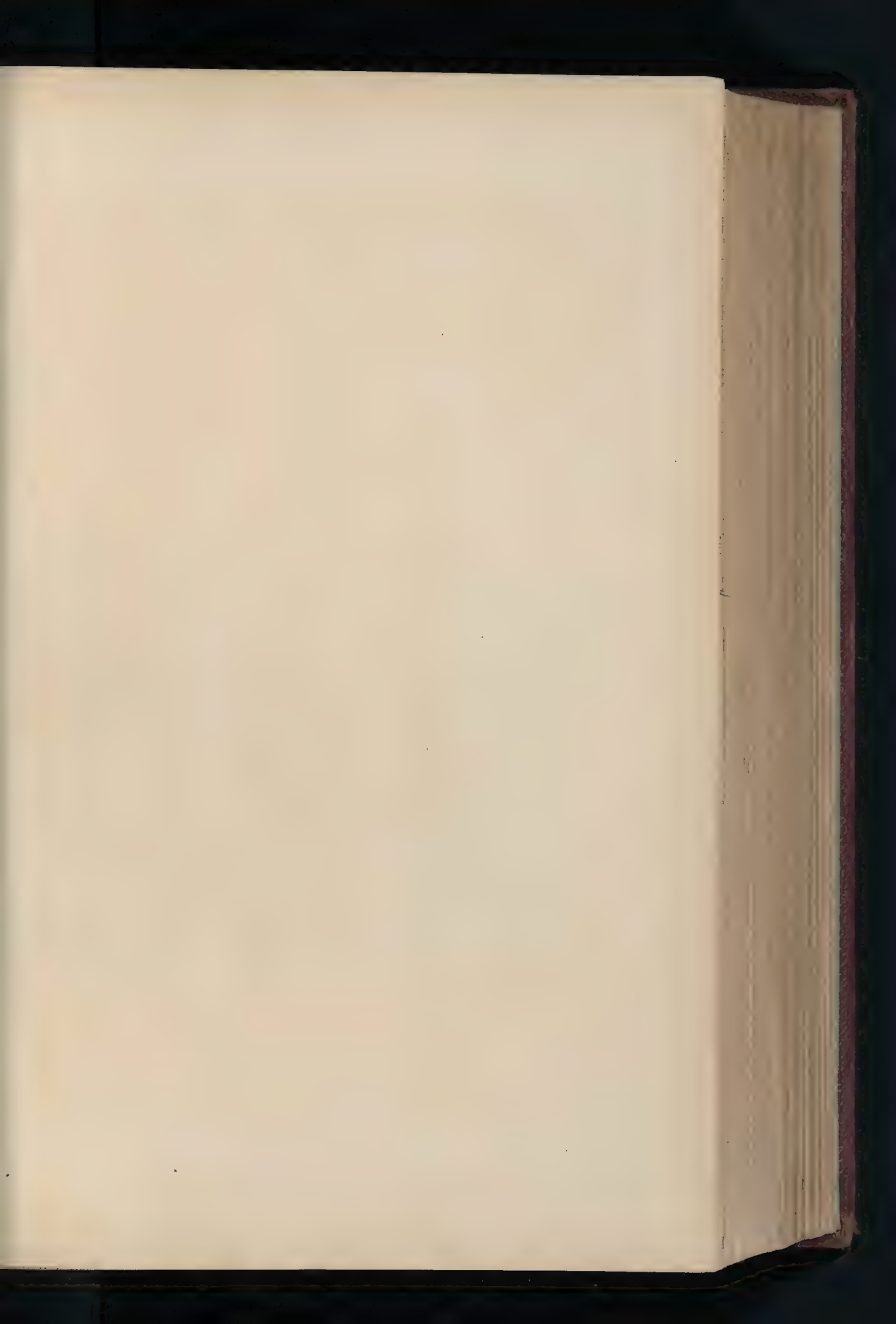
House at Worpleston.

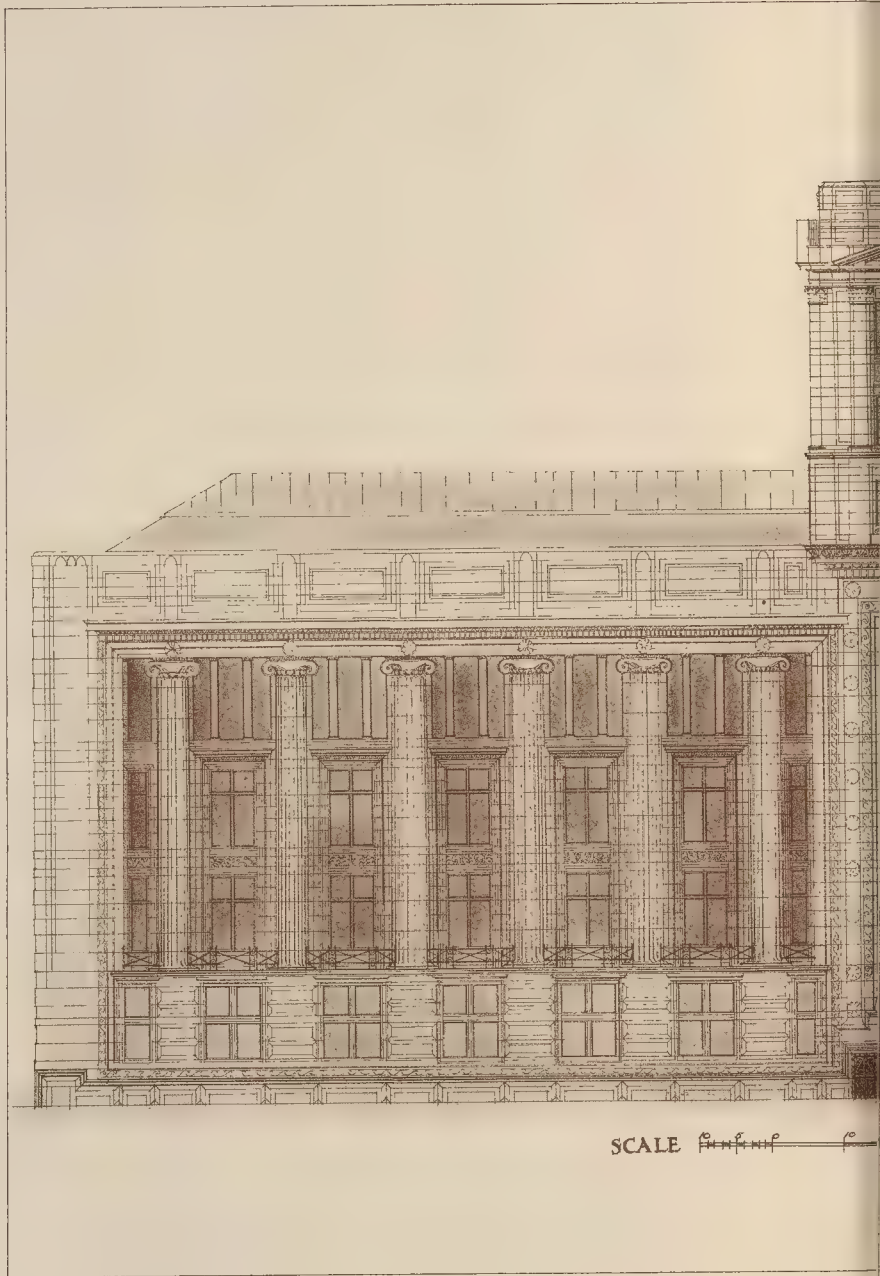
Mr. Leonard Martin, F.R.I.B.A., Architect.



THE BUILDER, JULY 5, 1912.







SCALE 1" = 10'

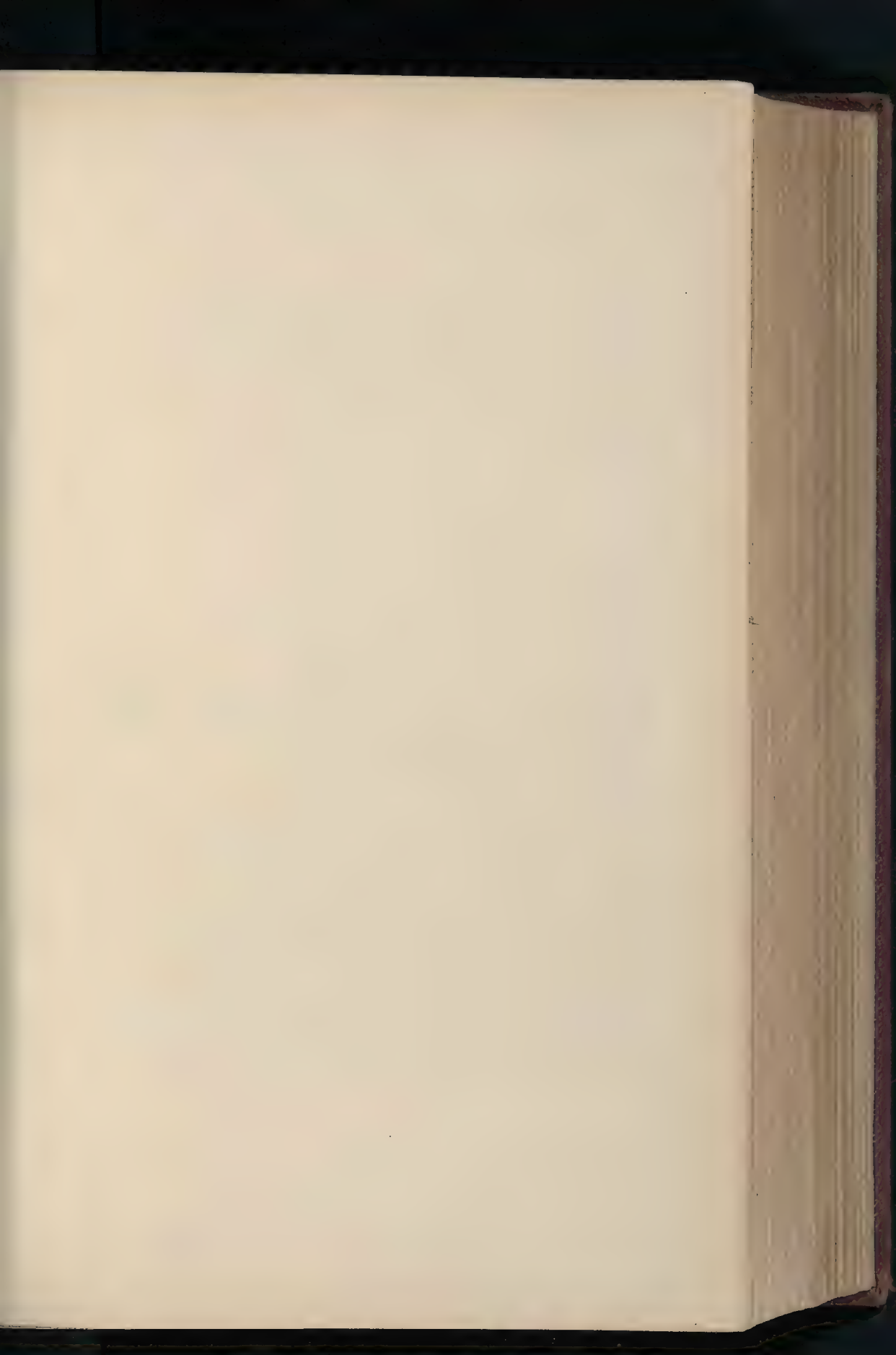
PROPOSED ELEVATION
DESIGN FOR THE PEARL ASSURANCE COMPANY



INK-PHOTO SPRAGUE & CO LTD 69 & 70, DEAN STREET ROAD W

HOLBORN.

LBORN.—BY PROFESSOR BERESFORD PITE, F.R.I.B.A.





THE LIVERPOOL GARDEN SUBURB: FIE



HK PHOTO SPRAGUE &

R. G. L. SUTCLIFFE, F.R.I.B.A., ARCHITECT

HOUSE AT WORPLESDON
FOR JOHN LANG, ESQ.
LEONARD MARTIN, F.R.B.A., ARCHT.



HOUSE AT WORPLESDON.—MR. LEONARD MARTIN, F.R.B.A., ARCHT.

(Royal Academy Exhibition, 1912.)

MONTHLY REVIEW . of . CIVIC DESIGN.



The Liverpool Garden Suburb : House in Fieldway-square.
Mr. G. L. Sutcliffe, F.R.I.B.A., Architect.

THE LIVERPOOL GARDEN SUBURB.

THE land now being developed as a garden suburb by the Liverpool Garden Suburb Tenants, Ltd., in association with Co-partnership Tenants, Ltd., of London, was part of the Marquis of Salisbury's Liverpool estate. It is in the Wavertree district near Broad Green Station, and has an area of about 180 acres, of which the westerly third (see Fig. 1) lies within the City of Liverpool, and the easterly two-thirds within the Urban District of Childwall. Between these two parts of the estate runs a north-and-south ring road 108 ft. wide, designed by Mr. Odie, the City Engineer, and constructed by the Corporation under special powers for a public improvement. That part of the estate which lies within the city boundaries is about 180 ft. above ordnance datum, and nearly level. The Childwall area is undulating. Broad Green Station, on the London and North-Western Railway, is near the north-west corner of the estate, and the Liverpool mainways pass the Picton Clock-tower, which is about a third of a mile west of the estate. For various reasons, among which the drainage facilities and proximity to the tramway route may be mentioned, it was decided to begin work at the north-west corner of the property. Before dealing with the approved lay-out, it will be interesting to refer to Fig. 2, which shows how the land could have been laid out to comply with the minimum requirements of the Liverpool Corporation's Acts and by-laws. If this arrangement had been adopted, the distance between the fronts of opposite streets would have been 43 ft. 3 in., and between the backs 20 ft., and the number of houses per acre would have been about forty-one, with an average frontage of 15 ft., or thirty-four with an average frontage of 18 ft. Back streets 9 ft. wide would have been constructed, and between these and the houses on either side would have been back yards 10 ft. wide, partly paved and partly occupied by outbuildings. In the whole area there would have been no place for outdoor recreation, either for children or for adults, except the streets, and

at the best the use of streets as playgrounds is strictly limited by the police. Every tree would have been cut down, every

blade of grass destroyed, and no place would have been left for a green thing to grow in except narrow strips of so-called "gardens,"

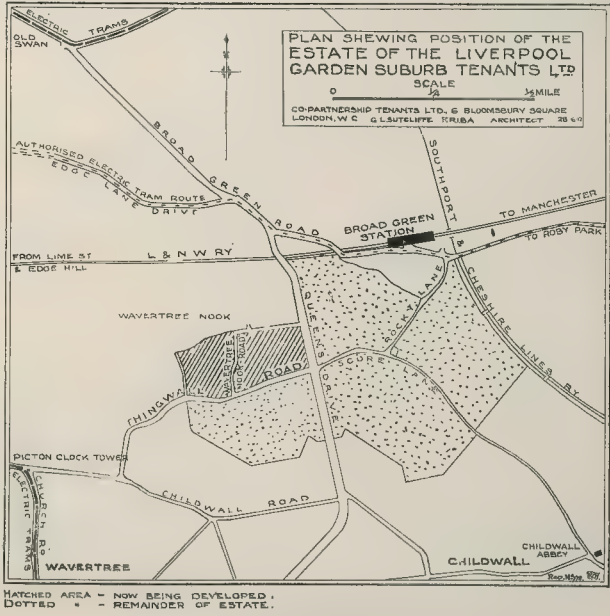


Fig. 1. The Liverpool Garden Suburb.



Fig. 2. Plan showing possible Development of 25 acres in accordance with the Liverpool Acts and By-laws.

mostly 3 ft. 7 in. wide, between the fronts of the houses and the main streets.

This plan is no worse than many which have been actually carried out in Liverpool and other cities and towns. In one or two respects, indeed, it may be better, for it embodies the requirements of the most recent Liverpool Act dealing with streets, namely, the Liverpool Corporation (Streets and Buildings) Act, 1908. Sect. 6 of this Act empowers the Corporation to demand a width up to 80 ft. for new streets which, in the opinion of the Corporation, will form main thoroughfares or means of communication between main thoroughfares. Under this section the Corporation asked for the widening of Thingwall-road to 80 ft. and of Wavertree Nook-road to 50 ft., and for the construction of a new road 60 ft. wide parallel to the western boundary and leading from Thingwall-road to green fields beyond the northern boundary of the estate. Sect. 12 of the same Act provides that no new street more than 150 yds. in length shall be laid out in the city without at least one intersecting street in every 150 yds. thereof, and, further, that not more than thirty houses shall be erected on either side of any such street between any two consecutive intersecting streets. This section was drafted mainly for the purpose of giving more air-space and freer circulation of air around houses, and the two sections taken together enable the Corporation to reduce appreciably the number of houses which can be crowded on a given area. In Fig. 2 the Corporation's requirements under these new regulations are complied with, but even then the number of houses per acre may be as many as forty-one.

Development of a large area on such lines would be a public misfortune—a fact which has been recognised by the Liverpool Corporation for some years. In the Act of 1908, already referred to, an important section (sect. 14) empowers the Corporation to relax the Liverpool Acts and by-laws with regard to the construction of streets in those cases where the owner of a building estate sets apart, "as a garden or open space or . . . as a public garden or recreation ground," a piece of land not less than one-tenth of the estate and not less in any case than 1 acre. The marginal note to the section is "Relaxation of Acts and By-laws," but as a matter of fact the section goes much further than this; not only may the Corporation dispense with the observance of "any of the provisions of any Act or by-law in force within the city relating to paving, metalling, flagging, channelling, or making up of streets," but may themselves at their own expense carry out the work. I do not know whether the Corporation have at any time borne the expense of street construction under the powers conferred by this section; what I do know is that my suggestion that they should do so in the case of the second part of the Liverpool Garden Suburb was not adopted. What the Corporation can do, however, under the section, in the public interest and without expenditure of public money, they are willing to do.

Fig. 3 shows the approved lay-out plan of the first and second areas. The first part to the west of Wavertree Nook-road contains about 11½ acres, and was laid out in 1910 by Mr. Raymond Unwin, F.R.I.B.A. The three short streets leading out of Northway and Wavertree Nook-road, and the two short streets

leading out of Nook-rise, were provided to comply with sect. 12 of the Act of 1908—that is to say, the section requiring an intersecting street every 150 yds. The land lying between Wavertree Nook-road and Queen's-drive has an area of about 14 acres, and has been laid out recently by the writer. In each case the number of houses will not exceed eleven per acre, and more than one-tenth of the area will be set apart as open spaces. It is clear at a glance, however, that the development of the second area represents a different interpretation of the local Acts and by-laws from that which obtained when the plan of the first area was under consideration. The writer's original scheme for the second area showed Fieldway approximately as in the final plan, but, instead of a central square being provided, Fieldway itself forked to the right and left, the former branch curving round to enter Heywood-road at right angles and being crossed by an intersecting *cul-de-sac*, and the latter curving to meet Wavertree Nook-road opposite Nook-rise. This plan afforded facilities for through traffic across the two areas, and was submitted to the Corporation in the belief that it complied fully and clearly with the provisions relating to intersecting streets. The Corporation thought otherwise, and in the end the plan was withdrawn and a new plan on different lines was prepared and ultimately approved. This is shown to a small scale in the right-hand half of Fig. 3, and to a larger scale and in fuller detail in Fig. 4. It has the great advantage, from the economic point of view, of low capital outlay in road construction. The north and south axis of the design is the proposed road called "Fieldway," which is 36 ft. wide (including the grass margins), and will eventually be continued in a straight line to a cricket and football field of about 8 acres on the south side of Thingwall-road. "Fieldway" will then form the connecting-link between this large recreation ground at the south end and "Fieldway-square" at the north end. The road round the square is 18 ft. wide. This axial line is continued northwards by means of a covered way and footpath to Heywood-road, and at right angles to it is another line (passing

through the centre of the square) on which are constructed the paths and covered ways which connect the circular roadway of the square with Wavertree Nook-road on the one hand and Queen's-drive on the other. Each end of this line is to be constructed as an "intersecting street," and another such street is formed by the quadrangle in Heywood-road.

There are at present two ponds in the south-west angle of this area, and the proposed buildings have been kept quite clear of them. The smaller pond will be filled up and the site used for house-gardens. The site of the larger pond is in the middle of an open space, and will probably be drained, partly filled, and used as a sunk playground for children. Other open spaces will be let as allotment-gardens to the Society's tenants. The green in the middle of Fieldway-square is intended for tennis-courts, and the trees around the green, and at the sides of Fieldway will be flowering trees of moderate height; forest trees would eventually darken the houses and obstruct the views. A general view of the square as at present designed appears upon one of our inset plates in this issue.

The development of the first area of 11½ acres is now practically finished. One hundred and twenty-six houses have been built upon it, and a bowling green and two tennis-courts have been laid. A children's playground has been formed and fitted with swings, etc., and allotment gardens have also been provided in addition to the house gardens. Thirty-eight houses are now being built on the second area and other houses will soon be begun. Two old houses have been altered and enlarged to form a club-house or institute, and the Liverpool Education Committee have been for some time negotiating for a school site on or near the suburb.

G. L. STUTCLIFFE.

A SUMMER SCHOOL OF TOWN PLANNING.

ALTHOUGH the town-planning movement continues to develop rapidly, facilities for the systematic study of this important and far-reaching subject hardly keep pace with its growth. With the exception of the school at Liverpool University and the course of lectures at Birmingham University there is so far as we are aware, no other teaching available. Yet there must be a very large number of pupils and assistants in the offices of borough engineers and other officials of local authorities to whom a sound knowledge of the principle and practice of town planning has become a vital necessity. To the borough engineer or surveyor of the future this subject will be of the first importance, and for those who aim at occupying the leading appointments in their profession it would seem to be essential, for it is not to be expected that the corporations of our large cities will in the future appoint officials who are ignorant of a subject which exercises so enormous an influence over the health and happiness of the people.

Recognising the importance of the question and the lack of sufficient teaching, the Bar to Promote the Extension of University Teaching of the University of London is proposing to hold a Summer School of Town Planning at the Hampstead Garden Suburb

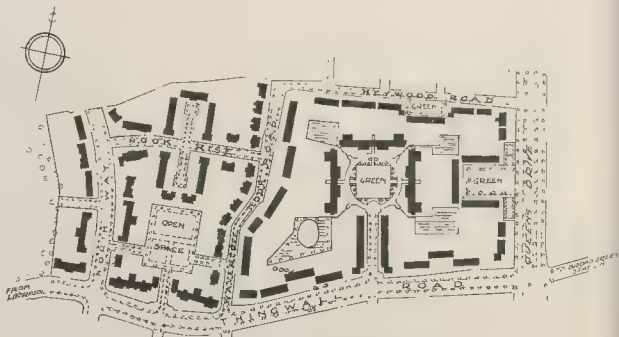


Fig. 3. Approved Lay-out Plan.

from August 3 to 17. Hampstead has been selected as the centre for the School as the results of systematic planning may be studied on the spot, and as further development of the suburb, in connexion with a town-planning scheme being prepared by the District Council of Finchley, is now being put in hand, students will have the added advantage of seeing the actual work in progress.

The prospectus promises a crowded fortnight of lectures on different aspects of the subject by such well-known authorities as Mrs. S. A. Barnett, Professor Adshead, Mr. Henry Vivian, P., Mr. Raymond Unwin, and others, will be arranged for in the mornings, leaving the rest of the day free for visits and excursions to such places as Letchworth, Hampton Court, Greenwich, and the London County Council Housing Scheme at Tottenham. A collection of drawings, plans, and maps will be exhibited, and a certificate of attendance issued with the authority of the London University Extension Board will be given to the members of the school who attend the lectures regularly.

We are glad to see that the social side of the question, which contributes so much to the success of such undertakings, has not been overlooked, and that arrangements will be made to open the Garden Suburb Tennis and Bowling Clubs to the students of the Summer school. We particularly welcome this action of the University of London as further proof of the great interest it is now taking in this subject. It is much to be hoped that the contemplated Chair of Town Planning may now be established so that a systematic course of study may always be open to the students of London and its neighbourhood. We shall watch this experiment with the greatest interest and wish it all success.

THE TRAFFIC PROBLEM: A NEW PROBLEM.

As we slowly progress towards the ideal of new problems and new obstacles arise and all for solution. At present a section of the daily Press is focussing public attention on the traffic problem—a question not by any means new, but since the general application of the motor to everyday purposes, more acute. Recent correspondence has brought to light a singularly selfish point of view on the part of individual users of roads. Each party blames others; the motorist objects to the slower-moving horse, while the carman retaliates with complaints about excessive haste and monopoly of the road; and the cyclist and the pedestrian in turn blame, and are blamed. The problem is full of interest to the student of social conditions, not only on the human side, but also on account of its bearing on the city of the future. The present situation emphasises only too clearly the penalties which must inevitably be paid for the lack of foresight displayed in the creation of new thoroughfares and the want of appreciation of the city's needs both present and future.

The solution of the difficulty might perchance be found in the judicious regulation of traffic by municipal ordinance, limiting the class of traffic and the provision or setting apart of special tracks or hours of passage for the heavier and slower-moving traffic, while for the lighter and faster vehicles using the principal thoroughfares compulsory stopping-places might suffice. These matters, however, are rather temporary measures, but for permanent good the town-planner must be consulted as well as the traffic expert; for this latter has a tendency to regard the appearance of the city as a minor consideration. In one case, recently illustrated, a suggestion was made for a kind of secondary road or viaduct on the roofs of houses—an idea which has obvious objections and is contrary to all ideas of logic and design. A better good will only be attained by the provision of broad main thoroughfares, with clear junctions, planned with the idea of avoidance of collision points, as far as possible. On such roads there would be room for all kinds of traffic, both fast and slow, and there would be more light and air; but in the older part of the city financial reasons would prevent the general adoption of the scheme. If a plan were devised which satisfied such requirements, as has been the case in America, advantage might be taken of the various opportunities which are certain to occur in the future as they have in the past, through rebuilding schemes. With such a scheme as that the New York City Improvement Commissions, or that of the late D. H. Burnham for



Fig. 4. The Liverpool Garden Suburb. Proposed Development of 13½ acres.

Chicago, backed up by the necessary authority from the powers that be, we should be advancing one step, and that without real hardship to any portion of the community.

HOUSING AND TOWN PLANNING IN SCOTLAND.

In their seventeenth annual Report the Local Government Board for Scotland says that during the past year they have every reason to be satisfied with the wide interest shown by local bodies and the public generally in connexion with the administration and execution of the Housing and Town Planning Act, both as regards the facilities provided in Part I. for the better housing of the working-classes, and the much-needed provision in Part II. of controlling the development of towns with the view to securing proper sanitary conditions and amenity. The Board are consulting the local authorities in the mining districts as to whether they have any amendments of the law to suggest to empower them to deal more efficiently with insanitary conditions. They were glad to note that, even apart from town-planning schemes, the Act has given an impetus towards better housing generally that deserved the fullest recognition. For example, their attention had been drawn to the erection on a large scale of miners' cottages in the village of Kirkconnel. On the south bank of the River Nith most of the cottages have a southern aspect, with a small garden plot in front and a garden behind. The gardens are to be enclosed with wooden fences, and the sloping bank of the river will be planted with shrubs. The Sanguhar and Kirkconnel Collieries Company had restricted the number of houses to the acre to fifteen or sixteen cottages, and in addition to these it is proposed to build a hostel to accommodate forty unmarried miners. A similar scheme is also being proceeded with at Valleyfield by the Fife Coal Company. The houses, one story in height, are being built in blocks of twenty-four, and each block forms one side of a crescent, in the centre of which it is proposed to plant a shrubbery. The space connecting the crescents and abutting on the main road, which is 60 ft. wide, is to be reserved for shops. The site is an open one, beautifully situated, with a southern aspect, overlooking the Firth of Forth, and if the miners attend to their gardens the village will form a model for future schemes. The Manor House Powis Coal Company had also consulted the Board in connexion with a village they propose to build at their colliery near Causewayhead, Stirling-shire.

During the year a number of local authorities have given consideration to the town planning portion of the Act, and the Board were encouraged to think that deep interest is being taken in the movement. The scheme for the extension of the Burgh of Dunfermline is of the first importance, the object being the creation of a town on garden city lines in connexion with the operations of the Admiralty at Rosyth.

The Board had had several conferences with the local authority of Inverkeithing in regard to a town-planning scheme. At Gourock and Greenock a Scottish Garden Suburb Company had been formed, and the Board understood that the company have had applications for all houses as soon as they are ready. Consideration is being given in Edinburgh to the improvement of the Canal District of that city. In Dundee three separate areas are being scheduled under town-planning schemes; whilst the Town Council have also before them a great improvement scheme prepared by Mr. James Thomson, the City Engineer, the most interesting features of which are—(1) The widening of the Overgate and a large clearance of existing buildings at the west end of the High-street, with the view of creating an ornamental open space and exposing the west end of the group of city churches; (2) the opening-up of Union-street, showing a boulevard and terminal vista, with monument looking across the Tay; (3) the clearing away of slums behind the Town House for a public market with roof garden; and (4) the creation of a civic centre, to include a City Hall and municipal offices, with a great sweep of river frontage to the south provided with ornamental grounds laid out on reclaimed land. Other towns bestirring themselves are Bo'ness, Buckhaven, Methil and Inverleven, Clydebank, Partick, Pollokshaws, Leven, Rutherglen, and Wishaw. Of private schemes one of the most interesting is the proposed new residential garden suburb being planned on the estate of the Duke of Portland on the Ayrshire coast at Barassie.

NATIONAL HOUSING AND TOWN PLANNING CONFERENCE, 1912 (SCOTTISH SECTION).

A CONFERENCE lasting for two days on the subject of the administration of the Housing and Town Planning Act was opened in the Trades Hall, Glasgow on Tuesday, June 18, and was attended by 230 delegates representative of local authorities from all parts of Scotland and of architectural and other societies. The arrangements were in the hands of Mr. Henry R. Aldridge (Leicester), Secretary of the National Housing and Town Planning Council, and it may be confidently said that any of the delegates who went conscientiously through the large mass of papers and reports provided will have a thoroughly comprehensive knowledge of the administration and application of the Act.

Generally speaking, it may be said that the Conference was a success in so far as it has stirred public opinion in Scotland to an interest in the subject, and the attendance of official delegates from so many burgh councils and local authorities is, we hope, an acknowledgment on their part that they recognise their duties under the Act and their intention to apply the knowledge gained locally. Unfortunately



The Giant's Goblet, Villa Farnese.

(From the Town Planning Review.)

the time allowed for the discussion of the large agenda provided was quite inadequate.

The first day was largely given up to the discussion of administrative questions and the relations of cities to the county districts surrounding them—a subject of particular interest to Glasgow at present in connexion with the proposed extension of her boundaries. The question of roads was also discussed in detail. On Wednesday the Conference devoted its attention to various aspects of the housing question, including the peculiarly Scottish problem of tenement *versus* cottage dwellings. The tenement system came in for strong condemnation, and defence of it was hardly attempted, but we are afraid that condemnation of it as a system will not prevent its continuance. Everybody grants that, other things being equal the tenement dweller would willingly become a cottage dweller if the opportunity were given. The difficulty is that, while it may be healthier and pleasanter, the cottage is dearer and, as a rule, naturally more remote from his place of employment.

It was claimed that greater stability of structure was required in Scotland than is necessary in England, and it is possible that some relaxation of by-laws might be made with absolute safety, but the reason of the excessive cost of small dwellings in Scotland must, we think, be traced to the persistence in the use of traditional methods and materials. How often do we see quite small cottages being erected even only one story high with stone walls 2 ft. thick, which as a preventive to damp will be strapped and plastered internally, making up a thickness of about 2 ft. 3 in. all round, a building possibly not larger than 30 ft. by 20 ft. over all, and which will in wet weather stand as a solid 2 ft. ring of moisture only kept back by the vermin-harbours air space behind the plaster! We fear that the days of the tenement are not yet numbered, but at any rate the public eye is being opened to its evils and with the desire for better will come the supply.

Some figures as to the cost of cottage dwellings were submitted by Mr. A. N. Paterson, the President of the Glasgow Institute of Architects, and these were supplemented by the experience of other architects.

THE "TOWN PLANNING REVIEW."

THE *Town Planning Review* for April, being the first number of Vol. III., begins a new series of examples illustrating notable features of English towns. It leads off with "The New Walk at Leicester," by N. P. Lard, a pedestrian parkway over 100 years old, and "The Revelin Valley-road at Sheffield," by W. Terrey, a

modern municipal improvement opening up a beautiful piece of wild country. This series should form an interesting and valuable feature of this volume.

The present number opens with "Town Planning in Australasia," by Charles C. Reade, which deals with the conditions and the progress made in the principal cities of Australia and New Zealand. It is illustrated by two general views of Adelaide and by maps and plans of the various cities dealt with.

Professor Adshead continues his series of "The Decoration and Furnishing of the City," in which he takes the point of view that "the purpose of the fountain is non-utilitarian; it transcends all mundane ideas. It is a work of art set up for art's sake alone." This article, like the previous ones of this series, is admirably illustrated by examples from different countries, mostly of the Renaissance period, one of which we are enabled by the courtesy of the Editor to reproduce. A fine view of the Medici Fountain in the Luxembourg Gardens at Paris forms the frontispiece to the number.

An article of antiquarian interest is contributed by Edmund Rathbone, being an account of the origin and growth of Deva—the Chester of Roman times—and an essay in restoration of its plan, with some account of its present Roman remains. According to Professor Haverfield, "Deva was from first to last a fortress, always garrisoned by troops, always devoid of organised civic life and municipal institutions, but differing from some

other fortresses by the fact that its garrison consisted of legionary and not auxiliary troops."

This naturally influences the plan, which appears to have been practically a development of that of a camp.

"Some Notes on the Act in Practice," contributed by A. S. Soutar, are of special interest as they are founded on the actual experience of the Ruislip-Northwood Urban District Council in applying the Town Planning Act to the development of the Ruislip Manor Estate; and "Walkley," by Charles Hobson, gives an account of the fifty years' experience of a working man's garden suburb on the outskirts of Sheffield.

"An Introduction to the Planning of Modern Italian Towns," by Professor Adshead, promises in future numbers to analyse and give an historical retrospect of some of the more important Italian towns. The present article is well illustrated by plans and views of Turin one of which we are permitted to reproduce.

"Notes on Current Town-Planning Schemes," by the Editor, includes Southport (with plan), Middleton, Ellesmere Port (with plan), and Newcastle-on-Tyne.

"A Chronicle of Passing Events" is of unusual interest, containing a view of the proposed extension of the Avenue des Champs Elysées and the Avenue de la Grande Armée into the Forest of St. Germain; the premiated designs for the Prestatyn Estate, and the prize designs for a Liverpool reconstruction scheme which was the subject for the Lever prizes at the Liverpool School of Town Planning.

In many ways the most interesting and stimulating article in this number is that of

"The Monumental Qualities in Architecture," by Professor Reilly, being a paper read before the Irish Architectural Association. Taking the Customs House, by Gandon, as his text he examines the conditions and the attitude of mind, mental equipment, and training that made such a building possible, and suggest a return to Gandon's method of education if we would produce similar results. In his analysis of "the qualities we somewhat vaguely sum up in the word monumental," Professor Reilly is not, we think, altogether satisfying. "Here, then," he says, "we have all the qualities which go to making the complete monumental: Perfect unity, mass, great scale, and absolute refinement." Though these fine qualities could no doubt be traced in many monuments, the are surely—with the possible exception of "great scale"—to be found as often in a fine works of architecture, whether monumental or not. Unity, indeed, is the necessary quality of every art conception—it could not be a complete conception without it. We should hesitate also to accept any definition of monument that appeared to exclude such works as the Choragic Monument of Lysicrates on the score of lack of size or of largeness of scale, and we suggest, moreover, that it would perhaps be quite possible to imagine a building which might possess all the good qualities enumerated, and yet not be a monument.

If an architectural monument is the expression of some spiritual idea or emotion in durable form, unity of conception is no doubt an essential but beyond this it might naturally be supposed that a monument would be given just such



Turin: Approach to the Church from the Piazza Vittorio Emanuele.

(From the Town Planning Review.)

magnitude of mass, largeness of scale, and degree of refinement, and no more, as was necessary to exactly express the idea or sentiment which prompted its erection.

This, however, is not the main point of this admirable article, which everyone should read for themselves.

LEADENHALL-STREET IMPROVEMENT.

The City Press publishes a plan showing improvements which involve the widening of Leadenhall-street between its junction with Aldgate and Creechurch-lane. We understand that it was the desire of the Improvements Committee to widen this street to 50 ft. for the whole of its length between Billiter-street and Aldgate, but that it was unable to come to terms with the London County Council. Although far from complete, this improvement is a step in the right direction. A glance at the map of this part of London will reveal its importance. The City is approached from the east by one of the finest of our main traffic arteries, which enters the City proper at Aldgate. Here it bifurcates into two narrow streets, Fenchurch-street and Leadenhall-street, which eventually join again in front of the Royal Exchange, the civic centre of London.

The importance of having these two streets of ample width, so forming an adequate approach from the eastern gate and facilitating the flow of the traffic east and west, needs no demonstration. The ultimate widening of the whole length of Leadenhall-street to the 50 ft. proposed is the least that could be expected.

Where this improvement seems to fall short is that it makes no attempt to deal with the acute angle formed by the junction of Leadenhall and Fenchurch streets. The property acquired appears to have been only just sufficient to enable the widening of Leadenhall-street to be carried out, with the result that the fragments left are shallow and of little value, and the whole of the space of the triangle is cut up into small and awkwardly-shaped sites, which are difficult to deal with in any satisfactory manner.

Had the whole of the triangle been acquired, these awkward sites at the apex could have been dealt with as one block, which would have increased their value and have enabled this angle to have been treated in a fine architectural manner more worthy of its position facing the principal eastern gate and approach to the centre of the City of London.

LONDON IMPROVEMENTS.

The Improvements Committee of the London County Council report that by reason of the heavy charges on the rates for repayment of debt and interest on the Westminster and Strand Improvements, they do not think it wise to recommend any further comprehensive scheme during the current year until the surplus lands on the present improvements are fully developed, although they have improvements in different parts of London now under consideration. The Finance Committee also report that these debt charges have grown from 591,950*l.* in 1901-2 to 965,000*l.* in 1912-13, or from a rate of about 3*d.* in the pound to one of about 5*d.* In these circumstances they recommend the Council to carefully scrutinise all future proposals for improvements schemes of any magnitude, and that the pace at which such schemes are undertaken should be so arranged that the present debt charges are not greatly increased.

CIVIC DESIGN NOTES.

A REPORT issued in 1911 gives an account of the previous year's work of the Art Commission of the City of New York.

In the exercise of its jurisdiction over all works of art to be acquired by the city and over all buildings, monuments, and other structures to be erected on land belonging to the city, the Commission has dealt with some 140 applications during the year under review; out of this number it approved 115.

Among the forty-eight submissions which came under the heading of "Works of Art" are

to be found such matters as a Monumental Approach to Manhattan Bridge, sculpture to be placed in the exterior of New York Public Library and on Bronx Court House, numerous drinking fountains in various parts of the city, a memorial to those who perished in the *Maine* and in the Spanish-American War, and numerous other memorials, tablets, etc.

Among the seventy-three submissions of designs for "public structures" we find schools, bridge shelters, comfort stations, police stations, fences around parks, waste receptacles, etc., giving a great variety of subjects.

One of the most interesting undertakings of the Commission has been the restorations of the old City Hall, built by John McComb in 1810. Some of the principal rooms having been cut up with partitions and otherwise defaced, it was decided to restore them to their original condition. The Governor's room was restored in 1909, and the present report now gives a view of the recent restoration to the Borough President's office, with an account of the work carried out.

From the illustrations, which enable us to compare the designs approved with those disapproved, it is evident that the Commission is doing a most useful work and exercising considerable influence on the general appearance of the city. As we have previously pointed out, it is much to be regretted that similar institutions are not at work in all the principal towns of England.

ALTHOUGH we understand Imperial Delhi, that it has practically been decided not to build the new Imperial Delhi on the Durbar site, we hope that one reason for this decision, given by the *Pall Mall Gazette*, that if this site is built on there will be no suitable place left for another Imperial assemblage, does not represent the ideas of those responsible for the lay-out of the new part of the city.

Apart from its provision for administrative buildings, we should have thought that the underlying idea of such a city would be the creation of a permanent Durbar site architecturally arranged and brought into proper relation to the present city of Delhi. The mere provision of Government offices and residences, leaving the great ceremonial functions that typify the Imperial aspect of the problem to be dealt with in a temporary manner as occasion arises, hardly seems an adequate recognition of the possibilities of the situation.

TOWN-PLANNING enthusiasm, building up its system of aims and conceptions of what is desirable, must beware always of the too facile assumptions, in which the vague well-meanters are so apt to indulge. Too much is glibly assumed to be the ultimately ideal, which, so far from being that, is hardly even to be tolerated as an ameliorative preliminary. An example of this is the hope expressed by the lecturer at the first meeting of the London Society that the maximum height of buildings would be, by statute eventually, at most equal to the width of the street in which they stand. That aspiration, casually thrown out among many such stated or implied, received some faint applause from an audience not beside itself with the heat of a great occasion. It was singled out. Here was something simple they could grasp. Narrow streets! How murky and dismal, in the examples shown,

as compared with some views of mere country, somewhat meretriciously adduced! It is the sort of simple precept that may be repeated and eventually gain such general acceptance as to become a by-law, and then a byword to those who really care. For one knows what would happen. Being the legal maximum, that proportion would become a rule.

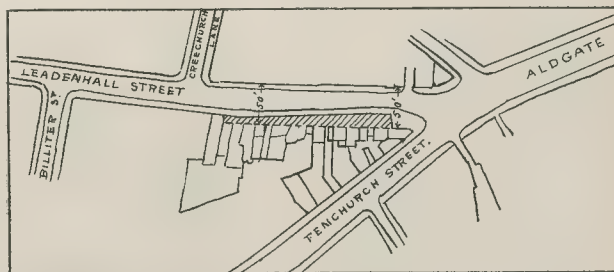
It has been pointed out with some frequency in these columns that civic design, or town planning even, is not a matter of two dimensions, but, like architecture, of three. A town or a street cannot be plotted on paper and staked out on land and then left to be built up to a rule-of-thumb regulation height. Anyone who takes the trouble to investigate the matter will find that a street with buildings forming in section three sides of a square is a very unpleasantly proportioned street indeed—perhaps the worst. On the quality of fine, broad thoroughfares we are agreed; and narrow streets, gaining by contrast, are to the wanderer enchanting. Good, too, for the inhabitant, better than the macadamised wildernesses one so often finds in the suburbs, for instance, and desirable in every way, if only we see to it that the space not wasted in street is properly spent in garden, quiet and private, behind.

Argyll-place and Noel-street improvement now being taken in hand by the Westminster City Council will no

doubt afford some relief to the congestion at Oxford-circus, as vehicles from Regent-street going east will be able to avoid it by making use of Great Marlborough-street. As, however, they will have to debouch into Oxford-street eventually, this improvement will be purely local and not do much towards providing the much-desired relief street which Oxford-street so badly needs. It seems rather a pity that an attempt was made to formulate a more comprehensive scheme to create this. An extension of Conduit-street through to Great Marlborough-street and thence to the north side of Soho-square, and out into Charing Cross-road, would afford relief for a considerable distance, and, considering the class of property involved, would not be prohibitive on the score of expense.

THE Imperial Road Board Conference of came in for a certain amount Road Engineers of criticism at the annual

Scottish district meeting at Stirling in connexion with the Institution of Municipal and County Engineers. In welcoming the delegates, Sir Alan H. Seton Stewart is reported to have said that this august body had put the cart before the horse and insisted on good surfaces to roads, whereas he held it was their first duty to see that they got good foundations to the roads. Mr. D. E. Cox, Road Surveyor to the Central District of Shirlingshire, in a paper dealing with the surface treatment of roads, thought that, although tar macadam might with advantage be used in populous places, it was not advisable to surface tarred metal on a country road with fine tarred material. During a frost such a surface was smooth and required to be regularly sanded to prevent accidents. The merits of "rocmac" and "tar macadam" were discussed and criticism was directed at the action of the Road Board in refusing to give grants for roads laid with "rocmac." The opinion was expressed that strong representations should be made to the Road Board on the subject.



Leadenhall-street Improvement.

THE BUILDING TRADE.

THE INSURANCE ACT.—IV.

IN our last article we dealt with some of the provisions of Part II. of the Insurance Act, which relate to employees, viz., the statutory conditions for receipt of unemployed benefit, the contributions required, and the benefit to be received, but there are other sections which still require notice, and we will, in the first place, consider the rebates or repayments allowed to workmen under certain conditions.

By sect. 99, as we have pointed out before, an employer may come to an arrangement with the Board of Trade both as to workmen engaged through a Labour Exchange and as to workmen in his employ at the date such an arrangement is made, whereby the duties imposed upon the employer under any part of the Act may be undertaken by the Labour Exchange. Where such an arrangement has been made, subsect. (2) provides that all the periods of employment during which a workman engaged through a Labour Exchange is employed by one or more employers with whom such an arrangement has been made, may, subject to regulations to be made by the Board of Trade on the application of the workman, be treated for the purposes of his contributions under Part II. of the Act, as a continuous period of employment under one employer, and those regulations may provide for the refund of part of his contributions. Rule 34 of the Unemployment Insurance Regulations, 1912, deals with the amount to be refunded. The employers will have made the same deductions from the workmen's wages as if no such arrangement existed, but the workman can make application to a local office for the difference between the amounts so deducted and the sum that would have been deducted had he been continuously employed under one employer during the same period.

This section seems full of difficulties. The workman gets an advantage in being treated as continuously employed, but this advantage, as we pointed out in our article, June 14, is dependent upon the employer exercising an option in which the workman has no voice. Then supposing a workman to work for three employers in a week, two of whom have entered into such an arrangement but the third has not, does that break the claim of continuity?

Sect. 95 also contains provisions relating to the repayment of contributions to workmen. If a workman or his personal representatives show to the satisfaction of the Board of Trade that the workman has contributed under this part of the Act for 500 weeks or upwards, and that the workman had attained sixty years of age, the amount by which these contributions exceed the amounts received by him out of the unemployment fund, together with compound interest at 2½ per cent., can be claimed.

By subsect. 2 a repayment under this section does not affect the workman's liability to go on paying contributions under this part of the Act, and if after such repayment he has to claim benefit, the contributions in respect of the period covered by repayment are to be calculated as "the full number of contributions which is most nearly equal to five-eighths of the number of contributions actually paid during that period." In other words, the employers' contributions and the State subsidy are still held to his credit. Sect. 105, which enables arrangements to be made between the Board of Trade and associations of workmen who by their rules pay unemployed benefit to their members, we need hardly consider in detail here except to notice that Rule 10 of the Unemployment Insurance Regulations, 1912, provides a special procedure where workmen apply for unemployment benefit, and that when a claim for repayment is made under sect. 99 by workmen engaged through a Labour Exchange the proviso to Rule 34 enacts that no workman shall be entitled to any repayment in respect of any contributions which have already been taken into account for the purpose of determining the amount of unemployment benefit to which he may be entitled, or the amount which may be repayable under sect. 105 to an association in respect of that workman. Subsect. 2 of sect. 100 enacts that regulations

shall be made providing for the return to workmen and employers of any contributions paid under a misapprehension that the workman was employed in an insured trade, but in the case of workmen any benefit received is to be deducted. Rule 31 deals with these applications.

Under sect. 91 (a) regulations may be made for permitting workmen who are employed under the same employer, partly in an insured trade and partly not in an insured trade, to be treated with the consent of the employer as if they were wholly employed in an insured trade.

Rule 35 represents these regulations, and simply provides that where such an arrangement has been come to between employer and workman the contributions shall be deemed to have been paid in respect of employment in an insured trade.

It is not clear whether such an arrangement would prejudice the right to refunds, but we assume from the wording of the rule that these contributions are to be treated in every way as if they had been made in respect of workmen wholly engaged in insured trades.

Under sect. 91 (f) regulations may also be made for providing that "where any workmen are employed in or for the purposes of the business of any person, but are not actually employed by that person, that person may be treated for the purposes of this part of the Act as their employer, instead of their actual employer, and for allowing that person to deduct from any payments made by him to the actual employer any sums paid by him as contributions on behalf of the workman, and for allowing the actual employer to recover the like sums from the workman." We quote this subsection in full, for it is impossible to paraphrase such a complicated piece of legislation, and the rule made under the subsection, viz., Rule 36, is even more confusing.

The side-note to the rule is "Workmen employed by one person for purposes of business of another." The person originally employing the workman is termed the "Immediate Employer," the other person is called the "Substantial Employer," and the rule provides that if workmen employed in an insured trade are employed in or for the purposes of the business of the "substantial employer" by some other person who "himself works wholly or mainly by way of manual labour" in that business, the "substantial employer" is for the purposes of this part of the Act to be treated as the employer. The "substantial employer" may deduct from any payments due from him to the immediate employer any sums paid by him as contributions on behalf of the workmen, and the immediate employer may deduct from the workmen's wages any sums so deducted. We can offer no satisfactory explanation of this subsection or the rule. They possibly refer to subcontractors, but they are very intricate.

The sections of the Insurance Act which relate to unemployment insurance are sects. 84 to 107, and it is this small portion of the Act, known as Part II., which we have with such indifferent success endeavoured to explain to our readers. Ninety-four sections of the Act relate to health insurance in terms, which are no less complicated than those we have been considering. The Act may surely be characterised as a wholly unprecedented piece of legislation. The Statute Book contains many statutes of considerable complication, but "minikin pin" legislation such as this is a new and, we think, a very undesirable departure. It is not legislation, and it is not "business." It places not only a burden upon industry—industries are constantly being burdened by domestic legislation—but a clog. The employer has, in the first instance, to bear the whole charge imposed by the Act, and if he desires to recoup himself of the portion properly to be borne by the workman he has to solve a series of puzzles and also to risk estranging his workman. The workman must qualify in high mathematics to understand the benefit he is entitled to, an army of officials has to be engaged, and rules and regulations are issued in sheaves, and the total result is that each adult workman can only receive in

twelve months fifteen weeks' unemployment benefit or a sum of five guineas at maximum. Was there ever such a "pothor about so small a matter? The mountains have brought forth, and behold! The "ridiculous mussy" which we may be pardoned for translating as the "ridiculous muss." This is not "grandmotherly legislation," it would be an insult to our forbears so to designate it. It is "minikin pin" legislation, and when in practice it will not hold the industrial fabric together, but will inflict a series of prickings on those engaged in industry. We are in no way opposed to the principle of insurance, but we should wish at least to see it applied to business men on business principles.

LAND VALUATION.

DURING the recent debate on land valuation the Chancellor of the Exchequer made an important announcement that an inquiry by experts into the administration of the Act should be instituted at once, the terms of the reference being as follows: "To inquire into the working of the valuation prescribed by sect. 26, subsect. 1, Part I. of the Finance Act, 1910, and to report whether any modification of the machinery carrying out that valuation are necessary, and, if so, what modifications. This subsection provides that the Commissioners shall as soon as may be after the passing of the Act cause a valuation to be made of all land in the United Kingdom showing separate the total value and the site value respectively of the land, and in the case of agricultural land the value of the land for agricultural purposes, when that value is different from the site value, and it is provided that land separate occupation shall be valued separately if the owner so desires.

Having regard to the provisions of the section and the terms of reference, it may be doubted how far the Commission will be able to inquire into those questions which are the cause of hardship and complaint under the Act. The allusion to machinery for carrying out the valuation rather suggests that the inquiry will be limited to ascertaining whether the total value and the site value of land are being determined as expeditiously as may be and with as little friction as possible, whereas the point in issue are more deeply-seated than that.

The main point from the builders' point of view is, What is to be deemed increment? Is every increase in the value of the land as the houses placed upon it to be deemed increment quite apart from local conditions? What is to be deemed profit as distinguished from increment? Increment was described when the Finance Act was being passed as an increase in value due to the community—i.e., either exceptional demand or an increase in value through the improvement in a district due to outside causes. It is noticeable in the debates Ministers always cite example of "windfalls." Mr. Masterman did so on the occasion, citing 9½ acres purchased at 25 two years ago, and 1 acre of which, required by a public authority, was sold for 605£. These are the cases brought before the House by Ministers, and if increment value duty was only levied in such cases we imagine very little complaint of the Act would be heard in the House or throughout the country, but where cases of hardship are brought to the notice of Ministers no satisfactory assurance is forthcoming.

The fact is that the Finance Act contains no definition which limits increment value duty to that which it was described to be when the Bill was introduced, and the complicated provisions for valuation do not ensure the tax being levied on such a basis. We deprecate the use of the word "trickery" in connexion with the Act and its administration, but unlooked-for results have arisen under the Act, and it is an inquiry into these results which is required. The Chancellor of the Exchequer intimated clearly that the policy of the Government as expressed in the Act would not be the subject of investigation by the Committee, and we fear, therefore, that the proposed investigation will serve but little purpose.

We cannot leave this subject without noticing the statement made by Mr. Masterman that the building trade is more prosperous than it was before the Act was passed. This assertion was based upon statistics which are not reliable for such a purpose, as we pointed out in our issue for December 29 last. The figures quoted relate to trade union returns for carpenters and joiners, and the returns are compared with the years 1908-9, which were exceptionally bad years. Those two years are invariably isolated by Ministers for the purposes of comparison, but the previous years show far less unemployment even for carpenters and joiners, and in 1898 only 0.9 were unemployed. Carpenters and joiners do not alone represent the building trade, and even in their case the returns take no account of the men who have dropped out of the unions owing to continued hard times. This was fully recognised in the actuarial report made last year for the purposes of the Insurance Act, a document with which Ministers should be fully acquainted.

CONCRETE-MIXERS:

THE MASON MIXER.

This machine is of the continuous type, and consists essentially of a long, tapering cylinder trued inside with ribs, and rotated by gearing arranged as shown by the accompanying illustration.

The feed-hopper is attached at the smaller end of the cylinder, and water is admitted at the same end through a pipe passing down the cylinder. The discharge shoot is at the larger end of the cylinder.

The machine is made in two sizes, and can be supplied for operation by belting from any convenient source of power.

The makers are Messrs. Mason Brothers, of Leicester, who also manufacture pan-mixers for mortar or concrete and several types of stone-breaking machinery.

CONTRACTORS' MATERIALS.

In carrying out a contract for large works the contractor must needs find large quantities of materials. Whether he supplies them himself or obtains them from third parties he is under the same obligation. He must guarantee them all. That is bound to be one of the burdens of the contract, and it is necessary to study the clauses with some care in order to see that the contractor is not called upon to undertake a burden which is too onerous.

Delay Enhancing the Price of Materials.

If there is delay in commencing the work which is due to the fault of the employer, and the builder is consequently forced to expend larger sums on materials than he would otherwise have done, he may recover the difference. For instance, suppose a contract was entered into for the erection of a pier, the work to be commenced in June, 1912, and finished in two years from that date. Relying on his work commencing in June the contractor would naturally order cement as at the prices ruling in that month. Therefore, if the employer made delay in giving possession of the site, or was guilty of other default which rendered it impossible for the contractor to commence work for six months, the employer would have to make good to him. (See generally *Drew-Bear v. The Pancras Guardians*; *Emden's Building Contracts*, fourth edition, p. 684.)

Increased Cost of Haulage Owing to Delay.

Delay which is sufficient to carry the commencement of a contract over from summer to

winter may also prove expensive to the contractor in relation to materials. He will be responsible for haulage; and where haulage has to be conducted along country roads it is manifest that the expense is much greater in winter than in summer, especially when as a result of the haulage of heavy waggons the contractor may be made liable by the local authority for extraordinary traffic. Due warning should, of course, be given to the employer that his refusal to allow the work to commence at the proper time will occasion loss to the contractor.

Supply of Some of Materials by Employer.

Of course, if the contractor undertakes to build with the employer's materials he is under no obligation in respect of them. He cannot be taken to guarantee them. For instance, if a building owner were to say "there is a quarry in my grounds from which I want to procure all necessary building stones," or "there is a bed of sand available here and you must use that for making concrete." In both these cases the builder would not be liable for defective materials unless it could be shown that the materials were so bad for the desired purpose that it was his duty as professional adviser of the building owner to point out this fact to him.

Where the employer has agreed to supply part of the materials he is entitled to deduct from the contract price the value of the materials so supplied. (*Newton v. Foster*, 12 M. and W. 772.)

Where Performance Prevented by Employer.

When the employer interferes so as to prevent performance of a contract it is obvious that he must pay damages; and the measure of those damages is the amount of profit which the contractor would have made had he been allowed to complete the work. That profit is arrived at by taking the difference between what the performance would have cost the builder and the price which the employer agreed to pay. A fair deduction must, of course, be made from the contract price in respect of the value of materials which have never been served and wages which have never been paid. (See the American case of *Mashoten v. Mayor*, etc., of Brooklyn; 7 Hill N. Y. R. 61.)

Right of Clerk of the Works in Relation to Materials.

It has been decided that the clerk of the works who is employed in connexion with a building contract may be vested with authority to reject materials. In *Graham v. the Commissioners of Works* ("Emden's Building Contracts," fourth edition, p. 670.)

The Master of the Rolls, in giving judgment, said: "It is perfectly obvious as a matter of business that one cannot expect an architect to go into every detail himself, and I have no hesitation in holding on the authorities that the architect, having himself first ascertained that the timber being used is not of the stipulated quality, is perfectly entitled to delegate the duty of particularising which of the timbers must be removed."

THE TRADE UNION BILL.

The Employers' Parliamentary Council has issued a very instructive circular on the subject of the Trade Union (No. 2) Bill, which Bill proposes to confer political powers on trade unions and to do away with the effect of the decision in the House of Lords in the celebrated *Osborne* case. We dealt with this Bill in our columns on May 24 last, and the circular is addressed to one of the points we drew attention to in that article, viz. the position of trade union members under this Bill if they elect not to contribute to the political objects of the

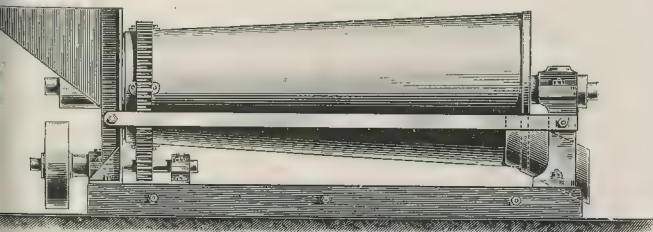
union. The Bill purports to safeguard the rights and interests of such members, the payments for political objects are to be made out of a separate fund, members are to be at liberty to intimate that they do not desire to contribute to this fund, and if they do so object the Bill provides that benefits are not to be withheld from them and that they are not to be placed under any disability or any disadvantage compared with other members except in relation to the control and management of the political fund. Such are the terms of the Bill, but the point raised in this circular is if a non-subscribing member is deprived of benefit or placed under some disadvantage in consequence of his refusal to subscribe to the political objects of his union, what steps can he take to secure the benefits which he has been deprived of?

As readers of our columns well know, the Trade Union Act of 1871, by sect. 4, prohibits the Courts from entertaining any legal proceeding instituted with the object of directly enforcing or recovering damages for the breach of any agreements, relating amongst other objects "to provide benefits to members." In the circular under consideration there is a very careful review of all the decisions that have been given under this section, and the conclusion arrived at is "That a member of a trade union which before the Act of 1871 would have been illegal at Common Law as being in restraint of trade cannot by any process whatever recover anything from his union if it refuses to pay." We entirely agree with this statement so far as it goes; no legal process is open to the workman if benefit is withheld, but there is some doubt whether the statement even goes far enough, as since the decision of the House of Lords in *Russell v. The Amalgamated Society of Carpenters* (the *Builder*, April 5, 1912) there is some doubt whether the Courts have any jurisdiction to enforce an agreement to provide benefits even in the case of unions whose objects are not illegal as being in restraint of trade. In the recent case of *Thomas v. Portsmouth: a Branch of the Ship Construction, etc., Association* (the *Builder*, April 26), it will be remembered that the judges of a Divisional Court so interpreted the decision of the House of Lords.

This only strengthens the case made out in the circular before us, as it is questionable whether the Courts can exercise any jurisdiction over any trade union at all in such matters.

In the second *Osborne* case the Court of Appeal held that if the plaintiff was wrongfully expelled from his union which, as was held in that case, was not a union illegal at Common Law (see the *Builder*, March 24, 1911), the Court had jurisdiction to declare the resolution of expulsion *ultra vires* and to grant an injunction, but, as the circular points out, even if membership can be enforced, that is no safeguard to the member unless the benefits of membership can also be claimed. The circular thus draws attention to the point made in our former article that the safeguards provided in this Bill to members who do not subscribe to the political objects which the unions are to be allowed to espouse are, in fact, no safeguards at all, and we may reiterate that if this Bill is to become law it is essential that access to the Courts should be open to any members of the unions who are deprived of rights or are prejudiced in any way in violation of the terms of the Bill.

We find nothing in this circular on the second point which we made in our article of May 24, and which is hardly of less importance. Grave doubts have arisen whether sect. 4 of the Trade Disputes Act, 1906, prohibits the Courts from entertaining actions of tort against trade unions generally, or only when the tort in question has been committed in contemplation or furtherance of a trade dispute. For some reason this qualification was omitted from the subsection, although in other sections the words "in contemplation or furtherance of a trade dispute" appear. Before political powers are conferred upon trade unions as is proposed by this Bill it is of paramount importance that these doubts should be set at rest and subsect. 1 of sect. 4 of the Trade Disputes Act be strictly limited to torts in contemplation or furtherance of trade disputes, if it be not repealed altogether. It would be too preposterous if trade unions could be guilty of torts in connexion with political elections, and that his Majesty's subjects who have had their windows broken or even suffer more serious injuries in an election should have no power to seek redress in the Courts.



Mason's Continuous Concrete-Mixer.

A NEW AND IMPROVED METAL LATHING FOR PLASTERWORK.

We call attention to the announcement which appears on page xv. in our advertisement pages stating that the Expanded Metal Company, Ltd., of York Mansion, York-street, Westminster, S.W., and Stranton Works, West Hartlepool, has succeeded in producing a new and improved diamond mesh expanded metal lathing, which will be obtainable at prices lower than those for the original expanded metal lathings. The new lathing is made under a recently patented process. It will be known by the trade name of "BB Expanded Metal" lathing, and the illustration shows the actual size of its meshes. It is made in standard size sheets, 9 ft. long way of mesh by 2 ft. short way of mesh, which is an increase of 1 ft. in length as compared with the original lathings.

"BB Expanded Metal" lathing has important advantages over the original expanded metal lathings—its cost is less, and it may be used with wider spacings, and requires less plaster.

Practical tests have been made under ordinary working conditions by well-known expert plasterers who are familiar with the original lathings, and their reports agree that not only is the new lathing stronger and stiffer than the original, but that, on account of the reduced size of the diamond mesh, together with the improved slope of its strands, less plaster goes through to form the "key," and practically none falls off and is wasted.

"BB Expanded Metal" lathing is now ready for the market, and as it is sold through the merchant trade only stocks will be held in most large centres.

It is listed in three gauges, thus:—
BB 26-gauge expanded metal lathing: D13 24-gauge expanded metal lathing: BB 22 gauge expanded metal lathing.

Reference to the price list issued by the Expanded Metal Company, Ltd., shows that, gauge for gauge, a saving of from 25 per cent. to 60 per cent. is made by substituting the new lathings for the old. But the saving in cost is really more than the difference between the price list rates for equivalent gauges, because of the wider spacings that may be used with the new lathings.

Tests have been made at these wider spacings with entirely satisfactory results, both with ordinary lime and hair mortar and with special quick setting plaster.

GENERAL BUILDING NEWS.

ST. JOHN'S CHURCH, OLD COLWYN.

The new tower which is being added to this church will have accommodation at its base for about 100 people, and the lettering on the foundation-stone, which was laid last week, is the work of Mr. W. Wainwright, sculptor, of Colwyn. The architects are Messrs. Douglas, Minshull, and Musprat, of Chester.

CHURCH HALL, BLAYDON.

Messrs. Clark & Moscrop, of Darlington, are the architects for this hall, which is being erected at a cost of 2,700. The hall will contain a drill hall, billiard-room, classrooms, clubroom, etc., and on the first floor is an assembly hall, seating 350 persons. The contractor for the work is Mr. H. Smith, of Ashington.

WATER SCHEME, GOUBROCK.

Mr. A. Leitch, of Glasgow, has been appointed by the Gourock Town Council Engineer for the new water scheme at Duff Burn. The estimated cost of the work is 20,000*l.*, and the reservoirs will be constructed at the junction of the Duff and Gilmet Burns.

MARCONI WORKS AT CHELMSFORD.

The new works at Chelmsford for the Marconi Wireless Telegraph Company were opened on June 22. Messrs. Dunn & Watson were the architects.

NEW BUILDINGS IN LONDON.

Rebuilding Rising Sun public-house, Blackfriars-road, S.E. Building, corner of Holborn and Furnival-street, E.C.; Messrs. Rice & Sons, builders, 15, Stockwell-road, S.W. Alterations to Nos. 90 and 91, High-street, Deptford, S.E., for the London, City, and Midland Bank, Ltd.; Mr. H. L. Holloway, builder, Church-street, Deptford, S.E. Extensive building, corner of Bryanston-street and Old Quebec-street, W.; Messrs. Chinchin & Co., builders, Harrow-road, Kensal Green, W. Additions to Lord Elphinstone's Mansion, 6, Upper Brook-street, W.; Mr. W. H. Windsor, architect, 48, Bedford-row, W.C. Warehouse for Midland Furnishing Company, Gough-street, W.C.; Messrs. Worley & Turner, architects, Avenue-chambers, Bloomsbury-square, W.C. Elementary school, Isleworth, W.; Mr. G. I. Carey, Council House, Hounslow.

NEW LIBRARY, STOCKWELL ORPHANAGE.

On the 19th ult., on the occasion of the Annual Festival at Stockwell Orphanage, Clapham-road, the late Lord Mayor, Sir T. Vezey Strong, attended at the opening of the new library, which has just been completed at the Orphanage. The architect is Mr. Robert Milnes, P.A.S.I.

CADETS' HEADQUARTERS, WANDSWORTH.

It is proposed to erect new headquarters for the National Naval Cadets on an island site in the Wandsworth-road. The area of the site is 13,000 sq. ft., the frontage to the road being 100 ft. The estimated cost of the scheme is 10,000*l.*, and the building is to be designed by Mr. T. Marcus Houghton.

PREMASENS' HALL, PLYMOUTH.

A new hall is to be erected for the Plymouth Freemasons, from the designs of Mr. W. A. Vercoe, A.R.I.B.A., architect, of Plymouth, and the building will include a lodge-room 50 ft. by 26 ft. to hold 250; a refectory, kitchen, cloak and retiring rooms. The builder is Mr. F. Wakeham.

TRADE NEWS.

Under the direction of Mr. George H. Sands, architect, Lisburn, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent air-pump ventilators and air inlets, has been applied to the Infirmary wards, Lisburn Union Workhouse, Lisburn.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Construction.

Camberwell, North.—Erection of an iron and glass shelter at a building known as the Grand Hall, Camberwell New-road, Camberwell (Messrs. F. Matcham & Co. for Mr. F. W. Parcell).—Refused.

Chelsea.—Temporary wood and iron building on the southern side of Elm Park-road, Chelsea (Rev. R. H. Keable).—Consent.

Deptford.—Shed of a temporary character at the rear of No. 56, Peys-road, New Cross, next to Musgrove-road (Mr. J. G. Kennard).—Consent.

Hackney, North.—Temporary wood and glass shelter at the rear of No. 14, Heathlands-road, Stoke Newington (Mr. F. W. Rhodes).—Consent.

Hackney, North.—Iron staircase in front of a warehouse building on the northern side of Barrett's-grove, Hackney, eastward of Cressington-road (Mr. J. H. Storrar for Messrs. Van den Burgh).—Refused.

Hackney, South.—Addition at the rear of No. 95, Rushmore-road, Lower Clapton (Mr. J. Coddington for Mr. T. Webb).—Refused.

Hammersmith.—Temporary wood and iron office building and a wooden signboard at premises on the northern side of King-street, Hammersmith, between Nos. 318 and 324 (Mr. J. B. Pinchbeck).—Consent.

Hampstead.—Iron and glass shelter in front of "White Friars," Chislet-road, Hampstead (Mr. N. M. Shimborg).—Consent.

Kensington, South.—Building of a temporary character at the rear of No. 10, Pitt-street, Kennington, next to Gordon-place (Mr. C. F. Rey).—Consent.

Kensington, South.—Temporary wood and iron building at the rear of No. 98, Palace Gardens-terrace, Kensington (Messrs. Humphreys, Ltd.).—Consent.

Lewisham.—Temporary wooden shed upon a site on the south-eastern side of Boveney-road, Lewisham (Messrs. Bingham & Broughton for the Forest Hill Wesleyan Church Lawu Tennis Club).—Consent.

Marylebone, East.—Temporary wood and glass bookstall at the Marlborough-road railway-station, abutting upon Finchley-road and Queen's-road, St. Marylebone (Messrs. W. H. Smith & Son).—Consent.

Norwood.—Wood and iron building in front of No. 128, Norwood-road, Norwood (Mr. E. Carr for Mr. W. Haley).—Refused.

Peckham.—Temporary shed in front of No. 10, Harders-road, Peckham (Mr. E. H. Whit).—Consent.

St. Pancras, South.—Retention of advertisement handbills abutting upon Euston-road, Mabledon-place, and Bidborough-street, St. Pancras (Mr. Walter Hill's Billposting Department, Ltd.).—Consent.

St. Pancras, South.—Erection of an iron and glass shelter at the entrance to No. 36, Tottenham-court-road, St. Pancras (Messrs. O. C. Hawkes, Ltd.).—Refused.

Strand.—Iron and glass shelter at entrance to Nos. 1 and 2, Coventry-street, No. 1, Wardour-street (Messrs. Emden, Eg & Co. for Mr. H. Appenrodt).—Refused.

Wandsworth.—One-storey wooden motor-hall of a temporary character at No. 14, Hope-road, Streatham (Mr. H. Huber).—Consent.

Wandsworth.—One-storey building at the rear of No. 36, Streatham hill, Streatham W. H. Edwards).—Consent.

Lines of Frontage and Projections.

Greenwich.—Addition at the rear of "Royal Standard" public-house, Vauxhall Park, Blackheath, next to St. John's-road (E. Faux for Messrs. Courage & Co., Ltd.).—Consent.

Hackney, North.—Building on the south side of Springfield, Upper Clapton, eastward of No. 8, Springfield (Mr. H. Brookings for Mr. A. E. King).—Consent.

Kensington, South.—Additions to the pavilion at No. 16, Cromwell-crescent, Kensington (C. E. Wilkinson).—Consent.

Lewisham.—Six houses on the eastern side of Honor Oak-road, Lewisham (Mr. F. Rosser for Mr. T. Turner).—Consent.

Paddington, South.—Addition to the existing portion of Nos. 99-92, Westbourne-grove, Paddington (Messrs. G. Billings Wright & Co.).—Consent.

St. George, Hanover-square.—Projection sign in front of No. 45, New Bond-street, St. George, Hanover-square (Messrs. Lemaître Consul).—Consent.

St. George, Hanover-square.—Projection iron and glass sign in front of the "Wine Castle" public-house, Vauxhall Bridge-road, St. George, Hanover-square (Booth's Distilleries Ltd.).—Consent.

Strand.—Projecting sign at No. 5, Coventry-street (Messrs. F. Sage & Co., Ltd., for Messrs. Marcovitch & Co., Ltd.).—Consent.

Wandsworth.—Erection of two houses on south-western side of Upper Richmond-road, Putney (Messrs. Nevins & Newton for Mr. Leuch).—Consent.

Woolwich.—Erection of a one-storey shop front of 173, Plumstead Common-road, Woolwich (Mr. W. Pearman for Mr. B. Dallad).—Consent.

Width of Way.

Bermundsey.—Erection of an addition at the rear of the "Prince Alfred" inn, beerhouse, 24, Alfreton-street, Southwark (Messrs. Purvis & Purvis for the Commercial Brewery Company, Ltd.).—Consent.

Clapham.—Retention of a one-storey building at the rear of No. 16, Old Town, Clapham (Mr. E. H. Henry for Colonel W. Bowyer).—Consent.

Kensington, South.—Greenhouses at No. Holland-place, with a boundary fence (E. W. Curry for Mr. W. F. Flagdgate).—Consent.

Poplar.—Erection of a building at No. Orchard-place, Poplar (Mr. C. Living, Jr. for the Thames Sack and Bag Company, Ltd.).—Consent.

Southwark, West.—Erection of a building upon a site abutting upon Cathedral street Winchester-square, London Bridge (Mr. M. Matts for the Proprietors of Hay's Wharf).—Consent.

Strand.—Erection of a projecting shop front of Nos. 8 and 10, Shorewood-street, Westminster (Mr. A. H. Attwater for Mr. Woolfe).—Consent.

Walworth.—Erection of an addition to John's Church, Larcum-street, Walworth (Messrs. Greenaway & Newberry for Mr. J. C. Morris).—Consent.

Cubical Extent.

Peckham.—Additional cubical extent in respect of a garage addition to abut upon Nunhead-lane, and a roadway leading to Nunhead-lane, Peckham (Mr. G. A. Lans for the National Steam Car Company, Ltd.).—Consent.

Rotherhithe.—Proposed addition between blocks P and K at the premises of Messrs. Southwell & Co., Ltd., Bermondsey-wall Jacob street, Rotherhithe (Mr. W. T. Walcott for Messrs. C. Southwell & Co., Ltd.).—Refused.

Width of Way, Space at Rear, and Projection.—Re-erection of Lower Log Branch-hill, Hampstead (Mr. J. Hudson for Mr. H. C. Braun).—Consent.

Width of Way and Construction.

Hampstead.—Erection of a temporary summer house at the rear of No. 2, F. Avenue, Hampstead, next to Well-road (Messrs. Hampton & Sons, Ltd., for Mr. A. Kilver).—Consent.

Space at Rear and Alteration of Building.—Margybone, West.—Alterations and erection of an additional story at No. Manchester-square, St. Marylebone (Mr. Martin for Sir Anthony Bowly).—Consent.

Width of Way and Lines of Frontage.
Westminster.—Wood, iron, and tile covering ladders in front of the premises of the my and Navy Auxiliary Co-operative Company, Ltd., Regency-street, Westminster (F. J. Barrett).—Consent.

Uniting of Buildings.
Chelsea.—Uniting of Nos. 165, 166, and 167, pancake-street, Chelsea (Messrs. Slaughter and Co., Ltd., for Messrs. C. Hammond, Ltd.).—Consent.

Holborn.—Double doors of special construction in lieu of double iron doors to openings division walls at the premises of Messrs. Gamage's, Ltd., Leather-lane, Holborn (Fireproof Doors, Ltd., for Messrs. Gamage's, Ltd.).—Consent.

Holborn.—Uniting of Nos. 106 and 107, High Holborn, with premises at the rear upon the 10 of Nos. 9, 10, and 11, Eagle-street, Holborn (Messrs. R. Coles & Sons for Mr. T. H. Onshaw).—Consent.

Kensington, South.—Uniting of Nos. 27 and Emperor's gate, Kensington (Mr. A. Wickins).—Consent.

Whitechapel.—Uniting of Nos. 5 and 6, Talbot Blackheath, northward of Blackheath (Messrs. R. Coles & Sons for Mr. T. H. Onshaw).—Consent.

Marylebone, West.—Formation of openings for the party wall between Nos. 75 and 76, High-street, St. Marylebone, at the ground and floor levels (Mr. A. J. Hopkins).—Consent.

The recommendations marked * are contrary to the provisions of the Metropolitan Borough Acts concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Warehouse for Messrs. Dunnington & Co., jewellery manufacturers (2,500); Messrs. Wilson & Walker, architects, 181A, Union-street, Aberdeen.
Belfast.—Memorial extensions to Royal Victoria Hospital; Mr. R. J. Mordie, Lord Mayor of Belfast, Treasurer of Building Fund, Belfast (4,500); Mr. J. S. Mordie, builder, Back Spring-terrace, North Belfast.

Birmingham.—Rebuilding Black Horse Hotel (850); Mr. C. A. Bulley, builder, Willow-wood, Chislehurst, Kent.

Blackburn.—Rebuilding tower of Mill Hill (1,200); Mr. J. T. Henshaw, architect, Blackburn.

Blackburn.—Thirty houses; Mr. H. Armory, builder, Lydia-street, Welling, Co. Durham.

Blackburn.—School (4,000); Mr. W. Rushworth, Architect, Shire Hall, Blackburn.

Blackburn.—Extension of works Messrs. Wilkinson & Newsholme, wool works.

Blackburn.—Extensions to premises, Newgate, for the Hoffman Manufacturing Company, Ltd., cycle fittings manufacturers.

Blackburn.—Extensions to infirmary (40,000); Messrs. J. W. Small, Shire Hall, Derby.

Blackburn.—Boys' home (2,740); Mr. W. D. Small, builder, Whitburn.

Blackburn.—Additions to foundry, Wharfedale, for Messrs. P. & C. Garbutt, Ltd., on waste machinery manufacturers; Messrs. R. Castle & Son, architects, Cleckton. Outbuildings at chemical works for Messrs. Howarth & Howarth.

Blackburn.—Extension of works of Messrs. Brown & Co., Ltd., shipbuilders (7,000); Messrs. J. W. Small, Shire Hall, Derby.

Blackburn.—Residence (500); Mr. Owen C. Little, architect, 5, Ford-row, W.C.

Blackburn.—Proposed public abattoir; Mr. E. Schindler, Surveyor, Town Hall, Derby.

Blackburn.—Additions to sawmills, Veda's, for Messrs. W. White & Sons, steam chisellers, 128, High-road, Cowes.

Blackburn.—Twenty houses (2,900); Mr. Crane, builder, 96, Cobden-street, Peterborough.

Blackburn.—Extensions at yard of Messrs. Ham Beadmore & Co., shipbuilders.

Blackburn.—Extensions to mill (200); Messrs. T. E. Smith & Son, architects, Central-chambers, Faldreth, Bolton.

Blackburn.—Picture palace; Mr. G. Chandler, architect, Maidstone; Messrs. W. E. Chivers & Co., builders, 28, Sheep-street, Devizes.

Blackburn.—Additions at workhouse; Mr. W. Henshaw, architect, Branch-road, York. Fire-station, Lancashire and Yorkshire Railway Company, Goods-yard; see also our list of Competitions, Contracts, on another page.

Mr. H. Dearden, Surveyor, Town Hall, Dewsbury.

Droghda.—One thousand houses for the Alderdale Estate Company, Ltd., Droghda.

Droghda.—Tar macadam plant buildings (550); Mr. William Nesher, builder, New-road, Cinderbank, Northampton.

Droghda.—Church (5,000); Messrs. Hyde & Son, architects, Erriswell-road, Worthing.

Easington.—One hundred houses for the Easington Coal Company, Ltd., 25, John-street, Sunderland.

Easington.—The following plans have been passed: Garage, etc., Bolton-road, for Mr. Henry Colegate; Mr. E. G. Cooke, architect; Messrs. M. Martin & Sons, builders.

Easington.—The following plans have been passed: "De Stuteville," Meads road, for Mr. B. Stevens, builder; "Faircourt," South-uphill, builder, Three houses, Whitley-road, for Mr. W. R. Albury; Mr. W. R. Box, architect; Mr. A. Ayard, builder. Addition to "Ranby," Milnthorpe-road, for Mr. M. M. Matheron; Mr. F. G. Cooke, architect. Six houses, Ringwood-road, for Mr. J. T. Miller; Messrs. Miller & Selmes, builders.

Eccles.—A plan has been passed for a Vicarage, Cromwell-road, Patricroft, for the Rev. R. Pratt.

Edinburgh.—Public baths, Leslie Green; Mr. C. C. Doig, architect, 149, High-street, Edin. Edin.—Children's home, Paterfield and Crewe roads (8,500); Mr. R. M. Cameron, architect, 55, King-street, Edin.

Edinburgh.—Picture house, Dalry-road (3,000); Mr. A. T. Goodwin, architect, 42, Queen-street, Edinburgh. Extension to George Mills for Messrs. J. & G. Cox, Ltd., glue manufacturers (2,500); Messrs. George Beattie & Sons, architects, 136, George-street, Edinburgh.

Edinburgh.—Business premises (2,000); Mr. A. J. Carter, Exeter-road, Exmouth. Warehouse for Messrs. Merrick & Co., paint manufacturers, 45-6, Preston-street; Messrs. W. J. & A. J. Pinn, architects, Bedford-circus, Exeter. New Capital and Counties Bank; Mr. S. Dobell, architect, Queen-street, Exeter.

Exmouth.—Public hall; Mr. G. Beavis, architect, National Provincial Bank-chambers, Exmouth.

Fairfield.—School, Oakwood-avenue; Messrs. Wright & Hamlyn, architects, Warrington.

Fence Houses.—School (4,500); Mr. W. R. Stafford, builder, Sunderland.

Fishpools (Bristol).—Memorial hall (2,000); Mr. J. Maynard Froud, architect, 1, St. Stephen's-chambers, Baldwin-street, Bristol.

Fitzwilliam.—Twenty-seven houses for the Hemsworth Colliery Company.

Fleetwood.—Twelve houses, etc., Walmsley-street; Messrs. J. W. Mason & Son, 72, Milton-street, Fleetwood.

Fleetwood.—Alterations and additions to premises for the Bromley and Crays Co-operative Society.

Fort William.—Reconstruction of buildings at Ben Bevis Distillery; Mr. J. G. Falconer, architect, Fort William.

Garsington.—Bed-room and Council offices (2,200); Messrs. J. Collinson & Sons, architects, Garsington.

Gillingham.—General Post Office; Mr. W. Ransom, architect, Newlyn, Bitterne Park, Southampton.

Glasgow.—Extensions to foundry of Messrs. James Howden & Co., boiler manufacturers (12,000); Messrs. Bryden & Robertson, architects, 147, Bath-street, Glasgow. Picture house, Sauchiehall-street (4,500); Messrs. Naylor & Sale, architects, Smith's Bank-chambers, Market-place, Derby.

Gomersal.—Parish church (1,200); the Vicar, Gomersal.

Greenock.—Large shed, Albert-harbour, for Messrs. Caird & Co., shipbuilders, Arthur-street, Greenock.

Hadlow Down.—Rebuilding parish church; Messrs. Miller & Selmes, builders, 75, Tideswell-road, Eastbourne.

Hamilton (N.B.).—School; Hope-street (15,000); Mr. Gavin Paterson, architect, 6, Cadzow-road, Hamilton. Picture palace (2,000); Mr. George Kay, 78, Quarry-street, Hamilton.

Hauxton (Cambridge).—School (4,000); Mr. H. H. Dunn, architect, St. Peter's Church-yard, Silver-street, Lincoln.

Holywell.—School (4,222); Messrs. Sibson Brothers, builders, Brynford-street, Holywell.

Hull.—Alms-houses (25,000); Mr. H. T. Hare, 13, Hart-street, E.C. School (25,000); Mr. J. H. Hirst, architect, Town Hall, Hull.

Ipswich.—Works (about 200,000) of Hadleigh-road, for the Diesel Engine Company, Ltd.

Keighley.—Buildings for the West Yorkshire Bank, Ltd., Princess-street, Halifax.

Kilmacool.—Additions to Mansion House, Auchenbothie Mains (2,500); Mr. Charles R.

Mackintosh, architect, 257, West George-street, Glasgow.

Kinlochleven.—School (250 places); Mr. K. McRae, architect, Oban.

Lairdsland.—Extensions to school (2,000); Kirkintilloch School Board.

Limerick.—Chapel (4,000); Mr. B. E. F. Sherry, architect, 57, George-street, Limerick.

Littlebrough.—Extensions to Sladen Mill for Messrs. Charles Kershaw, Ltd.

Luton.—Proposed school, Tennyson-road (450 places); Mr. W. Hoyle, Town Hall, Luton.

Lynton.—Drill hall; Messrs. Ellis, Son, & Bowden, architects, Bedford-circus, Exeter.

Margate.—Central fire station (7,000); Mr. E. A. Borg, engineer, Grosvenor-place, Margate.

Masham (North Riding, Yorks).—Hall (5,000); Mr. J. Houfe, architect, Albert-street, Harrogate.

Middlesbrough.—Bank and picture hall; Mr. James Forbes, architect, 43, Albert-road, Middlesbrough.

Monaghan.—Fifty-three houses (9,275); Surveyor, Rural District Council Offices, Monaghan.

Mossend.—Picture theatre, Pollock-street (2,000); Messrs. A. V. Wilson & Co., architects, 11, Merry-street, Motherwell.

Newton Abbot.—Alterations and additions to buildings, Queen-street, for Koonkey, Lt. Territorial headquarters for 5th Devon Regiment; Messrs. Ellis, Son, & Bowden, architects, Bedford-circus, Exeter.

Newbigging.—Institute (2,000); Mr. C. F. Murphy, architect, Newgate-street, Morpeth.

Newport (Mon).—Extensions to National Provincial Bank; Mr. Henry J. Griggs, architect, Metropolitan Bank-chambers, Commercial-street, Newport.

Northampton.—The following plans have been passed: Four new roads, Wantage Estate No. 2, for the Northampton Town and County Benefit Building Society; new cattle Market Tavern, Cattle Market-road, for Messrs. P. Phipps & Co., Ltd.; three houses, Sandringham-road, for Mr. A. Glenn. Plans have been lodged as follows: Warehouse, Castle-street, for Messrs. Jellman & Sons; cinematograph hall, Kettering-road, for Mr. C. Robinson.

Northfleet.—Factory for the Thames Metal Company.

Paisley.—Baptist church hall (1,850); Messrs. Cray, Barr, & Cook, architects, 15, St. James' place, Paisley.

Portrie (N.B.).—Buildings at St. Kilda Lodge (2,000); Mr. R. J. McBeth, architect, Queen House, Inverness.

Radcliffe.—Electricity sub-station (953); Messrs. W. Rigby, Ltd., builders, Darbyshire-street, Radcliffe.

Rugby.—Girls' home, Lawford-road; Mr. J. W. Pendred, Clerk, Guardians' Offices, Rugby.

Salford.—A plan has been passed for alterations and additions to the Empress Electric Theatre, Church-street, Pendleton, for the Proprietors.

Scurf.—Fever hospital (3,000); Mr. T. W. Rosingrave, architect, 33, Catherine-street, Limerick.

Shirley, Yorks.—Engineering works, Hirst-lane, for the Scott Engineering Company, Manningham-lane, Bradford; Messrs. Thomas Barker & Sons, architects, Midland Bank-chambers, Bradford. Picture theatre; Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Shirley (Southampton).—Proposed fire-station (1,000); Mr. J. A. Crowther, Engineer, Town Hall, Southampton.

Skene.—Extension to school (2,150); Messrs. Jenkins & Marr, architects, 16, Bridge-street, Aberdeen.

Smethwick.—School, Devonshire-road; Mr. A. H. Sears, Town Hall, Smethwick.

Southampton.—Plans have been passed as follows: Six houses, St. James' Park-road, for Messrs. P. & A. Richards; alterations and additions, etc., Blightmore Lodge, Millbrook-road, for Messrs. Weston & Burnett; eight houses, Portwood-road, for Mr. F. W. Young, jun.; four houses, Oak Tree-road, for Mr. W. H. Masters. A plan has been lodged for alterations and additions at Crown Hotel, High-street, Shirley, for Mr. C. H. Brightbill.

St. Neots.—Rebuilding paper mills; Resident Engineer, St. Neots Paper Mill Company, Ltd., St. Neots.

Sunderland.—Primitive Methodist church; Mr. C. W. Phillipson, architect, Murton-chambers, Grainger-street, Newcastle-on-Tyne; Mr. R. Morris, builder, Felling-on-Tyne.

Thedwastre.—Housing scheme; Mr. Ainsworth Hunt, architect, Bury St. Edmunds.

Troon.—Church, Banting-drive (1,200), for the Rev. J. V. Hammond, Rector of Holy Trinity Church, Ayr.

Twickenham.—A plan has been passed for five houses, Hartington-road, for Messrs. Brewer, Smith, & Brewer.

Whaplode.—Eight houses (1,544); Messrs. Wilkinson & Co., builders, Wisbech.



"Penrose," Beaconsfield, Bucks.

Messrs. Johnson & Boddy, Architects.

HOUSE AT BEACONSFIELD, BUCKS.

THIS house, built for Dr. E. Clarke-Cohen, stands on a fine site on the main road from Beaconsfield to Penn.

The instructions given to the architects by the client were that they should plan a house with reception-rooms of given dimensions and that the roof should on no account cut into any of the bedrooms.

Externally the house is built of hollow walls to the first floor, faced with dark-red local bricks. Above the first floor level the work is built solid and covered with smooth cement. The roofs are boarded and covered with Broseley tiles. The dining-room is finished with beamed ceiling, etc. The whole of the woodwork in this room is of American whitewood and is stained and finished mahogany. The doors of reception-rooms are oak Gilmour doors. The floors of reception-rooms and hall are pitch-plie wood blocks, all stained and polished.

The house is fitted up with radiators heated with hot water from a boiler in the basement under consulting-rooms.

The radiators and boiler were from Messrs. Messengers; the steel casements from Messrs. Humphries, Jackson, & Ambler, Ltd.; the mantels and stoves from the Standard Range Company; the kitchen and sanitary fittings from Messrs. Froy & Son, Ltd.; and the water-softening apparatus from Messrs. Maignens.

The builder was Mr. Frank Froude, of Beaconsfield, and the work was carried out from the designs and under the superintendence of Messrs. Johnson & Boddy, architects, of Southampton-street, Strand, W.C., and Beaconsfield and Gerrard's Cross, Bucks.

THE INSTITUTION OF MUNICIPAL ENGINEERS: STRUCTURES OF THE FUTURE IN RELATION TO AVIATION.

A MEETING of this Institution was held on the 12th ult., at the London Aerodrome, Hendon, N.W., when the following papers were presented for discussion: "The Structures of the Future in Relation to Aviation," by Mr. Horace Cubitt, A.R.I.B.A., P.A.S.I., and "Some Suggestions for By-laws and Regulations in Relation to Aviation," by Mr. B. Wyand, Secretary of the Institution.

In the course of his paper Mr. Cubitt said "the buildings—workshops and aeroplane-sheds—as at present constructed, seemed to be of a somewhat temporary character, the enclosures being of wood studding covered either with boarding or corrugated iron, and the roofs

being light corrugated iron structures. This is only natural. In the early stages of any industry it is bad policy to erect buildings of too permanent a character, as it is very probable that a short experience will show that considerable alterations in planning and arrangement are required. But in course of time, when the twin industries of aeroplane construction and aerial transit are established as large factors in our national industrial programme, buildings of this slight construction will not suffice.

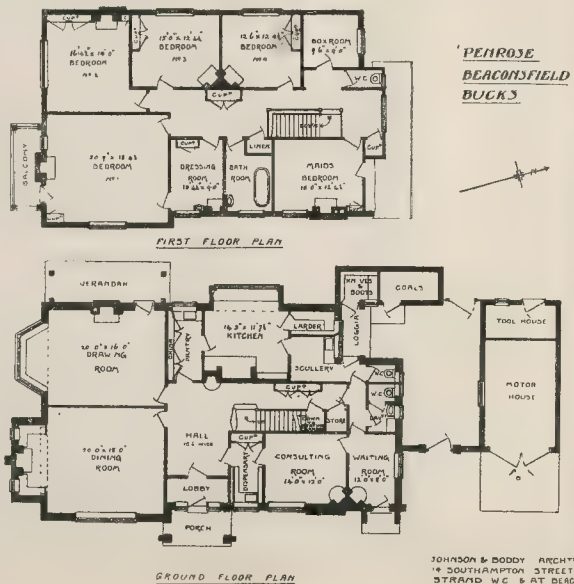
Forms of Construction.

When consideration is given to the form which this permanent construction will take, it is, however, a question whether plain brickwork will hold its own, or whether it will have to give place to one of the more modern forms of construction. As regards the aviation workshops, these, in common with new workshops of other kinds, may very probably be constructed of a steel skeleton filled in with

brickwork, or of that new combination materials, reinforced concrete. Aeroplane sheds, necessarily being, it is presumed, one-story buildings of moderate height, will hardly lend themselves to steel-frame construction, but it would appear that reinforced concrete is particularly suitable for structures of this character. Experience in connexion with new General Post Office, and elsewhere, has shown that reinforced concrete is particularly suitable for buildings requiring large areas of unencumbered floor space. Therefore it may be assumed that it will in due course be largely adopted for the construction of aeroplane sheds, particularly if it is possible, as I believe now to be the case, to form watertight roofs of this material without asphalt or any other kind of covering.

One special constructional point in the design of aeroplane-sheds, whether buildings of present size or those of the much greater proportions which we may expect to see in the future, appears to be the doors or shutters to close the necessarily large main openings. At the London Aerodrome the construction of the various aeroplane-sheds will be found to have exercised considerable ingenuity in the design of the wooden doors. It is evident that if the ordinary practice of making folding doors to the main opening of a structure were adopted in the case of an aeroplane-shed such doors would, on account of the great size of the opening, be most unwieldy, and the task of manipulating them in a gale of wind would be positively dangerous. Hence the need for doors or shutters which can be folded into several sections. While such a contrivance as that of having wooden shutters with vertical pivots sliding in the grooved iron bars at top and bottom of the opening may be efficient enough to warrant its occasional adoption in permanent buildings, it seems probable that in the best class of work, steel rolling shutters similar to those adopted in tramcar-sheds, should be employed. Such shutters need not be large widths, and would thus cause no difficulty in operation, while the advantage of having shutters entirely out of the way when not in use is very evident.

A further important constructional point which does not occur in modern aeroplane sheds, but may be anticipated in future structures, is the obtaining of large floor spaces with the absolute minimum of columns or stanchions. At present the aeroplanes in use are comparatively small—that is, compared with those we may expect in the future—it is not, I believe, customary to put a number of aeroplanes in one shed. But, in due course, when an enterprise with such a title as the London Aerobus Company is in full swing each building at the company's depôts



"PENROSE"
BEACONSFIELD
BUCKS

JOHNSON & BODDY ARCHTS
18 SOUTHAMPTON STREET
STRAND W.C. & 21 BEACONSFIELD
AND GERRARD'S CROSS, BUCKS

ableness be constructed to contain a considerable number of aerobuses, and with these vehicles needing by many times the size of a modern plane it will be necessary to keep the floor area almost entirely free from columns. To set this with due regard to economy will not be easy, but probably by a skilful use of reinforced concrete the problem will be satisfactorily solved.

Thus far the structures considered have been ones for important aeroplane enterprises. It is with the development of the science of flying, it is to be anticipated that before very long adventurous spirits will be seized with the idea of discarding their motor-cars for aeroplanes, and an aeroplane-shed will be a necessary complement to the outbuildings of a well-equipped house. The only special question which appears to arise in connexion with such building is the provision of a sufficient space starting in front of the shed, it being an extremely difficult matter to "take wind" in the middle of a street of ordinary width, could such be allowed, as it probably will not be by the responsible authority.

Town Landing Stages.

The subject of the structures to be erected workshops for the manufacture of and as aids for the housing of aeroplanes makes great demands on the imagination. Structures of this kind already exist as a guide, and in any case the uses to which the buildings are to be put are not such as to necessitate striking departures in construction. When landing stages to be erected in large towns are considered a more difficult case for speculation occurs. That such landing stages will be necessary is almost self-evident. As soon as the risk associated with aeroplane flights has been reduced to a reasonable minimum, the present prohibition of flying over towns will be removed, or at any rate modified so as to be made applicable only to the central portions. Town arrival and departure stations will have to be formed in populous districts where land is of considerable value, it will be a financial impossibility to provide open spaces of ground level of sufficient area to enable aeroplanes to descend and ascend without incurring the risk of coming into contact with adjoining buildings. Hence the necessity of landing stages a little above the level of buildings.

When I came to give a little direct attention to the subject of the design and construction of these landing stages for aeroplanes I found in self-analysis that such impressions as I have possessed had been formed by the perusal of a few works of authors of "futurist" tendencies, who, in writing of the wonders of coming century, had given free rein to their imagination, regardless of the result—so long as it was sufficiently extraordinary. Landing stages, as thus described, were to be gigantic structures with logs, like small Eiffel towers, dominating the country for miles around, making our ordinary buildings look like pigmies beside them. There is no reason, however, to think that we are coming to this. In the first place, we are not likely to get the steel structures, standing in the midst of ordinary buildings. Local authorities would hardly allow them because of the risk to adjoining buildings by their collapse in the event of fire. Also we are not in ordinary cases, thinking, going to have stages consisting merely of logs and a platform like a derrick. If, as is so certain, tall landing stages are to be erected in districts where land is very valuable, will obviously be desirable to utilise the space below the landing stage—i.e., to erect many buildings upon it. But if the site is reserved, and the buildings and the landing stage to be erected at the same time, the question at once arises, Why not form them as one structure? If this is done, it will be obviously a waste of space to provide separate legs for landing stage, as such stage can be easily supported on the walls or other enclosures of the building. Thus, possibly as it may seem, an aeroplane landing stage of the future will probably be nothing more than a large lofty building with a flat roof, on which from which the aeroplanes will alight and start. Lifts will, of course, be provided from the landing-stage to the street level, necessary waiting-rooms, etc., in connexion with the aviation service will be placed on the top story, and the lower stories let as offices or for trade purposes.

It may be asked, how big are such aviation

buildings likely to be? With aeroplanes of present-day size probably a landing stage 80 ft. to 90 ft. in width and about 200 ft. long would suffice to provide both departure and arrival platforms side by side. But with the machines increased very considerably in size so as to be able to carry a fair number of passengers, it would seem that an area of at least 200 ft. by 200 ft.—nearly that of the Selfridge building, Oxford-street—would be required. Then there is the question of height. The ordinary limit of height for London buildings is 80 ft. to the top of the parapet plus two stories in the roof, which results in a height of, roughly, 100 ft. from the street level to the ridge of the roof. Having regard to the desirability of being above all roof eddies, it would seem that the landing stage level should be about 120 ft. or 130 ft. above the street. This may appear an excessive height in a position where the surrounding buildings are comparatively low, but except in a case where the immediately adjacent ground and buildings are in the ownership, or by some means are under the control, of the body erecting the landing stage, it will be a questionable policy to erect a stage of less than this height. For, if such is done, there will always be the risk of its utility being jeopardised by the erection of new buildings, or the reconstruction of existing ones, to the legal limit of height.

As regards the form of construction to be adopted, neither brickwork nor stonework are suitable, if economy is a consideration. Both steel and reinforced concrete possess great advantages over the older forms of construction in the case of the erection of lofty buildings. As to which of these two forms of construction—a properly encased steel frame or a scientifically-designed arrangement of steel and concrete—is likely to be adopted it is hard to say. Probably both forms will find their supporters. A great deal has lately been written in praise of reinforced concrete, but the advantages of a steel frame for a lofty structure must not on this account be overlooked.

Although it would doubtless be desirable for all aeroplane landing stages to be erected and controlled by municipal bodies, it is not unlikely that in many districts recourse will be had to private enterprise. The persons responsible for the erection of the first landing stages will naturally be men with ideas a little in advance of those of the general public, and leading members of municipal bodies are hardly able to move in advance of public opinion. The need for private enterprise, therefore, arises. Possibly in due course some of the existing transport companies may think it worth while to run aeroplane services in connexion with their other enterprises, in which case they would presumably themselves erect landing stages. Or enterprising individuals in control of other commercial concerns may, with an eye to advertisement and increased business, take the initiative by erecting a landing stage in connexion with their premises, recouping themselves for part of their expense by the receipts obtained from the landing dues. The number of landing stages to be erected in any locality will be within the discretion of the local authority, as the consent of such body will require to be obtained to the erection of the stages if such exceed, as apparently they must do, the legal limit of height of ordinary buildings.

Situation of Aviation Structures.

A treatment of the aviation structures of the future is hardly complete without some reference to the situations in which they are likely to be erected. Having regard to the great distances that aeroplanes are able to cover in a few minutes, it seems reasonable to suppose that the sheds for the storage of the machines will be erected in the extreme outer suburbs of our towns, where land can be purchased at very little above agricultural value. The workshops will doubtless adjoin the sheds, but, of course, there will need to be a workshop or two in the heart of a town, so that urgent repairs can be dealt with without delay. The landing stages in towns of ordinary size will doubtless be erected in the centre of the inner commercial districts. It will then be possible for business men to come direct to their offices from country districts some twenty-five or thirty miles out in the short space of half an hour. In very large cities, in London especially, it is questionable whether the responsible authorities will not do well, for reasons of public safety and convenience, to reserve a

small area in the extreme centre of the commercial districts within which flying is prohibited, the landing stages in such cases being erected at intervals along the boundary line enclosing such area. There is a good deal to be said for such a restriction.

As an illustration of what is likely to take place when—it may be twenty years, it will certainly not be fifty years—aeroplane transit is established as one of the ordinary forms of locomotion let London be considered. As regards the housing of the aeroplanes, the necessary buildings will probably be erected, for the most part, well outside the present county area. The land on the south of the Thames beyond Woolwich will probably be found to be especially suitable for the erection of aeroplane sheds and workshops, as it is cheap, and materials, machinery, etc., may be conveyed to it by water. The question of the situation of the landing stages in the inner districts of London is a very attractive one for speculative thought. If flying is to be allowed without restriction over the whole of London, the obvious position for the principal landing stages will be along the Oxford-street and Holborn route, from the Marble Arch to the Bank and on to Aldgate, this being the backbone of business London. The Strand route, from Piccadilly-circus to the Bank, being next in importance, would, of course, be similarly served. But it is very questionable whether the erection of landing stages in the very centre of London should be allowed. The thought of fleets of aeroplanes converging on a landing stage at the Bank hardly suggests security. The tangle of traffic at the ground level at this point is sufficiently bad without the introduction of a further tangle in the air, with aerial police on point duty overlooking the City police below. The reservation of a comparatively small area in the centre of London for ordinary surface and underground transit would tend to prevent any congestion of aeroplane traffic, with its obvious great dangers and probable injurious effect on the subjacent locality. Such an area might be bounded on the north by the Marylebone, Euston, and Pentonville roads, on the west by a line following the ordinary omnibus route from Chapel-street via the Marble Arch and Hyde Park Corner to Victoria, and extended to Vauxhall Bridge. On the south the river would appear to constitute the natural boundary, and on the east a line could be arranged to extend from the City boundary adjoining the river, through Aldgate to the Angel, Islington. It will be seen that even with our present means of locomotion any part of central London can be reached in less than ten minutes from some point on this suggested boundary line. The extra time in transit which such a restriction would involve is therefore comparatively trifling, and the little inconvenience would be very greatly outweighed by the advantage of having this clear area reserved in the centre of the metropolis.

Experts are prone to differ, and on this question of the important aviation structures of the future every one who has a knowledge of the construction of buildings is as much of an expert as any one of his fellows. For we are all on a level as being, at present, pure theorists on this subject. It is therefore by no means anticipated that the views here put forward will meet with general acceptance, but that useful and interesting divergences of opinion will arise in the discussion. Although the problem is one which the allied professions of engineering and architecture will be required to solve, yet very great interest will be taken in what the aviators themselves have to say. For on this subject they may be expected, if not to pay the piper, to have at least some voice in setting the tune."

BEDFORD COLLEGE, REGENT'S PARK.

We have been informed by Messrs. Thomas Lawrence & Sons, of Bracknell, that the whole of the rubber bricks and the best hand-made and hand-pressed sand-faced facings used in this building, illustrated last week, are of their well-known T.L.B. make.

GENTRY, STAMFORD-STREET.

In referring in our last week's issue (p. 767) to the gentry in Stamford-street, erected in connexion with the new building for H.M. Stationery Office, it should have been stated that the structure was the work of Messrs. Drew, Bear, Perks, & Co., Ltd., of the Battersea Steel Works, S.W., and not of the firm mentioned.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chelysmore, Chairman, presiding.

Plans.—The Finance Committee recommended and it was agreed to make loans to Borough Councils as follows:—Deptford, 3,778*l.* for paving works; Hackney, 3,468*l.* for electricity mains; and Poplar, 20,000*l.* for electricity undertaking.

New Sessions House.—A report was brought up by the Local Government Committee recommending that the existing court house at Newington be demolished and a new court house erected on the site and on adjacent land belonging to the Council; also that during the erection of the new court house the quarter sessions be held at Clerkenwell Sessions, which should be disposed of as soon as the new building at Newington had been erected. The estimated cost of the new court house is 100,000*l.* The Committee's recommendation was adopted.

Theatres, etc.—The Theatres and Music Halls Committee stated that they had received an application for a certificate accompanied by a drawing submitted by Messrs. Lovegrove & Papworth, for a cinematograph hall proposed to be erected at 100 and 102, High-street, Wandsworth. Drawings have also been submitted by Messrs. W. Woodward & Sons and Mr. G. W. Booth for a proposed erection of a cinematograph hall on a site in Regent-street, now partly occupied by the New Gallery Restaurant.

METROPOLITAN ASYLUMS BOARD.

At the fortnightly sitting of the above Board, on Saturday, the following matters were dealt with:—

Long Reach Hospital.—The Local Government Board had forwarded an order authorising the managers to carry out adaptation and fire-resisting works at the above hospital at a cost not exceeding 1,500*l.*

Fountain Temporary Asylum.—It was decided to forward to the Local Government Board for their approval, a plan for the adaptation of a portion of Block F at this Asylum for the purposes of a visitors' room and recreation hall for patients, and of the remaining portion of the same block for an isolation ward.

Tenders.—The following tenders were accepted:—Alterations to the Medical Superintendent's house at the Northern Hospital; Mr. W. S. Sharpin, Wellington Works, Bow, 473*l.* Painting, repairs, etc., at the Down's School; Mr. W. Hussey, 32, Albert Hall-mansions, S.W., 945*l.* For engineers', ironmongery, and general stores, the tender of Messrs. Pryke & Palmer was accepted for 218 items; that of Messrs. E. Bird & Co. for twenty-eight items; and that of Messrs. H. & C. Davis & Co. for twenty-one items.

Joyce Green Hospital.—Approval was given to the laying of granite tracks in Green-lane, Joyce Green Hospital, at an estimated cost of 510*l.*, and to the widening of other granite setts, at a cost of 400*l.*

LEGAL COLUMN.

London Building Act Problems.

A case before the Police Magistrate at Greenwich was recently very shortly reported in the *Times*, in which a summons was taken out against a defendant for failing to give the District Surveyor for Deptford a notice under the London Building Act. The case is so briefly reported that it is somewhat difficult to gather the facts, as it is not stated in what capacity the defendant was acting. It appears, however, that the work which was being carried out was in connexion with the construction of a sewer, and that over this work it was admitted that the District Surveyor had no jurisdiction under the London Building Act, but that the summons was taken out because there was an excavation under or near the buildings—three houses in Malpas-road, Brockley—which it was the duty of the District Surveyor to see filled in to his satisfaction. The magistrate convicted, but consented to state a case, so more information may be forthcoming as to the facts of the case; but it may be useful to our readers if we indicate the provisions in the Building Act which apply in such cases. By sect. 164 the

London County Council may make by-laws, and one of the matters which is specified to be dealt with by by-law is:—"The mode in which, and the materials with which, any excavation made within a line drawn outside the external walls of a house, building, or other erection, and at a uniform distance therefrom of 3 ft., shall be filled up."

The by-law provides that "it shall be the duty of each District Surveyor, on receiving notice of the commencement of any house, building, or other erection, or on his becoming aware that any house, building, or other erection is being proceeded with, or that any excavation is being made within a line drawn outside the site of any house, building, or other erection, and within 3 ft. therefrom, to see that any excavation be filled up with the material and in the manner specified by the foregoing by-laws." In the wording of the by-law it is to be observed that it contemplates the Surveyor "receiving notice" of the "commencement of any house, building, or other erection," but of his "becoming aware" of any excavation. Other by-laws in the same group only speak of notice being given and plans being deposited in connexion with the commencement, erection, re-erection, alteration, or addition of or to structures. Sect. 145 of the Act provides for notice being given by the builder to the District Surveyor "where a building, structure, or work" is about to be begun. There have been a great many decisions upon the meaning of the word "work" in this section, but we are not aware of any decision applying it to excavations with a sewer.

Therefore, although it would be an offence to fill in an excavation contrary to the by-laws, i.e., otherwise than with the natural soil or with brick or dry rubbish, "or with other suitable material to be approved by the District Surveyor," it is not clear that it is an offence not to give the District Surveyor notice, especially where the excavation is merely being filled in with the natural soil, and presumably where a Borough Council is laying a sewer, the question of excavations would have been brought to the notice of the District Surveyor, or he would have become aware of their necessity. The case, if it goes further, will be watched with interest.

Negligence of Sub-Contractor's Workmen.

In our "Law Reports," June 23, we published two cases in which builders or contractors were compelled to appeal from judgments by which they had been held liable to pay damages to what is termed in law a "stranger"—i.e., members of the public in no way connected with the operations being carried on—for personal injuries sustained through the negligence of some person not in the employ of the defendants.

In the first case, *Cadbury v. Holliday & Greenwood*, a workman in the employ of a sub-contractor, who was putting metallic casements under contract in a building which the defendants were erecting, placed a tool on a window-sill, which, becoming displaced, struck a passer-by. In a trial in the High Court the jury awarded 500*l.* against the defendants. The Court of Appeal set this judgment aside, holding this to be an act of collateral negligence on the part of the sub-contractor's workman. In a trial in the County Court the defendants, nor was the duty he was performing of such a nature as to call for special precautions being taken by the contractors, the defendants.

A case practically on all fours with the above was decided some forty years ago, *Briggs v. North London Railway Company*, by Lord Coleridge and Lords Justices Bramwell and Brett, where it was held that there was no evidence that the falling of a tool was a probable accident which might reasonably be foreseen so as to make it the contractor's duty to guard against it.

In the second case, *Wilkinson v. Shorrocks*, the contractor's men on a Saturday had left the works, where they were constructing a building, properly closed. A cartman delivered some bricks after the contractor's men had gone, but whilst sub-contractor's men were still at work on the premises. He removed a contractor's gate, and left it in such a position that a child trespassing on the premises was injured by it. The County Court Judge held the contractor liable, but a Divisional Court set the judgment aside, on the ground that there was no evidence of negligence in any one for whom the contractors were responsible.

In these days, where large sections of work are put out to be done under sub-contracts, the contractor is constantly being sued for acts of negligence on the part of the sub-contractor's men, and difficult questions of law arise, especially as between the two sets of employers using common plant; but as regards strangers, the above cases support the statement of law in *Rosecoe's "Nisi Prius Evidence,"* that "Where a contractor employed

to do a lawful act which would not in a natural course of things be likely to do injury to others, does it negligently, the tractor alone and not the employer is liable. This may be amplified by saying that a tractor is liable to the employer for negligence acts on the part of the sub-contractor's men, unless he exercises control over them unless the work undertaken by the contractor necessitates special precautions being taken by him in connexion with the operation to be done under the contract by the contractor.

LAW REPORTS.

Case under the London Building Act, 1894. Failure to Serve Notice on the District Surveyor.

At Greenwich Police-court, on June 27, Arthur L. Etheridge, builder, appeared before Mr. Symmons to answer three summonses having failed to serve building notices on the District Surveyor for Deptford in respect of work executed by him for the Borough Council of Deptford in connexion with the reconstruction of a sewer. Mr. L. N. S. Pearn appeared for the District Surveyor, Mr. Greig and Mr. J. Dudley Wolverson appeared for the defendant in respect of the Borough Council. Three summonses were issued in respect of three several buildings Nos. 81, 83, and 89, Malpas-road, and were taken together.

Evidence was given by the District Surveyor that on May 25, 1912, he discovered work in progress at No. 81, Malpas-road, Deptford, which no notice had been served upon him. The work consisted of cutting an open trench through the basement floor of the main building and removing a portion of the foundations of the walls. The trench was then continued through the open air and under the back addition of the building, where concrete had also been removed from the foundations. The trench was carried across the back garden and at a depth of about 3 ft. 3 in. it passed under one of the rear water-closet blocks. This work was discovered on June 3, 1912, and same day the District Surveyor telephoned the defendant, calling his attention to the necessity of restoring a solid support to the water-closet block. The defendant said would attend to this point; but next June 4, the District Surveyor found that portion had been improperly filled in, and the defendant requiring him to provide a support of concrete. The work was amended to satisfaction of the District Surveyor as required by the notice. On June 4 the District Surveyor discovered that the trench had been continued under the rear water-closet block of No. 89, Malpas-road, from side to side, the solid support under portions of two of the walls had been removed. He stated the duty of dealing with these points imposed on him by sect. 146 of the London Building Act, 1894, and the work involved the application of the preliminary paragraph of the First Schedule, particularly paragraph 1, which provides that the footings of walls of buildings shall rest on the ground, or upon concrete, or upon other substructure. The by-laws under the London County Council (General Powers) Act, 1895, also were involved, as By-law 2 provided the mode in which and the materials with which any excavation outside the site of a building shall be filled up, and also the by-laws under the Metropolitan Management and Building Acts (Amendment) Act, 1878, as By-law provides that the site of every house or building shall be covered with a layer of concrete at least 6 in. thick. These by-laws further impose the duty on the District Surveyor of securing compliance therewith. Letters had been addressed to the defendant calling his attention to the necessity of serving notices on the District Surveyor in respect of the several works.

For the defence it was argued that the work was executed by the Borough Council under the duties imposed by sect. 69 of the Metropolitan Local Management Act, 1855, and was not subject to control by any authority, and Mr. Wolverson instanced the practice of the London County Council dealing with dangerous structures, although the Borough Council was the authority charged with the duty of licensing hoardings, the London County Council discharging the duty of licensing hoardings, and take out licences for such hoardings as erected by them in connexion with dangerous structures. In reply to this point it was stated by the magistrate that there is a section in the Metropolitan Local Management Act, 1855, which empowers the Commissioners of Police to take out licences for such hoardings, and the operation of such Act, which included licensing of hoardings, and at that dangerous structures were dealt with by

commissioners, but now these powers are exercised by the London County Council.

Mr. Pease pointed out that every building, structure, or work in the Metropolitan area is subject to the London Building Act, 1894, except those which are specially exempted either partly or wholly under sects. 201 to 205, and sect. 205 more particularly refers to works done by a local authority. He further called his Worship's attention to the fact that the London County Council had never claimed any exemption outside those expressly granted by the Act.

The magistrate referred to the statutory duty imposed upon the District Surveyor of securing the proper construction of buildings and their maintenance, and in indicating that the London County Council was a higher and more important body than the Borough Councils specially mentioned the school cases where objections between the District Surveyors and the London County Council have been tried, and it had been held that the London County Council must serve notice of their works on the District Surveyor. As regards the sewer works, all materials provided, in respect of the actual sewer, but there was clearly work by the District Surveyor to do in connexion with the foundations of the buildings. He pointed out that the District Surveyor on each summons, a fine of 10s. and 11s. costs as imposed on each of the three cases.

OFFICIAL REFEREE'S COURT.

(Before Mr. H. W. VEREY.)

Alterations to a House: Thompson v. Thompson.

MR. VEREY, on the twelfth day of hearing, gave judgment on July 2 in a case in which Messrs. John Thompson & Co., builders and contractors, carrying on business at 43, Woodstreet, Peterborough, claimed the balance of an account from the defendant, Mr. George Thompson, of Sutton Marsh, Long Sutton, amounting to 1,741l. 4s., for work and labour done, and materials provided, in respect of alterations and additions at Wyde Farm house, Thorney, near Peterborough, and on the borders of Lincolnshire. The defence in its action was that the charges were excessive and unreasonable. The defendant had paid 400l. for the sake of peace.

The house was acquired by the defendant—who is not related to the plaintiffs—as an intended residence for his daughter, who was married in the spring of 1911 to Mr. Harry Selwyn Thompson, who, according to the Council, is the land agent to the Earl of Leicester. In March the plaintiffs were approached by Mr. Dixon-Spain concerning the work. He told them that the wedding was fixed for May 1, 1911, and that plaintiffs could not lock into the house until April 5, because it was still in the occupation of a previous tenant. Mr. Compston, Counsel for the plaintiffs, declared in his opening statement on March 14 it was agreed by Mr. Dixon-Spain that the work required to be done was such that there was no possibility of giving a very estimate for it. Therefore the contract was for the execution of certain work which could not be estimated for. They were employed to do the work. Mr. Dixon-Spain had decided whether the plaintiffs had a competent designer who could get out designs, prepare drawings and details, and always be on the spot to take instructions from him and advise him up to time. The plaintiffs replied that they had such a man, and that they would place his services entirely at the disposal of the defendant until the work was completed. The plaintiffs, said Mr. Compston, were to act as architects as well as contractors.

The house in question, built in 1862, had been a farmhouse, as its name implied—Wyde Farm House. Counsel remarked that it would be fairly obvious that the work was of such character that no complete specification could be made.

Evidence of an exhaustive character was given on both sides, the defendants, in addition to surveyors and builders, calling two architects, Sir Brumwell Thomas, F.R.I.B.A., and Mr. John Edwin Dixon-Spain, A.R.I.B.A., the latter being a brother of Mr. Dixon-Spain. A defence challenged, amongst other things, a number of hours worked, and contended that a clerk of the works ought to have been employed.

Mr. J. E. Dixon-Spain, who practises at Hanover-square, stated in evidence there were two methods of arriving at a fair conclusion as to a fair charge for the work. One was personally to inspect the premises and to form a mental estimate of what was considered to be a fair price. The other was to send a quantity surveyor to measure up and price the work. He was anxious that the matter should be settled, and, visiting Wyde, took the first view. Witness came to the conclusion that 1,400l. would be ample remuneration for the

work done. Plaintiffs would not agree to that figure, and witness sent Mr. Venning, a quantity surveyor, to measure up and price the work. Mr. Dixon-Spain added that he had much experience of the alteration of old houses, and he considered that the work at Wyde did not present any remarkable features.

In cross-examination by Mr. Compston, the witness said he did not consider it necessary for anybody to give him information about the hidden work. He had all the data he needed, and, even if he had had no information at all, it would have been easy for him to arrive as an architect at a fairly accurate estimate of what the work was.

Sir Brumwell Thomas, who practises at 37, Old Queen-street, Westminster, in answer to Mr. Herbert Smith, defendant's Counsel, stated that he had been asked to visit the house in question, and he had gone through the bill of quantities with Mr. Venning. Sir Brumwell supported in evidence the defendant's several contentions.

Mr. Smith: Plaintiffs' witnesses have said that if this had been a contract job they would admit there ought to have been a foreman, and that as this was a day-by-day job there was no necessity for one. What do you say?—Sir Brumwell replied that, in fairness to everyone, a foreman was just as necessary on a day-by-day job. He did not see why this work could not have been completed in five weeks. Asked the secret of getting such a job as this performed with due expedition, Sir Brumwell replied: "Control and organisation." Sir Brumwell would not subscribe to the plaintiffs' proposition that to do this job in five weeks would entail a tremendous drive. The majority of drawings in this case were setting-out details, which would be included in the ordinary work.

After hearing much other evidence and the speeches of Counsel on both sides,

The Official Referee, delivering his decision, said that the plaintiffs were a firm of high repute, and it had been admitted that this practically was a good class of work. He thought that there was absolutely nothing in the whole case or the evidence to lead him to think that the plaintiffs had acted with any intention to overcharge or to deceive, or that they had departed from their general business and ordinary book-keeping methods. The plaintiffs had put in their time-sheets and their material books, and they said that this time had been spent and materials used, and they were priced. The main objection raised by the defendant was that the time could not have been properly used. Two gentlemen, on behalf of the plaintiffs, who had visited the house had said in evidence that they had come to the conclusion that they could not measure the work. He (the Referee) had had the advantage of seeing the house and of having had things pointed out. The defendant, on the other hand, had called three witnesses at least who had measured and valued the work, and they had acted independently. Two architects, too, had been called, and had more or less supported the figures which quantity surveying and building witnesses had given for the defendant. Unless he thought that these men were saying what was not true, he could not see how he could disregard their evidence. He could not get over the fact that these gentlemen had all come to a figure very much alike—although independently of each other—for the work. Here were three people who had measured. Was he to disregard them? If the valuation came any way near what the builders' books and time-sheets showed, he should be in favour of accepting them as the proper value of what the defendant ought to pay. In his opinion, however, any mistake or omission which these gentlemen might have made was fully covered by the difference between the money paid into Court and the sum offered by defendant. Taking everything into consideration, he found as a fact that the sum of 1,400l. paid by the defendant was sufficient to satisfy plaintiffs' claim, and he, therefore, gave judgment for the defendant with costs, after deducting therefrom plaintiffs' costs up to the time of the payment into Court.

LONDON COUNCILS.

Bermondsey.—Plans have been passed as follows:—Mr. H. Kent, builder, 51, Beacon-road, Hither Green, S.E. factory, Tidal-Place, Riley-street, for Messrs. Grant & Co., Riley-street, S.E.; Messrs. J. Greenwood, Ltd., builders, 12-14, Arthur-street, E.C., warehouses, Weston-street, for Messrs. Malcolm, Inglis & Co., 62, St. Thomas-street, and Messrs. H. I. Pearson & Co., 72, St. Thomas-street; Messrs. J. Greenwood, Ltd., builders, 12-14, Arthur-street, E.C., buildings on the site of Nos. 184-192, Bermondsey-street.

Camberwell.—The work of paving a portion of the west side of Peckham Rye with granite setts is to be carried out by the Borough Engineer, and the London County Council are prepared to sanction a loan of 1,866l. for carrying out the work. Plans have been lodged with the London County Council by Messrs. Elliot & Porter for the erection of buildings on the east side of Red Post-hill.

Fulham.—The attention of the London County Council is to be called to the inadequacy of Wandsworth Bridge for the purpose of heavy vehicles, and suggesting the expediency of erecting a new bridge in lieu thereof suitable to the present requirements.

Hendon.—The Architect to the Guardians is to be instructed to prepare specifications with a view to tenders being invited for the execution of repair works at the schools.

Heston and Isleworth.—Applications are to be made to the Local Government Board for sanction (1) to borrow 5,783l. for the laying of "Durax" paving in the margins outside the tram track in a portion of London-road; and (2) 2,460l. for replacing the wood-paving in High-street, Hounslow. Plans have been passed as follows:—Messrs. Smee & Houchin, alterations to Baptist chapel, Staines-road, Hounslow; Messrs. P. Chase, Gardener, & Co., cinematograph theatre, Staines-road, Hounslow; Messrs. Fuller, Smith, & Turner, alterations to Castle Inn, London-road, Isleworth; the Rev. F. W. A. Wilkinson, alterations to the Vicarage, Heston.

Hornsey.—Plans prepared by Mr. G. E. T. Laurence for the erection of a temporary school at Muswell-hill have been approved. The school is planned to accommodate 220 children. Plans have also been approved for alterations at the North Harringay School.

Islington.—The tender of Messrs. D. R. Paterson, Ltd., is to be accepted by the Borough Council, at 278l., for extending the joint main road at the cemetery for a distance of 170 yds.

Kensington.—The tender of Mr. A. Jamieson has been accepted at 77l. 15s. for the erection of a boiler house, etc., at the cemetery. Permission is to be granted to Messrs. Joseph & Smith, architects, 83, Cheapside, E.C., to erect an annexe to No. 46, Edwardes-square, subject to the brick sewer, upon which the building is to be erected, being rammed beneath the invert for the entire width, with Portland cement concrete. The Engineer has been instructed to prepare plans for the making-up of Wallingford-avenue as a new street.

Lambeth.—The tender of Messrs. Laphroche & Co., Ltd., has been accepted at 98l. by the Borough Council for carrying out drainage works at the West Norwood Library. Messrs. Stringer Brothers have had plans passed for the drainage of six houses proposed to be erected in Claverdale-road, Upper Tulse-hill.

Levensham.—Repairs are to be carried out to the footpaths in eleven roads at an estimated cost of 189l. The carriageways of portions of Brownhill-road and Ladywell-road are to be repaired at an estimated cost of 793l. The tender of Mr. J. T. Glogau has been accepted at 178l. for reconstructing the drains at Nos. 30 to 60, Adelaide-road. For executing the necessary paving works in a portion of Stanstead-road, in connexion with the construction of tramways, the tender of Messrs. J. Mowlem & Co. has been accepted for laying 340 super. yds. of Norwegian or Swedish granite paving on concrete, and special grouting, and for 50 super. yds. of Aberdeen granite paving on existing concrete and special grouting, at 21s. 6d. and 19s. 6d. per super. yard. The Borough Council have entered into an arrangement with the London County Council, whereby they will carry out the widening and paving works for the County Council in connexion with the construction of tramways from Catford to Forest Hill, on payment by the County Council of 5,232l. with the actual cost of pipe, etc., alterations.

Middlesex.—The County Council have accepted the tender of Messrs. Walter Lawrence & Son, at 470l., for the erection of a witness's waiting-room, etc., at the Tottenham Court-house. Notice is to be given of the Education Committee's intention of erecting a school in Southgate to accommodate about 400 children.

Mitcham.—The following plans have been passed by the Rural District Council:—Mr. H. Woods, five houses, Eastfields-road; the Mitcham Margarine Company, additions to Tower Works, Commons East; Mr. A. Crisp, alterations to Gorrington Park Hotel, London-road; Mr. J. Wilson, three houses, Ashbourne-road; Mr. E. F. Baverstock, fifty-eight houses, Park, Clive, Robinson, and Ashbourne roads.

Southgate.—The offer of the Patent Victoria Stone Company has been accepted by the Urban District Council for paving a portion of the footpath of the Broadway, Winchmore-hill, at an estimated cost of 150l. Application is to be made to the Local Government Board

for sanction to the borrowing of 1,866*l.* for executing improvement works in Broomfield-lane. The total cost of the work is 2,350*l.* The Surveyor has been instructed to prepare plans for the provision of an open-air swimming-bath at Barrowell-green, similar to that at Chiswick. The following plans have been passed:—Messrs. Edmondsons, Ltd., four shops and houses, Broadway, Winchmore-hill; Mr. W. J. Payne, five houses, Elmwood-avenue, Palmer's Green; Messrs. Matthews & Bennett, six houses, The Grove, Palmer's Green; Mr. H. C. Keene, fourteen houses, The Rise, Palmer's Green; Mr. W. E. Wood, four houses, Hamilton-crescent, Palmer's Green; Mr. W. Simmons, five houses, Conway-road, Southgate.

Southwark.—A sewer is to be reconstructed at an estimated cost of 150*l.*

Tottenham.—The tenders of Messrs. Bradshaw & Co. and Messrs. Grounds & Newton have been accepted by the Urban District Council for tar-paving and asphalt-paving repairs, respectively. Plans have been passed for Messrs. Prestwich & Co. for carrying out additions to a factory in Tariff-road.

Westminster.—The whole area of macadam roadway outside St. James's Palace, at the junction of Pall Mall and St. James's-street, is to be paved with creosoted yellow deal blocks, at an estimated cost of 355*l.*, subject to the Office of Works agreeing to repay the Council the cost of paving that portion under their jurisdiction. The centre portion of Dover-yard is to be paved with 5-in. creosoted pine-blocks, at an estimated cost of 240*l.*, and tenders are to be obtained for the execution of the work. The City Engineer has been instructed to carry out the necessary paving and other works, estimated at 90*l.*, in connexion with improvements in Vincent-square and Rochester-row. Plans have been passed for Mr. A. E. Hughes for the erection of a building in Warwick-road.

Woolwich.—A portion of the carriageway of Powis-street is to be repaved with wood blocks by direct labour, at an estimated cost of 3,500*l.*, and tenders are to be obtained for the blocks required. The tender of Messrs. E. Proctor & Sons, High-street, Plumstead, has been accepted, at 1,050*l.*, for the construction of an underground convenience in Beresford-square. The Borough Engineer has been directed to prepare plans, and tenders are to be invited for the erection of a convenience in Royal Victoria-gardens, North Woolwich. Plans lodged by Mr. T. G. Arnold, 147, Powis-street, Woolwich, on behalf of the Royal Arsenal Co-operative Society, Ltd., have been approved for the erection of ten houses in Rochdale-road, Plumstead.

Deptford.—An error was made in our issue last week, on page 775, in giving the name of Mr. E. C. Pinks as having been appointed to take out the quantities of the new central library to be erected in Lewisham High-road. Mr. G. Silvester, F.S.I., of 4, Adam-street, Strand, W.C., has been appointed surveyor for this work, and he will perform the whole of the Quantity Surveyor's work in connexion with this building.

FOREIGN AND COLONIAL.

Building in Roumania.

The *Nachrichten für Handel* (Berlin) of June 13 states that arrangements have been made for the erection of five new large hotels in Bucharest. In addition, the following buildings are being constructed:—Carol I. University, Military Club, "Credit Roman" Bank, Town Hall, Senate House, and the "Agricola" Insurance Company's premises. Roumanian cement manufacturers had arranged to produce only 12,000 wagon loads of cement this year, but they have orders on hand for more than 24,000 wagon loads.

Building in the Argentine Republic.

The *Boletín Oficial* of May 13 publishes a decree authorising the Superintendent of Military Construction to erect a hospital, isolation wards, etc., in Campo de Mayo. The cost of the works is not to exceed the sum of 450,000 pesos currency (about 39,370*l.*). The same issue of the *Boletín* contains a decree authorising the construction in the Fuerte Militar, Arsenal of powder magazines, stores for explosives, and a laboratory, and the installation of refrigerators. The total cost of these works is estimated at 254,553 pesos currency (about 20,500*l.*).

HOSPITAL, GOOLE.

The new Bartholomew Hospital has been erected at a cost of 7,500*l.* from the designs of Messrs. Hill & Son, of Leeds. The building has accommodation for twenty-four beds, and the contract was carried out by Messrs. Ledgard & Son, of Leeds.

TRADE CATALOGUES.

We have received a leaflet from the National Radiator Company, Ltd., of 441, Oxford-street, W., giving particulars of their Ideal No. 1 B.B. Series water-boilers. These boilers have been specially designed for horticultural work and are fitted with double firing doors, giving free access to all parts of the fire and grate for the easy removal of clinker, etc. The capacities of these boilers, as at present made, range from 710 ft. to 1,435 ft. of 4-in. pipe, and the smoke outlet can be furnished either on front or back as required.

The Carron Company send us a price list of their new series of "segmental" interior grates. The designs shown, fourteen in number, are of a high standard, and there are few schemes of internal decoration with which they would not harmonise.

Messrs. George M. Callender & Co., Ltd., of London Works, Bow, E., and 25, Victoria-street, S.W., send us their illustrated catalogue No. 12, showing views of the various works where Callender's pure bitumen sheeting has been employed. This firm were, in the late seventies, the first to conceive the idea of tempering refined bitumen into pliable sheets. Their trade was at first confined to damp-courses for buildings, but recently came to be associated with successful results for covering railway bridges, lining ponds, and for flat roofs, etc. A pond thus lined as far back as 1885 is still quite watertight. Among the more important works where this material has been employed as a waterproofing medium are open reservoirs at Shildon, Durham; Newquay, Cornwall; and Abbassia, Egypt; filter-beds at Llanelly, Carmarthen; Ivry, Paris; and Galatz, Roumania; swimming-bath at Erith, Kent; the Grand Junction Canal, Tring, Herts.; and the Khedivial Dock at Alexandria.

We have received from Messrs. Hartley & Sugden, Ltd., of Atlas Works, Halifax, and 11, Queen Victoria-street, London, E.C., their latest catalogue of the well-known "White Rose" cast-iron sectional boilers and radiators. We desire particularly to call the attention of our readers to the series "M" boiler, designed especially for shallow stove-holes. A flow socket can be fitted at 39 in. from the floor to centre, to a boiler capable of heating 2,550 ft. radiation. The depth of the firebox is 22 in., and a top fuel feeder is provided, so that the boiler can be stoked to burn ten hours without attention. The interior is easy of access for purposes of cleaning. An excellent line is the cast-iron independent "Lotus" boiler, specially designed for building into the walls of greenhouses, motor-sheds, etc.

PATENTS.

APPLICATIONS PUBLISHED.*

7,956 of 1911.—William Ranson Cooper: Apparatus for heating gas or other liquid.

15,255 of 1911.—James Heaton: Mode of, and apparatus, for manufacturing roofing and the like tiles.

15,334 of 1911.—Alfred Frank Harrison and Oliver Leopold Peard: Heating appliances.

15,782 of 1911.—James Yate Johnson (Edward Joseph Bull): Rolled steel door and window-frames.

16,492 of 1911.—William Henry Fenn: Removable grip joint for wood or metal work.

19,706 of 1911.—Fred Evered Smith: Extension ladder.

22,569 of 1911.—Dr. August Kahr: Machine for manufacturing hollow bricks covered on all sides.

22,991 of 1911.—Carl Oscar Sjöstrand: Utensils for scrubbing and washing floors and the like.

26,332 of 1911.—Otto Rehnitz: Lathing for plaster-work and the like.

28,910 of 1911.—William Baldwin Hough: Spacing and securing devices for the reinforcing members in reinforced concrete construction.

1,360 of 1912.—Henry Robbins Wardell: Bituminous structural materials.

4,909 of 1912.—Nicola Faraldi: Manufacture of artificial stone blocks.

11,222 of 1912.—Charles Showell and John Scrivens: Spring-controlled doors.

SELECTED PATENTS.

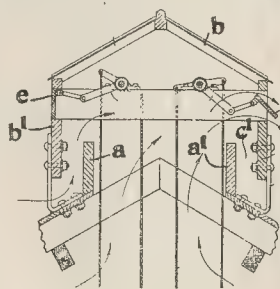
691 of 1911.—William Charles Lobbs: Chimney-tops.

This relates to a chimney-top provided with a wind-directed conical hood with a outlet and a vane made from one piece of metal. The vane is strengthened by a corrugation.

1,893 of 1911.—James Muirhead: Ventilators. This relates to ventilators wherein the crown

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

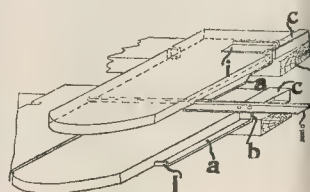
of the roof is cut away and a cover *b* supported by brackets. Between the depending sides *b* of the cover and vertical plan *a*, *a'*, a channel *c* is left, through which air passes, to cause a suction of vitiated air from the building. The air is carried off by valves *d*, *e*, which are operated as required through ropes and levers. The roof ridge is strengthened by distance-pieces placed between the planks *a*, *a'*.



1,893 of 1911.

1,952 of 1911.—Richard Gerling: Slating roofs.

This relates to a metal clip for roofing plates, which consists of a strip *c* with a bent *b* passing through a notch on each of the

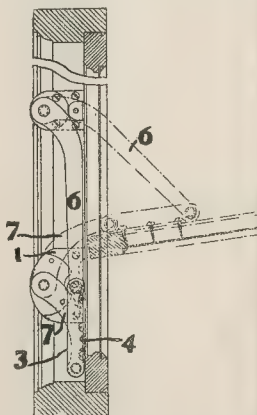


1,952 of 1911.

adjacent plates, the upper part of the clip being bent over the plate to engage the support *f*; the lower part *a* under the plate may be provided with a turned-up end *h*, and the bend with a flanged cross-piece *g*, both engaging grooves in the underside of the plates.

2,011 of 1911.—John Cable: Casements, lights.

This relates to means for hanging casement or fanlights comprising a pair of unequal arms pivoted to the window and its frame, *a*, consists in fitting the device to the inside



2,011 of 1911.

the window without cutting the window or frame. The two unequal arms *b*, *h*, are pivoted to a plate or plates *i* fixed to the sill *a* to one or more lugs *3* projecting from plate *a* secured to the inside face of the window.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xxi.; Auction Sales, xxvi. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary. The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

JULY 5.—Contestbrough.—ADDITIONS TO CAPITAL.—The Doncaster and Mexborough Joint Capital Board invite competitive plans for addition to isolation Hospital. See advertisements in the issues of May 17 and June 7 for further particulars.

JULY 6.—Cardiff.—FIRE-STATION.—The Cardiff Corporation invite designs and estimates for a new fire station in Westgate-street. Mr. Marshall Meekenzie, assessor. Particulars in the Town Clerk, City Hall, Cardiff.

JULY 30.—Saxon SELL PRIZE.—Fifty guineas, with medal, is offered for essay on "The Lighting, Heating, etc., of an Operating Room for a General Hospital." Particulars from Sanitary Institute, 30, Buckingham Palace, S.W.

SEPTEMBER 1.—Goolie.—MUNICIPAL OFFICES.—Buildings 301, and 161. Particulars from Mr. Tyson, Council Offices, Goolie.

SEPTEMBER 30.—Dublin.—UNIVERSITY COLLEGE: W. BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

NO DATE.—Ottawa.—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa.

NO DATE.—Jordanihill, Glasgow.—PROPOSED MINING COLLEGE.—Limited to six firms, named in Competition News, December 1, page 635.

NO DATE.—Warrington.—SCHOOL.—The Warrington Education Committee invite competitive plans for the erection of a public primary school. See advertisement in issue February 16 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or names of those willing to submit tenders, may be sent in.

JULY 5.—Cardiff.—ADDITIONS.—For additions to church hall at 21, Arden, and specifications with Mr. Wm. Davidson, architect, Eilon.

JULY 6.—Barnesley.—TERRACE.—The Barnesley Club, Ltd., invites tenders for the erection of a terrace, to accommodate 50, Mr. J. J. Hastie, Secretary, 2, Burlington-gate, Barnesley.

JULY 6.—Belfast.—RESIDENCE.—For the residence of a villa residence, Stranmillis-road, Belfast. Plans and specifications from Mr. Gerald Hume, architect, Crane's-buildings, 1, Wellesford-place, Belfast.

JULY 6.—Coalsland.—ADDITIONS.—For additions and alterations to the Hibernian Hall, Coalsland, Co. Tyrone. Plans and specification from Mr. Neil O'Donnell, Derry, Coalsland.

JULY 6.—Downpatrick.—WARD, etc.—Erection of a casual ward and strongroom at the workhouse. Plan and specification with Mr. R. L. Brown, Clerk of Union, Clerk's Office, Downpatrick.

JULY 8.—Barnard Castle.—COTTAGE.—For erection of cottage at the Lartington filter beds, Barnard Castle, for the Tees Valley Water Company. Plans and specifications with Messrs. R. Hume and Sons, architects, 129, Albert-road, London.

JULY 8.—Bexley Heath.—OFFICES.—Erection of new offices, sanitary improvements, general painting and repairs at the school. Specifications and plan by the committee's architect, Mr. Wilfrid H. Robinson, of Caxton House, Westminster, with Mr. Walter J. Weaving, 199, Newway, Bexley Heath, Kent.

JULY 8.—London.—FACTORY.—For erecting a factory for the O. T. Company, Ltd., at Green-gate, Blackfriars. Quantities and forms of contract from Messrs. Henry Langston & Co., architects and surveyors, 1, 1, and 3, The Exchange, Southwark-street, S.E.

JULY 9.—Moorhouse.—HOUSES.—Erection of 12 houses at Moorhouse. Plans seen and specifications from Mr. W. T. Turner, architect, etc., 1, The Hill, Barnesley.

JULY 9.—Durham.—IMPROVEMENTS.—The Eastern Railway invite tenders for carrying out improvements at Durham Station. Plans and specification seen, and quantities and form of contract from Mr. William Bell, the Company's Architect, Westgate-road, Newcastle-on-Tyne.

JULY 9. London. EXCHANGE.—Erection of Victoria new telephone exchange. Drawings, specification, and a copy of the conditions and form of contract with Mr. J. Rutherford, 22, Carlisle-place, London, S.W. Quantities and forms of tender on deposit of 11. 1s. from the Secretary, H.M. Office of Works, etc., Storey-gate, London, S.W.

JULY 9.—Shrewsbury.—WALL.—For rebuilding wall, laying concrete paving, supplying and erecting unclimbable iron fencing and other work adjoining north side of river and below Welsh Bridge. Specification and drawings seen and quantities and form of tender, on deposit of 11. 1s. from Mr. W. Crisp, 14, Newgate-street, Shrewsbury, Borough Surveyor's Office, The Square, Shrewsbury.

JULY 10.—Chester.—MILL.—Erection of a new mill, etc., Brook-street, Chester. Quantities and form of tender from Messrs. John H. Davies & Sons, architects, 14, Newgate-street, Chester, on deposit of 11. 1s.

JULY 10.—Newport.—ADDITIONS, etc.—Alterations and additions to the offices, Pentonville, Newport. Plans and specification with Mr. William Tanner, F.S.I., County Surveyor, Newport, Mon. Quantities on deposit of 11. 1s.

JULY 10.—Thorne.—ADDITIONS.—For the erection of additions to the male wards of the workhouse infirmary. Specifications and plans at the workhouse.

JULY 11.—Bedding.—ADDITIONS.—For alterations and additions to Seagrave Wesleyan Chapel, Bedding. Plans and specifications with Mr. T. Edmund Rees, architect, Bank-chambers, Mersey Tynd.

JULY 11.—London.—LIBRARY.—Erection of a branch library building in Brooksby's-walk, Homerton. Plans and specification seen, and quantities, with conditions, form of tender, and form of contract, from the architect, Mr. Edwin Cooper, F.R.I.B.A., 12, Gray's Inn-square, W.C., on deposit of 21. 2s.

JULY 12.—Ashton-under-Lyne.—LAUNDRY.—For erection of a new laundry, chimney, etc., at the district infirmary. Plans and quantities from the architect, Messrs. W. H. George and Sons, 7, Watlington-street, Ashton-under-Lyne.

JULY 12.—Durham.—LOCK-UP.—Erection of a new lock-up at Bolden Colliery. Plans, specification, and conditions of contract seen and quantities from Mr. William Croser, A.M.I.C.E., County Surveyor, Durham.

JULY 12.—Mansfield.—BATHS.—For erection of slinger bath at Plessey Hill, Mansfield. Plans, specification, and quantities, on deposit of 21. 2s. from Mr. T. P. Collinge, A.M.I.C.E., Borough Surveyor, Exchange-row.

JULY 13.—Walsall.—ADDITIONS.—For alterations and additions to Croft-street Infants' School, Walsall. Drawings, specification, and quantities from the Borough Surveyor, Council House, Lichfield-street, Walsall.

JULY 15.—Dewsbury.—STATION.—Erection of a fire engine station. Specifications and plans and quantities from the Borough Surveyor, Town Hall.

JULY 15.—East Barnet.—SCHOOL.—The H.C.C. Education Committee invite tenders for alterations and additions to Brunswick Park School. See advertisement in this issue for further particulars.

JULY 15.—Gloucester.—ALTERATIONS.—Proposed alterations at the Crypt Grammar School, Gloucester. Architect, Mr. Walter B. Wood, 12, Queen-street, Gloucester. Quantities from Messrs. Vale & Kingsford, St. Aldate-street, Gloucester, on deposit of 21. 2s.

JULY 15.—Gloucester.—SCHOOL.—For the erection of school. Drawings, specification, agreement, etc., with Mr. George H. Widdows, A.R.I.B.A., Architect to the Committee, County Education Office, St. Mary's-gate, Derby. Quantities on deposit of 11. 1s.

JULY 15.—London.—CONVENIENCE.—Construction of an underground convenience at Tally Ho Corner, Great North-road, Finchley. Plans seen and specification, schedules, and form of tender from the Council's Engineer, Mr. C. J. Jenkin, M.Inst.C.E., M.Inst.M.E., Council Offices, Finchley, N. Deposit of 21. 2s.

JULY 15.—London.—ROOM.—Erection of a new chamber at the Water-lane House, 1, Cambridge-straitford, Mr. William Jacques, A.R.I.B.A., 2, Fen-court, Fenchurch-street, E.C. Deposit of 11. 1s.

JULY 15.—St. Austell.—RESIDENCE.—Erection of a residence, Truro-road, St. Austell. Plans and specifications with Mr. B. C. Andrews, M.S.A., architect, St. Austell.

JULY 15.—Tunbridge Wells.—EXTENSION OF INSTITUTE.—The Kent Education Committee invite tenders for extension of Technical Institute. See advertisement in this issue for further particulars.

JULY 16.—London.—ALTERATIONS.—For building an additional room at Noel Park Schools. General conditions, specification, and schedules of works from Mr. C. H. Croxford, Architect and Surveyor to the Committee, Town Hall, Wood Green. Deposit of 11. 1s.

JULY 16.—London.—W.C.—TELEPHONE EXCHANGE.—The Commissioners of H.M. Works and Public Buildings invite tenders for erection of the Museum Telephone Exchange. See advertisement in this issue for further particulars.

JULY 16.—Wood Green.—REPAIRS, etc.—For repairs and decorations to schools. General conditions, specifications, and schedules from Mr. C. H. Croxford, Architect and Surveyor to the Committee, Town Hall, Wood Green. Deposit of 11. 1s.

JULY 17.—Willesden.—WARD BLOCKS.—The Willesden Guardians invite tenders for ward blocks at workhouse and infirmary, Acton-lane. See advertisement in this issue for further particulars.

JULY 18.—Wick.—POST OFFICE.—For the erection of a new post office at Wick. Drawings, specification, and a copy of the conditions and form of contract at Wick Post Office. Quantities and forms of tender at H.M. Office of Works, 3, Parliament-square, Edinburgh, on deposit of 11. 1s.

JULY 19.—Kelington.—TRANSFORMING CHAMBERS.—The Kelington Borough Council (Lighting Committee) invite tenders for three underground transforming chambers. See advertisement in this issue for further particulars.

JULY 21.—Beckenham.—LODGE, etc.—Erection of caretaker's lodge, public conveniences, etc., in Kelsey Park. Drawings and specification seen and forms of tender from Mr. J. A. Angell, surveyor. Deposit of 21.

JULY 22.—Lansall.—DAIRIES.—Erection of new dairies, alterations and adaptations to farmhouse and farm buildings, new walls, etc., at Great Kellow Farm, Lansall. Plans, specifications, conditions of contract from Mr. John Davis, County Land Agent, County Hall, Drury.

JULY 23.—Bolton.—NURSES' HOME.—The King Edward VII. Memorial Committee invite tenders for the erection of a Nurses' Home at Bolton Infirmary. See advertisement in this issue for further particulars.

JULY 23.—London.—SCHOOL.—Erection of a new school for girls and infants and alterations to existing buildings, Church-road Schools, Leyton. Quantities, conditions, and form of tender from Mr. William Jacques, A.R.I.B.A., of Fen-court, Fenchurch-street, E.C. Deposit of 51.

JULY 24.—Brentford.—EXTENSIONS TO BRENDY.—The Brentford Guardians invite tenders for additions and alterations at laundry of Workhouse. See advertisement in this issue for further particulars.

JULY 24.—Derby.—COURT HOUSE, etc.—Erection of a new lock-up, court house, and deputy chief constable's residence, etc., in Tupton road and Malkin-street, Chesterfield. Drawings and specification with the architects, Messrs. Hunter & Woodhouse, Belper, Derbyshire. Quantities on deposit of 21. 2s.

JULY 24.—Sandhurst.—HOSPITAL.—The Secretary of State for War invites tenders for erecting a hospital of twenty beds, nursing quarters, and Quartermaster-Sergeant's quarters, etc. See advertisement in this issue for further particulars.

NO DATE.—Cork.—WORK.—For work to be done at the Roman Catholic Church, Passage West. Specification by Mr. James F. McMullen, M.R.I.A.I., architect, 30, South Mall, Cork.

NO DATE.—Donaloney.—SCHOOL.—For making additions to Liddell Memorial National School at Donaloney, Co. Down. Plans and specification from Messrs. Robert & Heron, architects, Scottish Provident Buildings, Belfast.

NO DATE.—Dunfermline.—RECONSTRUCTION.—For the reconstruction and extension of the Dunfermline Opera House. Apply to the architect, Mr. J. D. Swanson, Kirkcaldy.

NO DATE.—Exeter.—REBUILDING.—For the demolition and rebuilding of Nos. 139 and 140, Sidwell-street, Exeter. Mr. J. Archibald Lucas, F.S.I., A.R.I.B.A., architect and surveyor, Guildhall-chambers, 49, High-street, Exeter.

NO DATE.—Halifax.—STOREHOUSE.—Extension to Central Stores, Northgate, Halifax, for the Halifax Industrial Society, Ltd. Mr. Clement Williams & Sons, architects, Post Office-buildings, Commercial-street, Halifax.

NO DATE.—Ipswich.—PREMISES.—For the erection of new premises for Messrs. R. D. & J. B. Fraser, Ltd., at Ipswich. Mr. E. Thos. Johns, architect, 8, Lower Brook-street, Ipswich.

NO DATE.—Kettering.—SCHOOL.—Erection of the new repair recovery school on Glover Hill, Kettering. Mr. John Bond, Clerk to the Council, Council Offices, Kettering.

BUILDING—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

No DATE.—Littleborough.—HOUSES.—Erection of four dwelling houses in Talbot-road, Littleborough. Deposit of 11. 1s. Mr. Herbert H. Clough, architect, Butts-avenue, Rochdale.

No DATE.—London.—SCHOOL.—For the erection of a temporary school at Muswell Hill, and for alterations to the North Harrington Council School. Quantities from architect, Mr. G. E. T. Laurence, A.R.I.B.A., 22, Buckingham-street, Adelphi, W.C., on deposit of 11. 1s.

No DATE.—Methil. PICTURE PALACE.—Reconstruction of Methil Engineering Works for conversion into a picture palace. Mr. J. D. Swanston, architect, Kirkcaldy. Deposit of 11. 1s.

No DATE.—Newbold.—EXTENSIONS.—For alterations and extensions of school. Messrs. Styles & Evans, architects, 7, Chapel-walks, Manchester.

No DATE.—Fennal.—ADDITIONS.—For additions and alterations to Fennal, Fennal, near Machynlleth. Plans, specification, and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

No DATE.—Pontefract.—ADDITIONS.—For alterations and additions to the Elephant Hotel, Pontefract. Mr. W. J. Tennant, architect and surveyor, Pontefract.

No DATE.—Quadding Fen.—VILLAS.—For a pair of villas at Quadding Fen. Plans, and specifications with Mr. Henry Kidd, Solent House, Kilton.

No DATE.—St. David's.—SCHOOL, ETC.—For the erection of a council school at St. David's, near Llandysul. Also for improvements at Treleir Council School, near Aberystwyth; Llanon Council School; Llangwryllon Council School. Plans, specifications, and full particulars from Mr. Geo. Dickens-Lewis, M.S.A., County Architect, Aberystwyth.

No DATE.—Spalding.—HOUSE, ETC.—Erection of a house and shop in Stonegate, Spalding. Plans and specifications with Mr. J. Moulds, 44, Stonegate, Spalding.

ENGINEERING, IRON, AND STEEL.

JULY 8.—Wakefield.—BRIDGE.—For the extension of the bridge over the Blacker Beck, near the British Oak Inn, Crigglestone. Quantities and forms of tender from Mr. Frank Maesie, M.Inst.C.E., Tetley House, Wakefield. Deposit of 11. 1s.

JULY 10.—Hailsham.—BRIDGE.—For the construction and erection of a three-span plate-girder bridge over the railway at America Crossing, Hailsham, Sussex. Quantities on deposit of 10s. to Mr. Edmund Cat, Clerk, Council Offices, 17, London-road, Hailsham.

JULY 12.—London.—SWITCHBOARD, ETC.—For the extension of the switchboard gallery and for other steelwork at electricity generating station, Priory-avenue, Walthamstow. Plans, specification, and conditions of contract with Mr. G. W. Holmes, A.M.Inst.C.E., Engineer to the Council, Town Hall Annex, Walthamstow. Plan, specification, and form of tender on deposit of 11. 1s.

JULY 15.—London.—FILTERS, ETC.—Construction of four clinker sewage filters, etc., at Sewage Farm, Summers-lane, Finchley. Plans seen and specification, schedules, and form of tender from the Council's Engineer, Mr. C. J. Jenkin, M.Inst.C.E., Municipal Council Offices, Finchley, N. Deposit of 21. 2s.

JULY 16.—Holt. RESERVOIR.—For the construction of a reservoir and other works. Plans and specification prepared by Mr. H. Swetsham, F.S.I., and Mr. A. C. Williams, A.M.Inst.C.E., Chester. Drawings and specification seen and quantities from Mr. A. C. Williams, 6, Godstall-chambers, Chester, on deposit of 21. 2s.

JULY 16.—London.—BRIDGE.—The London County Council invites tenders for the reconstruction and widening of the county bridge carrying High street, Wandsworth, over the River Wandle. Drawings, specifications, quantities, form of tender, etc., from the Chief Engineer of the Council, Sir Maurice Fitzmaurice, C.M.G., at the County Hall, Spring-gardens, S.W. Deposit of 31.

*** JULY 17.—Dartford.—HEATING AND WATER SUPPLY.**—The Metropolitan Asylums Board invite tenders for heating and hot and cold water supply alterations in certain existing blocks at Long Reach Small-pox Hospital, near Dartford, Kent. See advertisement in this issue for further particulars.

*** JULY 19.—Ashford.—HEATING SYSTEM.**—The W. London School District Managers invite tenders for alterations and repairs to the heating system at schools at Ashford, Middlesex. See advertisement in this issue for further particulars.

JULY 22.—Northampton.—BRIDGE.—For the masonry and other works required in the widening of the south bridge over the River Nene in three arched spans. Plans seen and specifications, quantities, and forms of tender from Mr. Alfred Fidler, M.Inst.C.E., Borough Engineer and Surveyor, Guildhall, Northampton. Deposit of 21. 2s.

*** JULY 25.—Balham.—STEEL FRAMING, ETC.**—The Wandsworth Guardians invite tenders for steel framing and zinc flats to balconies at St. James's Infirmary Out-patient-road. See advertisement in this issue for further particulars.

*** JULY 29.—Uxbridge.—BRIDGE.**—The Uxbridge Urban District Council invite tenders for the construction of a new brick and steel bridge over the River Frays at Rabba Mill. See advertisement in this issue for further particulars.

FURNITURE, PAINTING, MATERIALS, ETC.

JULY 6.—Sheffield.—PAINTING, ETC.—For painting and whitewashing, at the workhouse at Fir Vale. Specification and particulars at the workhouse.

JULY 8.—Chelmsford.—REPAIRS.—For repairs, painting, etc., at the County House, Wood-forest, Chelmsford. Specification at the Union House, Mr. Arthur S. Duffield, Clerk, 96, High-street, Chelmsford.

JULY 8.—Ilford.—PAINTING.—For cleaning, painting, and renovating the interior and exterior of public hall and exterior only of public library buildings at Seven Kings. Specification and form of tender from Mr. H. Shaw, M.Inst.C.E., Town Hall, Ilford, on deposit of 11. 1s.

JULY 8.—Southampton.—PAINTING, ETC.—For painting and decorating work at the Western District Council School. Specification, conditions, and form of tender at the Borough Engineer's Office, Municipal Offices, Southampton.

JULY 8.—Tring.—PAINTING.—For painting, etc., at the Isolation Hospital. Specifications and forms of tender from Mr. S. S. Gellings, surveyor, Surveyor's Office, Tring.

JULY 9.—Brierley.—VERANDAS.—Erection of verandas at the City Hospital, Brierley Hall. Drawings and general conditions seen and quantities and forms of tender from the City Architect, Town Hall, Bradford.

JULY 9.—London.—FLOORING.—For taking up the old flooring and relaying with new to two wards at Infirmary, Cale-street, Chelsea, S.W. Drawings, specification, and form of tender from the Guardians' Architect, Mr. Edmund J. Harrison, 9, Gray's Inn-square, Holborn, W.C. Deposit of 11. 1s.

JULY 10.—Kent.—PAINTING, ETC.—For the painting and repairs at the County Buildings. Quantities and tender form from the County Architect, 26, Week-street, Maidstone.

JULY 10.—London.—PAINTING.—For inside and outside painting at the Enfield Workhouse, Chase Side, Enfield. Specifications, conditions of contract, and forms from the Architect, Mr. J. C. S. Mummery, at his office, 13, Fitzroy-square, W.

JULY 10.—London.—PANS, ETC.—For providing and fixing five new boiling pans and sundry alterations and additions to pipes and other work at Chase Farm Schools, Enfield. Specifications, conditions of contract, and forms from the Architect, Mr. J. C. S. Mummery, at his office, 13, Fitzroy-square, W.

JULY 10.—Thorne.—PAINTING.—For the internal and external painting and renovation of Thorne Council Mixed and Infants' Schools, Sykehouse Council School, Hatfield Woodhouse Council School. Specifications from Mr. E. L. Hartrap, W.R. Education Offices, Goole.

JULY 12.—Accrington.—PAINTING.—For painting and decorating at various schools during the summer holidays. Specifications and forms of tender from Mr. W. J. Newton, Education architect, Town Hall.

JULY 12.—Culcheth.—PAINTING, ETC.—Painting, etc., at the cottage homes, Culcheth, near Warrington. Specification and particulars from the superintendent of the Homes.

JULY 12.—Durham.—PAINTING, ETC.—Painting at the Squire and Assize Court, Durham. Specification and conditions of contract from Mr. William Crozier, A.M.Inst.C.E., County Surveyor, Shire Hall, Durham.

JULY 13.—Barnstable.—PAINTING, ETC.—The colouring, painting, etc., of the interior various schools. Particulars from Mr. E. Saunders, M.Inst.M.C.E., Borough Surveyor, Strand, Barnstable.

*** JULY 15.—Beckenham.—PAINTING AND PAIRS.**—The Kent Education Committee invite tenders for painting and repairs at Technical Institute and School of Art. See advertisement in this issue for further particulars.

JULY 17.—Bromsgrove.—PAINTING, ETC.—For painting and varnishing Salem Chapel, Bromsgrove. Specifications at the Chapel House, Mr. E. Jones, Sicular, Bromsgrove, Newcastle-Emlyn.

*** JULY 17.—Dartford.—CLEANING AND PAINTING.**—The Metropolitan Asylums Board invite tenders for cleaning and painting works repairs at Darent Industrial Colony. See advertisement in this issue for further particulars.

*** JULY 17.—London, E.C.—CLEANING AND PAINTING.**—The Metropolitan Asylums Board invite tenders for cleaning and painting works repairs at head office, Victoria Embankment. See advertisement in this issue for further particulars.

*** JULY 17.—London, N.—DEMOLITION.**—The Metropolitan Asylums Board invite tenders for demolishing old boiler house, chimney shaft, at North Eastern Fever Hospital, St. Ann's-road, Tottenham. See advertisement in this issue for further particulars.

*** JULY 18.—Kensington.—FLOORING, PAINTING, ETC.**—The Kensington Council invite tenders for laying "Armadek" floor, plastering walls, and decorative work at Infirmary, Marlow-road. See advertisement in this issue for further particulars.

*** JULY 24.—Upper Edmonton.—PAINTING.**—The Edmonton Guardians invite tenders for inside painting at Infirmary, 77, Bridge-road, Upper Edmonton. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

JULY 5.—Windermere.—SEWAGE.—For the construction of about 650 yds. of 12-in., 100 yds. 9-in. stoneware pipe sewers, and 15 yds. of 11-in. cast-iron sewers, with manholes and other works. Plans and specification with the surveyor, C. E. Hines, Broad-street, Windermere.

JULY 6.—Bastbourne. ROADS.—For improvement works. Plan and specification and form of tender from Mr. A. Ernest Prest, Borough Surveyor, Town Hall, Eastbourne.

JULY 10.—Trotbeck.—ROADS.—For widening the roads at Trotbeck, on the Kendal and The Lythe road, and at Dawson Fold and "The Lythe" in the township of Lythe, on the Bridge Lythe, to Bowness Bay, and Windermere Station. Plans, specifications, and quantities from Mr. Joseph Birtley, County Surveyor, 7, Lowth-street, Kendal.

JULY 12.—Brierley Hill.—SEWAGE.—Construction of stoneware pipe sewers, branch drains in house connections, with all manholes, valves, and other works. Plans, sections, drawings with the Surveyor to the Council, J. Lewis, Town Hall, Brierley Hill. Specification, quantities, general conditions, form of tender, on deposit of 21. 2s.

JULY 13.—Bacup.—PAVING.—For the paving with granite setts on concrete foundations portions of Rochdale-road, Burnley-road, York-street, Bacup. Specifications, general conditions, and forms of tender from Mr. W. Elce, Esq., A.M.Inst.C.E., Borough Engineer, 11. 1s. deposit.

JULY 20.—Upton-on-Severn. SEWAGE.—sewerage and sewage disposal works for village of Kempsey. Plans and details seen information from Mr. Stanley C. Eagles, engineer, 71, Temple-row, Birmingham. Quantities, specification, and form of tender on deposit of 31. 3s.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Applicants to be in
*QUANTITY SURVEYOR.	Hackney B.C.	Not stated.	July
*TEACHER OF SANITARY SCIENCE	Willenden Polytechnic	See advertisement in this issue	No date

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDERS' MERCHANTS' & IRONMONGERS' STOCK, LONDON, E.C.—On the Premises.	S. E. Haward & G. O. Ballard.	July
*FREEHOLD PROPERTY—At the Mart.	Rutley, Son, & Vine	July
*DEALS, BATTENS, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C.	Churchill & Sim	July
*FREEHOLD BUILDING SITES, PURLEY—Greyhound Hotel, Croydon	Finlay Hill	July
*FREEHOLD LAND, CROYDON—At Greyhound Hotel, Croydon.	Blake, Son, & Williams	July

THE RECENT SALES OF PROPERTY: ESTATE EXCHANGE REPORT.

June 5.—By Wm. Dew & Sons. Cardon, Carnarvon—Outlying portions of the Penrhyn Estate, 2,740 acres, f. 244,945	By FAREBROTHER, ELLIS, & CO. Grendon Underwood, Bucks.—Middle Farm, etc., 185 a. 1 r. 12 p., f. 45,000	By HARLAND & SONS. Enfield—Brigadier-hill, Woodlands Bakery, f. y.r. 351. 675 Southgate—Chase-side, Oakfield, f. a.r. 361. 360 High-st., shop and plot adjoining, f. w.r. 32. 10 Clapton—38, Upper Clapton-rd., u.t. 15½ yrs., g.r. nil, y.r. 401. 440	Norton Mandeville, Essex.—Ladyland Farm, 72 a. 1 r. 3 p., f. 41,500 Blackmore, Essex.—Rowland's land, 24 a. 0 r. 33 p., f. 400
June 7.—By KNIGHT, FRANK, & BUTLEY. rdley, Warwick.—Part of Hall Green Estate, 79 acres, f. 19,853 Worcester—Warley Farm, etc., 38 acres, f. 3,083 Leicester—Manor Farm, 235 a. 3 r. 15 p., f. 3,900	By HIRKING, SONS, & DAW. Streatham—37, Stockfield-rd., f. p. 00 By KNIGHT, FRANK, & BUTLEY. Salway, Flint—Chester-st., f.g.r. 12½, reversion in 37 yrs. 380 Chester—Accommodation land, 14 a. 0 r. 25 p., f. 1,080 Chester-st., f.g. rents 108, reversion in 34 yrs. 280 Deva-cres., f.g.r. 301. 850 Curzon Park, f.g. rents 361, 108, reversion in 65 yrs. 710	By HOOKER & WEBB. Croydon—80, St. James-rd., u.t. 27 yrs. g.r. 6½, p. 105 By EDWARD WOOD. Fulham—5, Cresford-rd., u.t. 78 yrs. g.r. 21, w.r. 481. 28. 310 Wandsworth—107, 107A, 109, and 109A, Aisle-st., u.t. 84 yrs. g.r. 15½, w.r. 1201. 48. 550 Stockwell—6, Speenham-rd., u.t. 68 yrs. g.r. 71. 158, a.r. 421. 300 Walworth—41 and 66, Darwin-st., u.t. 45 yrs. g.r. 121. 128, w.r. 1041. 300 Bromley, Kent. 20, College-rd., u.t. 56 yrs. g.r. 84, y.r. 351. 220	By KNIGHT, FRANK, & BUTLEY. Great Glemham, Suffolk.—Great Glemham Estate, 1,952 a. 3 r. 25 p., f. 36,700 June 12.—By HANNAFORD & SONS. Bickley, Devon.—Upxes Estate, 680 acres, f. 23,410 By WINTERTON & SONS. Aldridge, Staffs.—Beacon Farm, 17 a. 0 r. 22 p., f. 1,025 Harborough-rd., piece of land, 5 a. 1 r. 19 p., f. 325 Walsall, Staffs.—96, 101, and 103, Lord-st., f. w.r. 831. 28. 390
June 8.—By SALTER, SHEPSON, & SONS. Edon St. Peter, Norfolk.—Agricultural estate, 1,028 acres, f. 23,150	By BIRLEY & SONS. Rotherhithe—69 and 71, Albion-st., f. w.r. 531. 530 New Cross—54, Drakefield-rd., u.t. 52 yrs. g.r. 6½, a.r. 64. 230 Stanford Hill—28, Franklin-st., u.t. 65 and 78 yrs. g.r. 91. 108, a.r. 661. 68. 240	By WILLIAM CLARESON. Poplar—155, Grundy-st., f. w.r. 281. 128. 200 116 and 117, Teviot-st., u.t. 53 yrs. g.r. 81, w.r. 681. 68. 310 29, 31, and 33, Nairn-st., u.t. 61 yrs. g.r. 121. 158, w.r. 971. 108. 430 30, 32, 40, 48, and 50, Bygrove-st., u.t. 16 yrs. g.r. 121. 101, w.r. 1041. 150 Old Ford—20 to 36 (even), Lamprell-st., u.t. 63 yrs. g.r. 321, w.r. 1671. 158. 350	By WILLIAM CLARESON. Poplar—155, Grundy-st., f. w.r. 281. 128. 200 116 and 117, Teviot-st., u.t. 53 yrs. g.r. 81, w.r. 681. 68. 310 29, 31, and 33, Nairn-st., u.t. 61 yrs. g.r. 121. 158, w.r. 971. 108. 430 30, 32, 40, 48, and 50, Bygrove-st., u.t. 16 yrs. g.r. 121. 101, w.r. 1041. 150 Old Ford—20 to 36 (even), Lamprell-st., u.t. 63 yrs. g.r. 321, w.r. 1671. 158. 350
June 10.—By ROBERT BOWRING. are, Somerset.—Freehold farm, 211 a. 2 r. 8 p. 11,736	By C. C. & T. MOORE. Leytonstone—36 to 44 (even), Melford-rd., f. y.r. 141. 148. 900 Bethnal Green—22 and 30, Pollard-st., f. w.r. 671. 128. 435 Brookley—17, Crescent-rd., u.t. 60 yrs. g.r. 94, a.r. 531. 150 St. George's East—171, St. George's-st. (s.), f. e.w.r. 351. 28. 745	By NEWBORN & SHEPHERDS. Edmonton—Winchester-rd., f.g. rents 1151. 1,800 108, reversion in 38 yrs. 1,000 Stoke Newington—68 and 70, Midway-park, f. e.r. 1201. 1,000 Holway—4 and 6, Foreham-rd., f. y.r. 761. 425 Burnaby—58, Ellington-st., f. a.r. 431. 280 Homerton—222, Wick-rd., f. p. 640 Kentish Town—67, Westwood-rd. (s.), u.t. 41 yrs. g.r. 71, w.r. 381. 168. 250 Sydenham—5, Kinner-rd., North, u.t. 71 yrs. g.r. 51. 108, p. 130	By DEBENHAM, TEWSON, RICHARDSON, & CO. Twickenham—Hampton-rd., f.g.r. 81, u.t. 68 yrs. g.r. nil. 120 By HARBORS. Piccadilly—32, Dover-st., and 18, Berkeley-st., profit rental of 1,300l., u.t. 71 yrs. 10,000 By MAY & SONS. Holloway—38, Kiver-rd., u.t. 46 yrs. g.r. 61, w.r. 441. 48. 300
June 11.—By HASLETT. plan—Gough-st., f.g.r. 391. 48, u.t. 20 yrs. g.r. 181. 38, 82. 225	By STURT & TIVENDALE. Holloway—9, Cressida-rd., u.t. 75½ yrs. g.r. 6½, y.r. 331. 820	By DEBENHAM, TEWSON, RICHARDSON, & CO. Twickenham—Hampton-rd., f.g.r. 81, u.t. 68 yrs. g.r. nil. 120 By HARBORS. Piccadilly—32, Dover-st., and 18, Berkeley-st., profit rental of 1,300l., u.t. 71 yrs. 10,000 By MAY & SONS. Holloway—38, Kiver-rd., u.t. 46 yrs. g.r. 61, w.r. 441. 48. 300	By ROBERTS, CHAPMAN, & THOMAS. Walworth—25 to 31 (odd), Runham-st., u.t. 46½ yrs. g.r. 301, w.r. 1451. 128. 400 South Lambeth—Concy-st., Priory Farm (off Hooce), u.t. 48 yrs. g.r. 31. 158, y.r. 451. 650 By ALFRED J. BUREBOWS. Charing, Kent—Vincent estate, 200 acres, f. 4,555 By R. DOWKIN & SONS. East Ord, Northumberland.—Croft and cottage, etc., f. 398 Berwick, Northumberland.—Salmon fishery, 1,000
June 12.—By KNIGHT, FRANK, & BUTLEY. ston, Suffolk.—Freston Lodge Estate, 541 a. 3 r. 15 p., f. 13,843	By Wm. Dew & Sons. Derby—Farm and live fields, 74 acres, f. 2,675 stone, Derby—Two fields, 42 a. 3 r. 33 p., f. 825 stone, Derby—Hollows Farm and five fields, 125 acres, f. 3,900	By ALFRED J. BUREBOWS. Loosa, Kent—Part of the Peale Estate, 230 acres, f. 11,780 By W. S. HODGSON. Ulverston, Lancs.—Netherhouses Farm, 182 acres, f. 4,680 June 14.—By H. G. ALAWAY. Shepherd's Bush—5 and 7, Rayleigh-rd., f. y. and e.r. 381. 570 By CARR & GREEN. Muswell Hill—29, Alexandra Park-rd., u.t. 81 yrs. g.r. 91. 98, y.r. 421. 375 By KNIGHT & CO. Chiswick—7, Cleveland-st., u.t. 92 yrs. g.r. 81. 38, p. 300	By ROBERTS, CHAPMAN, & THOMAS. Walworth—25 to 31 (odd), Runham-st., u.t. 46½ yrs. g.r. 301, w.r. 1451. 128. 400 South Lambeth—Concy-st., Priory Farm (off Hooce), u.t. 48 yrs. g.r. 31. 158, y.r. 451. 650 By ALFRED J. BUREBOWS. Charing, Kent—Vincent estate, 200 acres, f. 4,555 By R. DOWKIN & SONS. East Ord, Northumberland.—Croft and cottage, etc., f. 398 Berwick, Northumberland.—Salmon fishery, 1,000
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June 12.—By BRYANT & SONS. th Lambeth—61 to 67 (odd), Meadow-rd., u.t. 16 yrs. g.r. 51, w.r. 1301. 300 nboth—118 to 130 (even), York-rd., and 17, Ockley-rd., f.g.r. 701, y.r. 701, y. and e.r. 2381. 188. 160 nham—Maris-rd., f.g.r. 501, reversion in 84 yrs. 1,050 rd., f. w.r. 1321. 148. 800	By DONALDSON & SONS. ston—335 and 336, Middleton-rd., u.t. 46 yrs. g.r. 161. 128, y.r. 761. 510 Edwin Fox, Bedford, BENNETTS, & BADDELEY. xton—Brixton-hill (No. 1), f.g.r. 181, reversion in 57½ yrs. 430 Churchill, f.g.r. 241, 101, reversion in 62½ yrs. 1,350 cres., f.g. rents 541, reversion in 29 yrs. 385 Frankenau-rd., f.g. rents 171, reversion in 54½ yrs. 530 ndbourne-rd., f.g. rents 241, reversion in 54½ yrs. 150	By ALFRED J. BUREBOWS. Loosa, Kent—Part of the Peale Estate, 230 acres, f. 11,780 By W. S. HODGSON. Ulverston, Lancs.—Netherhouses Farm, 182 acres, f. 4,680 June 14.—By H. G. ALAWAY. Shepherd's Bush—5 and 7, Rayleigh-rd., f. y. and e.r. 381. 570 By CARR & GREEN. Muswell Hill—29, Alexandra Park-rd., u.t. 81 yrs. g.r. 91. 98, y.r. 421. 375 By KNIGHT & CO. Chiswick—7, Cleveland-st., u.t. 92 yrs. g.r. 81. 38, p. 300	By ROBERTS, CHAPMAN, & THOMAS. Walworth—25 to 31 (odd), Runham-st., u.t. 46½ yrs. g.r. 301, w.r. 1451. 128. 400 South Lambeth—Concy-st., Priory Farm (off Hooce), u.t. 48 yrs. g.r. 31. 158, y.r. 451. 650 By ALFRED J. BUREBOWS. Charing, Kent—Vincent estate, 200 acres, f. 4,555 By R. DOWKIN & SONS. East Ord, Northumberland.—Croft and cottage, etc., f. 398 Berwick, Northumberland.—Salmon fishery, 1,000
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By MAY & ROWDEN.
Woodmansterne, Surrey.—Court Haw and
23½ acres, f. 1, g. 1, w. 1, r. 1, u. 1, 47,000
Hyde Park—Lancaster-mews, f.g.r. 161,
reversion in 49 yrs. 360

By NEWBORN & SHEPHERDS.
Clapton—34, Powell-rd., f. 1, g. 381, 575
Old Ford—Chiswick-rd., f. 1, g. 451, 575
60 and 62, Anckland rd., f. 1, g. 541, 575
Upton Park—47, 49, 51, 65, 67, 73, to 79 (odd),
62 to 86 (even), Part-rd., f. 1, w. 1, r. 1, u. 1, 2,450
59, 61, and 63, Parr-rd., f. 1, w. 1, r. 1, u. 1, 285
9, f. 1, w. 1, r. 1, u. 1, 285
Stanford Hill—40, Chiswick-rd., u. 1, 64 yrs, 480
g. 111, y. 600, 480
Dalston—6, 7, and 9, Sandringham-rd., u. 1,
35½ yrs, g. 181, y. 1221, 630

By HUNTER & HUNTER.
Pyde Park—30, Chalfont-st., and 88, Glou-
cester-mews West, u. 1, 30 yrs, g. 101,
y. 1501, 240
Acton—3, Ferry-rd., u. 1, 66½ yrs, g. 101,
y. 421, 240

By JOHN H. BULMER.
Bermondsey—44, St. James-rd., u. 1, 22½ yrs,
g. 61, y. 51, 481, 225
111, Abbeyfield-rd., u. 1, 42½ yrs, g. 61,
y. 381, 240
Rotherhithe—73, Hawkestone-rd., u. 1, 38 yrs,
g. 1, w. 1, r. 1, u. 1, 165
4, Old-rd., u. 1, 38 yrs, g. 1, w. 1, r. 1, u. 1, 170

By HENRY HENDRICKS & CO.
Northfield, Warwick—South-rd., f. 1, g. 121, 1,835
reversion in 60 yrs. 1,835
South-rd., f. 1, g. 121, reversion in 61 yrs. 1,835
South-rd., two end-lands, 7 & 8, 1,835
Cock-le, f. 1, g. 121, reversion in 98 yrs. 300

By STEPHENSON & ALEXANDER.
Llantwit Major, Glam.—Part of Garth Estate,
167 & 169, 33 p. f. 1, 6,495
P. g. rent 344, 24, reversion in 53 and 60
Penline, Glam.—Pasture, 8 & 9, 32 p. f. 1, 653
y. 220, 220

By DILLEY, SON, & READ.
Molesworth, Hunts.—Manor Farm, 202 & 1, r. 1,
28 p. f. 1, 5,500
Little Staughton, Beds.—Hill Farm, 147 &
3, 17 p. f. 1, 2,900
Keysoe, Beds.—House, cottage, and 64 & 1, r. 1,
34 p. f. 1, 1,710
Hargrave, Northants.—Four closes of pasture,
20 & 2, 1 p. f. 1, 375
Randa, Northants.—Farm and cottage, 77 &
0, 36 p. f. 1, 1,150
Farm and three fields, 105 & 0, 31 p. f. 1, 1,670
Catworth, Hunts.—Church Farm and two
fields, 194 & 0, 20 p. f. 1, 1,670

By GRIMLEY & SON.
Dalsall Heath, Worcs.—Edward-rd., f. g. rents
51, 53, 55, reversion in 36 and 58 yrs. 2,605
Birmingham—53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 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857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065, 1067, 1069, 1071, 1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1099, 1101, 1103, 1105, 1107, 1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1169, 1171, 1173, 1175, 1177, 1179, 1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197, 1199, 1201, 1203, 1205, 1207, 1209, 1211, 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1877, 1879, 1881, 1883, 1885, 1887, 1889, 1891, 1893, 1895, 1897, 1899, 1901, 1903, 1905, 1907, 1909, 1911, 1913, 1915, 1917, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939, 1941, 1943, 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2041, 2043, 2045, 2047, 2049, 2051, 2053, 2055, 2057, 2059, 2061, 2063, 2065, 2067, 2069, 2071, 2073, 2075, 2077, 2079, 2081, 2083, 2085, 2087, 2089, 2091, 2093, 2095, 2097, 2099, 2101, 2103, 2105, 2107, 2109, 2111, 2113, 2115, 2117, 2119, 2121, 2123, 2125, 2127, 2129, 2131, 2133, 2135, 2137, 2139, 2141, 2143, 2145, 2147, 2149, 2151, 2153, 2155, 2157, 2159, 2161, 2163, 2165, 2167, 2169, 2171, 2173, 2175, 2177, 2179, 2181, 2183, 2185, 2187, 2189, 2191, 2193, 2195, 2197, 2199, 2201, 2203, 2205, 2207, 2209, 2211, 2213, 2215, 2217, 2219, 2221, 2223, 2225, 2227, 2229, 2231, 2233, 2235, 2237, 2239, 2241, 2243, 2245, 2247, 2249, 2251, 2253, 2255, 2257, 2259, 2261, 2263, 2265, 2267, 2269, 2271, 2273, 2275, 2277, 2279, 2281, 2283, 2285, 2287, 2289, 2291, 2293, 2295, 2297, 2299, 2301, 2303, 2305, 2307, 2309, 2311, 2313, 2315, 2317, 2319, 2321, 2323, 2325, 2327, 2329, 2331, 2333, 2335, 2337, 2339, 2341, 2343, 2345, 2347, 2349, 2351, 2353, 2355, 2357, 2359, 2361, 2363, 2365, 2367, 2369, 2371, 2373, 2375, 2377, 2379, 2381, 2383, 2385, 2387, 2389, 2391, 2393, 2395, 2397, 2399, 2401, 2403, 2405, 2407, 2409, 2411, 2413, 2415, 2417, 2419, 2421, 2423, 2425, 2427, 2429, 2431, 2433, 2435, 2437, 2439, 2441, 2443, 2445, 2447, 2449, 2451, 2453, 2455, 2457, 2459, 2461, 2463, 2465, 2467, 2469, 2471, 2473, 2475, 2477, 2479, 2481, 2483, 2485, 2487, 2489, 2491, 2493, 2495, 2497, 2499, 2501, 2503, 2505, 2507, 2509, 2511, 2513, 2515, 2517, 2519, 2521, 2523, 2525, 2527, 2529, 2531, 2533, 2535, 2537, 2539, 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Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100L. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

NGHAM.—For alteration

1. Contract I. For alterations &c. this repairs to
 property in Arley-street, Mr. W. F. Edwards, archi-
 tect, 1, Newhall-street, Birmingham* £235
 F. Price, Burbury-street, Birmingham* £355

BITTERNE. For Bitterne Manor sewerage,
 Messrs. Weston & Burnett, architects, surveyors, and
 valuers, 24, Portland-street, Southamton:—

	<u>Contract I.</u>	<u>Contract II.</u>
	<u>Disposal Works.</u>	<u>Sewers.</u>
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& Co	3.9

Osman & Co.....	3,593	2,380
J. Douglas, Parkwood Park, Southampton* ..	3,690	2,224
	3,565	1,953

COVENTRY.—For erection of a dairy in Swan-lane,
Mr. W. F. Edwards, architect, 1, Newhall-street,
Birmingham.

J. Dallow & Sons, Blackheath, Birmingham* £4,640

HALESOWEN.—For erection of a house at Cakes-
low, W. F. Edwards, architect, Newhall-street,

J. W. F. Edwards, architect, 1, Newhall-street,
 am :—

KILBURN.—For dwellings, Malvern-road, Kilburn, for the London and North-Western Railway. Messrs. Joseph & Smith, architects and surveyors, 83, Queen-street, Cheapside :—
F. G. Minter £3,424 | W. Lawrence & Sons £7,979

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Corner.....	8,156	G. E. Wallis & Sons.	

Holloway Bros.	8,150	Goldman & Sons, Ltd.....	7,743
W. Downes... ..	8,057		

LONDON.—For alterations and decoration at 34, Guildford-street, W.C., for the General Federation of Trade Unions. Messrs. Joseph & Smithem, architects, 83, Queen-street, Cheapside. —

Bovis & Co., Ltd. £1,387 0	Waddington & Son	£1,275 15
T. H. Kinglake		

.....	1,315	0	Seneca
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LONDON.—For alterations and additions at 45, Edgeware-square, Kensington, W., for Mr. Ernest George Brown, Messrs. Joseph & Smithem, architects, 83, Queen-street, Cheapside:—
 Bovis & Co., Ltd. £2,397 | W. Downs £2,226
 C. R. Price 2,247

LONDON.—For painting, cleaning, etc., at the Caledonian-road, Edgeware-road, Hampstead, Islington, Kentish Town, City-road, Furnival's Inn, and Pond-square (Highgate) fire-stations, for the London County Council:—

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[The Architect's estimate comparable with the tenders is £450 16s. 10d.]

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Thompson & Bever-		W. Chappell	298 0
idge	376 0	Lole & Co.....	298 0
Stevens & Sons	358 0		

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LONDON.—For enlarging the County Secondary School, Peckham, for the London County Council:—
 Triggs & Co. £5,380 1 1 | W. P. Blay, Ltd. £4,994 0
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 Son 5,301 19 5 | W. J. Dickens 4,536 0
 G. Parker & Son 5,234 0 0 | Son 4,725 0
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 G. Davis 559 0 0 | Ltd. £539 0 0
 Cannon & Hefford 557 0 0 | Palowkar & Sons 534 0 0
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 Maxwell Bros., Ltd. 257 | J. Garrett & Son 183
 [The Architect's estimate comparable with the tenders is £194 2s. 10d.]

LONDON.—For painting, cleaning, etc., at the Lewisham, Plumstead, West Norwood, Peckham-road, Tooley-street, and Kennington fire-stations, for the London County Council:—
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 Higgs & Hill, Ltd. 478 0 | [The Architect's estimate comparable with the tenders is £436 5s. 10d.]

LONDON.—For cleaning, painting, etc., at the Bethnal Green, Bishopsgate, Burdett-road, Kingsland, Millwall, Shadwell, Wapping, Bartholomew-close, Hackney-road, Tower-hill and Triangle (Hackney) fire-stations, for the London County Council:—
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 Barlow Bros. & Co. 183 0 | A. Hawkins & Sons ... 171

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LONDON.—For extension of the water supply at Peckham Rye Park, for the London County Council:—
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JULY 12, 1912.

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SANENESS IN ARCHITECTURE.

IT is a matter for congratulation that passing phases do not pursue architecture so relentlessly as they do the sister arts. Architecture is too intimately concerned with the business of life to be lifted from its foundations by the gospel of yesterday. An art of three dimensions also moves slowly, whether forward or backward. "L'Art Nouveau," as it has been called, has, for instance, afflicted architecture but little. In Germany alone perhaps has it made itself an actuality. Yet from Germany also comes a voice sounding across the century, the voice of Goethe, the greatest of modern prophets, uttering a note which is in great measure the key to his article:—"The discerning man who acknowledges his limitations is not far off perfection."

It is a just recognition of the limitations imposed upon us, in the first place by tradition, and in the second by the exigencies of material, opportunity, and environment, that conduce to the saneness of design. "The new art" was born of a restlessness that fell upon us reasonably or unreasonably—the latter, as

we think. The desire for change enters by nature into every department of life, art included. The legitimate course of change is by evolution, by development. But change nature will have, and if retarded by too fixed conditions, or by a lack of stability in her agents, existing conditions are reduced by violence. Regions which enjoy prolonged climatic conditions, are visited by tornadoes. When social economies are at a standstill revolutions occur. Periods of rest which inevitably follow those of exceptional creative activity are certain to be invaded by changes introducing tendencies that have in themselves little or nothing to justify them—little puffs that fill the sail for the moment and leave it flapping as idly as before. There can be no doubt that the arts collectively are suffering comparative exhaustion consequent upon the Victorian period.

This era, once considered as almost a byword of reproach concerning the arts, we cannot doubt will be ultimately recognised as among the greatest epochs of their development. It was unfortunate for them that science took precedence and saturated the thought and

expression of the time. Construction was mistaken for architecture, imitation for the motives of painting and sculpture. Ruskin, the brilliant spokesman of the arts, was unfortunately chief among the misguided. In the cause of "truth" art shivered in her nakedness. In this wise the romanticism heralded by the poetry of Wordsworth, Coleridge, and Shelley was handicapped from the first, when it took the form of "Gothic revival." The Pre-Raphaelites best weathered the danger. They were saved by the *raison d'être* of their art, the magnificent opportunities of colour. To-day, alas, we have few enthusiasms! Yet we may adopt a saneness of outlook wherewith to protect ourselves from the lust of change, engineered by the "unchartered liberty" of an unrestricted age. We may embrace the "freedom and content to be obtained only by the recognition of one's limits," and first and foremost among these limitations are those imposed by tradition. Revolt against tradition is much in the air at the moment. "You must go back to childhood," says the painter, or at least an influential section of the painter's

professional critics. It is in the semi-articulate lipings of the infant wherein true expression is to be found. Need we say that there is no going back? Poor, struggling humanity would not be where it is now if that gate had ever been open to it.

"Accept the place the Divine Providence has found for you, the society of your contemporaries, the connexion of events. Great men have always done so, and confided themselves, childlike, to the genius of their age." In this sense we may be children still. Nor is architecture without a tendency toward similar leanings. We refer to a noticeable return to the studied simplicity of the Neo-Greek school. When Stuart and Revett published their "Antiquities" a wealth of unsuspected beauty was revealed. It was a second classic Renaissance. Enthusiasm was natural and unbounded. Moreover, it came to a time when the "Grand Tour" was the necessary finish to all polite acquisitions. Its appeal was irresistible. These conditions do not prevail now. It must be conceded that such a style is safe, but, at the same time, it provides a possibility of starving and restricting architectural resource.

Restraint is a salutary quality in design of the first order. The Pantheon at Rome is an eminent example. With no accessories to assist it, it achieves the summit of architectural expression. There is exuberance in the daring of its conception. And there is exuberance in all art which is great. It belongs to the masterpieces of Greece, though due, it should be remembered, not to the architectural display alone, but to the combined effort of architect and sculptor. The ruins of the Parthenon arouse admiration, but it is left to our constructive imagination to realise its superlative grandeur when possessed of its sculpture and colour. What would the Mausoleum have been without its crowning Quadriga and the sculpture that peopled its base? Must not a Greek Renaissance, unless sculpture is prepared to play its part, be always at a disadvantage?

Tradition is something more than the acceptance of a phase which had its special significance in its own time. To isolate it is to turn a part of the natural current of tradition into a backwater. No sane person would endeavour to check individuality in design. But there is so much else in our history, and a national architecture can only be evolved by a full and generous appreciation. The freedom sought for in mediæval building may still seek expression though coupled with a style the modern world has found more useful and adaptable, more sympathetic. The genius of Wren and his successors is embodied in the cleavage between the old order of things and the new. With the Stuart revolutions the political and social conditions which now prevail were established. Wren created an essentially national architecture, and, whatever developments time may demand, it must retain its position as the corner stone of progress. In his detail alone he will be ever an example. Detail, right in itself, was put in the right place. Yet we cannot but fear that something of his influence has been jeopardised by the carelessness in

such particulars shown in some of the recent building by those who would presumably be his followers. To play with the accepted treatment of textbooks is permissible, and in resourceful hands this may be, and has been, successfully achieved. There is, moreover, often no authority for what has been tacitly accepted as orthodox. We believe it is now acknowledged that the Mausoleum entablature possessed no frieze, although all restorations indicate the contrary. But we have been even led to wonder in some prominent instances of ill-considered caprice whether architecture is really a serious pursuit or some new form of open-air recreation.

This is the converse of saneness, which shows a nice sense for proportions and values, while its converse stands as a definition of vulgarity—whether it outrages our sense of decency by exaggeration or bores by its banality.

Architecture enjoys opportunities today that have been denied it in the past. It no longer has to face an era of *laissez-faire* when commerce was grudging, and a narrow commercialism cast an eye of suspicion upon "improvements."

The demands made by material have for some time past received more adequate recognition than formerly was the case. Indeed, there are some who think that material should dominate over all other architectural claims. A new and individual treatment for steel and concrete construction is pressed. Yet this construction forms only the skeleton of a building. It creates no new static essentials. The Parthenon owes its distinctive character to the obvious treatment of column and beam; Santa Sophia to dome and rounded arch; Beauvais to the thrust of groined vault and pointed arch. We may reasonably hesitate to bestow on a reformed girder the dignity and sanctity of a style, and there is surely something of the narrow purview of the Gothic revival about the claim. Theories are a menace to art. There are certain materials that appeal for care. The rigidity of steel is extremely useful, and it is not impossible to accept its services without misgiving.

The limitations imposed by opportunity—limitations which we must come to terms with for better or worse—are paramount in an era of town planning. They have been cruelly neglected. New streets have been cut and warehouses and offices erected on them—we are thinking of the City precincts especially—which are outside the pale even of discussion.

Yet town planning is not entirely a new thing. The Adam Brothers added a vast number of streets to the West End that are not without character. That their architecture is often unpretentious may be esteemed a virtue; but there is often more in it than the hasty survey reveals. The proportions of window openings have been carefully considered. The façades are broken by strings put just where they ought to be, while many of the doorways are masterpieces. Dealing with areas instead of small or isolated plots, they were enabled to group into blocks and form terraces.

The Woods, of Bath, contrived to build the finest modern city in the kingdom. Queen-square, Bath, in which each side is treated as an architectural

whole, is a lasting monument to memory. The squares of Blooms are, or were, the pride of London. Regent-street belongs to the category, though let us hope that the new scheme for its rebuilding may take some pride in it still. It is a matter of regret that garden suburbs failed to realise the advantages of town planning. Had each house a sufficient area of garden to make its independent, rather than assumed, the experiment would be justified. But the jostle each other as to dispute each other's attainments. In some reason, uniformity might be found peace.

Some people are sensitive to what we may call the "genius of place." Ruskin was alluding to the same thing when he wrote "The Poetry of Architecture." Here the saneness of architecture is often sorely tested. It is not familiar with the half-timbered curiosities considered suitable to cathedral city, although its period of greatest renown may be far removed from the mediæval. Or, again, a country house which is not a country house, or something which should be simple to avoid striking the garish where its surroundings are dignified.

Vulgarity is painfully insistent in such situations as these. Indeed, far too many opportunities are offered the public for hostile criticism of architecture. Yet, despite such occasions we believe and believe, as we are with saneness upon our side, that architecture holds its own with credit among the arts. It has not been found wanting in emergencies. The demand made by the London School Board for suitable buildings thirty years or so since, adequately met, and these school buildings are no unfit architectural monuments to the cause of education. Provincial municipal building, recent so much on the increase, has evolved a style in not a few instances worthy of its purpose. Where works of importance secured by competition have been criticised it must be remembered that the professional assessor is quite late arrival upon the scenes. The public has been itself the judge, and it selected the least praiseworthy designs. Or, again, the exigencies of law have intervened, and a design has been mutilated to avoid an injunction, if not penalty, while the stringency of the Local Government Act strews difficulties in the path. The public has not been the aid of an intelligent interest as has in France. It has praised where it should blame, and blamed where it should praise, and the professional art critic more at home in a gallery than in the street. There are, however, recent evidences of public movement. Town planning has become quite a topic of conversation. And this is all to good. Mutual understandings remove individual misconceptions.

WANDSWORTH COMMON.

The Parks Committee of the London Council suggest that the Council should contribute 6,000l. towards the acquisition, use as a public open space, of about 100 acres of land adjoining the Royal Victoria Patriotic School, Wandsworth Common. Between the years 1891 and 1911 the population of Wandsworth increased from 155,320 to 311,402.



No. 95. Design by Messrs. Shephard & Bower.

OUR REGENT'S QUADRANT COMPETITION.

THE award of the first prize to the excellent design by Messrs. Richardson & Gill, which we publish in this issue, will, we expect, most probably be taken as an expression of opinion on the part of the assessors that the elevation of the Piccadilly Hotel is so entirely unsuitable as shop-fronts, and so lacking in the special character appropriate to Regent-street, that any attempt to secure a general harmony of effect by carrying on the same style or the actual features and details would not lead to a satisfactory result. If we accept the unsuitability of the hotel as an axiom needing no demonstration, we can understand that the more the new façade attempts to repeat the old one the less suitable it becomes for its position and for the purposes for which it would be erected. From this point of view, then, complete harmony of style with the Piccadilly Hotel is not the important thing—not of the essence of the problem.

Those who take the opposite point of view and who hold that the present building is capable of such modification as would render it suitable to the retail trader and to general business requirements might perhaps be inclined to think that the winning design has so completely ignored the hotel as to run a risk of being thought to ignore this aspect of the problem also. This, however, is a matter of opinion on which the Assessors would be expected to exercise their own judgment.

The strong individualistic tendencies of English designers have always been opposed to restrictions of any description, but the disastrous effects of the absence of restrictions in our towns have led to a general recognition of their necessity. But even in the Continental cities where individuality is not so

highly esteemed it is not always found advisable to do more than insist on a general height for main cornices, trusting to the unity of style and sentiment which usually prevails, to produce the general harmony of effect required. It can easily be understood, then, that anyone holding the view that the hotel design is impossible might well consider that the winning design, by conforming to this restriction, has done all that can reasonably be expected as a concession to the existing building.

The trouble is that in this country there is no general unity of style or sentiment of sufficient strength to be consistently relied upon. To harmonise a white stone classic building with, say, a red brick Gothic one something more than an equality of height seems necessary, and although in this particular case the character of the winning design may be such that nothing more is required, it would hardly be safe to lay it down as a general rule that so long as the main cornice lines carry on we may confidently rely on producing general harmony of effect. In a quadrant such as this more particularly special value might well be attached not only to an unbroken sweep of horizontal lines, but also to continuity in the spacing of the vertical ones and in the general character of the design. It is difficult to see where it can be varied to advantage. Other things being equal, a quadrant might well be designed throughout by the same hand; but when it has been begun in a style which the Assessors appear to think unsuitable the problem of its completion raises so many delicate questions and involves so many apparently conflicting points of view that the choice of any one design as being a complete solution of the problem becomes a matter of much difficulty or even embarrassment.

One of these difficult points is the question of the roof, which does not appear to be settled in an altogether

satisfactory manner by the winning design. Granted, as a general rule, that a strong crowning line having been established to carry the eye round the sweep of the quadrant, the features above it are relatively unimportant, and, as a matter of fact, not very noticeable in execution; still, in this case it really is rather difficult to imagine a satisfactory skyline to the quadrant if the hotel roof is to be left in its present condition. It is a question whether, however excellently the sweep of the façade may be treated, this roof is not too high and too noticeable to be ignored, and whether some treatment is not essential that in some way connects the roof with the angle building and mitigates the present unhappy effect of the unfinished gap at Air-street. This, however, is a question in which the competitors appear to have been equally divided, about one-half of their number carrying the present roof on, with or without slight modification, as may be seen in the three other premiated designs by Mr. Albert Moore, Messrs. Tait & Whitelaw, and Mr. Drysdale. The first of these is reproduced as one of our plates in this issue, and the other two will be published in due course. As they are referred to in the Assessors' report, which appeared in our issue of the 5th inst., no special mention of them is necessary, but we should like to take this opportunity of congratulating Mr. Drysdale on his charming suggestion for the treatment of a shop-front which has met with well-merited recognition.

A full half of the designs submitted show adaptations more or less successful of the Piccadilly Hotel, many of them seemingly influenced by the point of view that as the building is actually in existence and must remain it settles the general treatment and scale of the quadrant. In these circumstances, therefore, the best thing is to carry on this treatment with the necessary modifications, as by this method the whole



No. 130. Regent's Quadrant Competition. Design by Mr. E. Fraser Tomlins.

quadrant can be dealt with as one complete design. It might well be thought that a completely harmonious conception of the whole sweep of the quadrant, providing for the practical requirements of the shops, even though the general result was somewhat out of character and scale with the nature of the street, would be more satisfactory in the end than the erection of buildings more in character with the street but less in scale and character with the hotel, even though they were pulled together by one or more general horizontal lines.

From this point of view a satisfactory harmony with the hotel would appear to be of the essence of the problem. Other things being equal, the greater this harmony the better the design. If this point of view is correct, the problem is simplified considerably, as the issue is narrowed down. But it rather seems to assume that the present building is so exactly suitable to its position and purpose as to be worth repetition, or that it is advisable to repeat a mistake for the sake of continuity of treatment.

These are propositions which the Assessors do not seem to have been able to accept, but had they done, so their task would have been lighter, as, given the limitations of this point of view, the problem of balancing the concessions to the trader with the preservation of the general character of the hotel would, we think, be a comparatively easy one.

The various ways in which this has been attempted are worthy of study. Some competitors carry on the entire design, but hope to conciliate the shopkeeper by lessening the size of the arch piers to such an extent as to suggest an appearance of dangerous insecurity. Others, who wish to retain the arches for the sake of continuity of treatment on the ground floor, repeat only single

instead of double columns, thereby making a thinner pier more structural in effect on the ground floor, but lessening the continuity of treatment on the upper ones.

Evidently there has been a strong feeling among many of the competitors that it was advisable to carry on the general vertical treatment of the upper floors of the hotel, and a comparison of the various designs suggests that where it is desired to preserve an unbroken rhythm of strongly marked vertical divisions, equality of spacing in the intercolumniation is well-nigh essential. But the repeat of these columns seems to lead to difficulties in adopting the design to practical business necessities. It calls for the continuation of the whole depth of the entablature, a most wasteful feature, and also for wider piers between the shops than would be otherwise necessary. Some designers try to get over the difficulty by repeating the coupled columns and by making the piers below of sufficient width to take small windows or doors, some put single columns and piers as fine as is consistent with an appearance of strength, while others boldly place their single or coupled columns over a plate-glass window.

It seems only reasonable to suggest that where it is essential that the lower story of a building should be of glass the application of an order to the stories above is a gratuitous creation of difficulties. The large opening seems to call for a horizontal treatment above it, not for strong vertical lines which attract and offend the eye by their absence of apparent support. An order on the first floor should express something definite, such as the council chamber of a town hall or the *piano nobile* of an Italian palace, and we can at the moment think of no type of building which naturally demands a large order on the upper floors with a ground floor of glass below.

The application of this principle to the present problem is no doubt one of the inherent difficulties, particularly to those who think it essential to preserve unbroken continuity of vertical treatment round the whole sweep of the quadrant.

Others, however, have appreciated the practical and æsthetic advantages to be obtained by the omission of the columns and appear to have aimed at a compromise which does not require the de-entablature above or the arches or heavy piers below, but which, at the same time, preserves the general character of the hotel, though it loses any advantage there may be in an exact repeat of the spacing of its vertical divisions. This treatment is well illustrated by No. 9 by Messrs. Shephard & Bower, a design we now reproduce, together with others by Mr. E. F. Tomlins (No. 13) and Mr. W. Harvey (No. 44). A number of these, as well as No. 124, by Messrs. R. Cromie & T. H. Gibb, which we hope to illustrate in a later number, are designs which appear to us to have some special interest and merit, though they are not necessarily those which in our opinion present the best solution of the problem.

It will be remembered that the answer to questions left it open to the competitors to treat the upper floors as showrooms or as offices at their own discretion. The introduction of a large store on the lines of Selfridge's or the Magasin d'Étampes in Paris, which needs a glass treatment up to the main cornice, appears to complicate needlessly the problem, and to make it still more difficult to obtain any harmony of treatment with the general character of the neighbourhood, which consideration appears to have had some weight with the Assessors. But at the same time it is evident that such a treatment, as illustrated by Messrs. Tait & Whitelaw

gn, or, again, by No. 36, by Mr. Cyril
ey, affords more opportunity for
ying on a columnar treatment on the
er floors in a logical manner, and
ugh a street of large stores would not
the Regent's Quadrant we know, or
e the character of a shopping street
h offices or rooms above, there seems
be nothing in the conditions which
vents its transformation into a street
large stores more typical of certain
mercial tendencies of the day. To
end the general setting out of the
el façade appears more suitable than
the treatment which has been awarded
prize.

It is impossible, however, for us in the
ce at our disposal to deal with all the
eral considerations which this interest-
competition suggests. Neither is it
sible, where so many drawings are
cerned, to refer to them all in detail.
ere are many of great merit, whether
designs or as drawings. Apart from
designs which we hope to reproduce,
se of which we made a note as illus-
trating some point that interested us
are as follows:—No. 58, by Mr. L. E.
liams; Nos. 49 and 50, by Mr. W. H.
llow; No. 34, by Mr. L. H. Rose;
71, by Mr. T. Baddock; No. 88, by
W. E. Vernon Compton; No. 68, by
L. S. Sullivan; Nos. 105 and 107, by
fessor Beresford Pite; No. 108, by
rsrs. Horace Field & Simmons; No.
by Messrs. F. E. Williams & Alfred
; No. 117, by Messrs. Greenaway &
vberry; and No. 3, by Mr. Philip
den.

This list, however, by no means
hausts the number of those designs
ch appeared to us to show con-
erable merit, and we can only repeat
thanks to one and all for contributing
the success of the competition.

If we cannot flatter ourselves that the
result of this competition has been to
produce any one design which will be
generally recognised as a complete
solution of the problem from every point
of view, at least we may be permitted to
hope that it has exposed certain aspects
of the question to which attention had
not previously been directed, and that it
may have suggested the lines on which
the whole problem may ultimately be
solved.

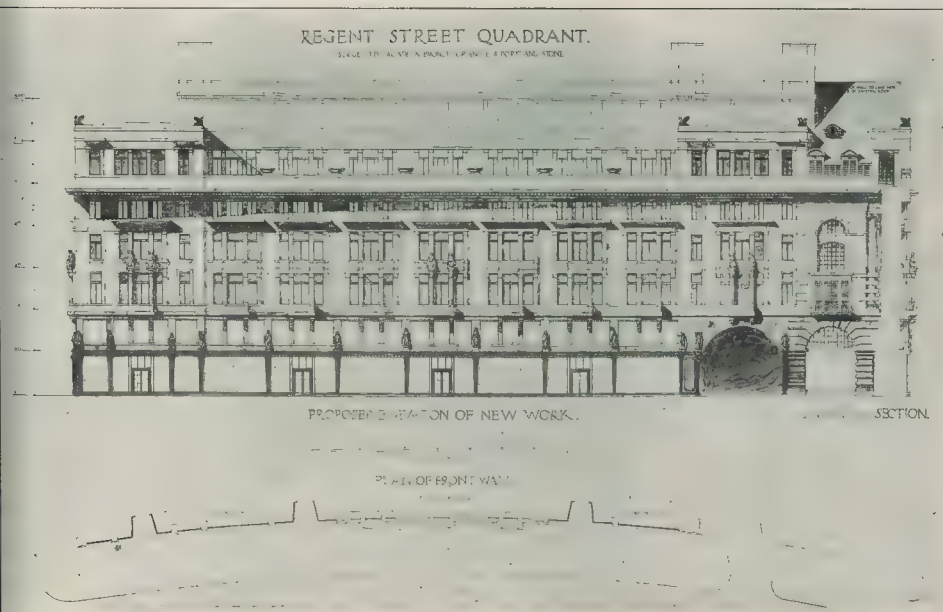
NOTES.

The Personal Qualifications of the Architect

In the leading article of
a previous issue we called
attention to the benefits
which might be expected
if all those who entered the profession
possessed the natural aptitude, taste, and
type of mind necessary to genuine
success. We suggested that some
method, in which the public schools and
Universities might possibly co-operate,
should be adopted for encouraging the
right type of student to enter the profes-
sion and for discouraging the wrong type.
We are interested, therefore, to notice
that the Slade Professor of Fine Arts at
Cambridge, Mr. E. S. Prior, has referred
in a recent address to the personal
qualifications characteristic of the archi-
tect and of the craftsman. It is to be
hoped that the subject will be con-
tinually kept in mind at Cambridge, and
that opportunities will arise for an
interchange of ideas between the various
Universities and those responsible for
our present system of architectural
education with a view to the advisability
of taking combined action in the
matter.

The Exploitation of Monuments of Historic Interest.

THE exploitation of our
national monuments
promises to become a
serious business, unless
the State steps in, as in
Italy, to preserve its
national treasures. From a correspond-
ence in the *Times* a little while ago it
appeared that Stonehenge might, at the
caprice of a private owner, be transported
to America. That is not likely; but the
mere fact that it might in certain circum-
stances be possible, suggests a danger
against which the country should be
forearmed. In a general way the private
owners of objects of historic interest are
not indifferent to their possessions and
guard them loyally, notwithstanding
considerable temptations to part with
them. And the rights of a private owner
should only in the very last resort be
interfered with. The old Globe Room
has been removed from Banbury, and a
certain section of the Press is creating
considerable agitation on the point.
Probably no class of the community can
better appreciate the value of the old
Globe Room than architects, and we
certainly should like to see this specimen
of domestic work retained in this country.
But there are national treasures and
national treasures; and the old Globe
Room is by no means an only or unique
specimen of its kind. The older type
of vandal who was indifferent to such
historic documents has been succeeded by
a new type of vandal who regards them
largely as objects for profit and com-
mercial exploitation. If this sort of
transaction is encouraged, the inflated
prices which are asked for old masters
in painting will extend to everything
removable which a country may most
desire to preserve. The old Globe Room
has, however, now been transplanted, and



No. 44. Design by Mr. William Harvey.

the historic interest largely departs with transplantation. The old Globe Room adorning the sumptuous habitation of an American millionaire can never be quite the same thing, or possess quite the same interest, as the old Globe Room *in situ*, in use as an inn parlour at Banbury. In any case, we need not be alarmed at the cry of "Going—going—gone!" in this particular instance, although it is sufficiently serious to indicate a warning in regard to the preservation of works of art and craft which have some claim to be considered of national interest and historic value.

Proposed Destruction of Whitgift Hospital.

OUR readers will remember that some twelve months ago an application was made by the Croydon Borough Council to the Local Government Board for powers to compulsorily acquire the Elizabethan almshouses known as the Whitgift Hospital, and that Mr. John Burns gave the matter his personal attention. This proposal was brought about by the fact that the main street, which is very narrow, is gradually being widened, and Mr. Burns refused to give his decision until the Council had submitted the whole scheme for widening. On Monday, the 8th inst., four schemes were presented by the Streets Improvements Committee to the Borough Council, the one which they recommended continuing the line of widening: this, if carried out, means the demolition of about half the hospital to widen the George-street corner. We hope that the opposition of public opinion to this piece of vandalism will be strong enough to prevent the demolition of any portion of this ancient edifice. So many of our historic buildings have been ruthlessly swept away or improved out of recognition that we can ill afford to lose such a well-known landmark.

Burial of Sir Lawrence Alma-Tadema.

THE remains of Sir Lawrence Alma-Tadema were buried, with all the distinction and circumstance to which his qualities both as an artist and as a man entitled him, at St. Paul's Cathedral on Friday, July 5. The ceremony was imposing and beautiful, and was largely attended by royal and civic representatives, by men of distinction in all paths of art, as well as by a large number of the general public. Architecture was represented by Sir Aston Webb, Sir Ernest George, Mr. Reginald Blomfield, Mr. John Belcher, and many other members of the Institute of Architects, of which the deceased painter was a Gold Medallist and an Honorary Fellow. It is, we believe, an unsettled point whether Sir Lawrence was ever naturalised as an Englishman, although he became one by acclimatisation and sympathy. His temperament and certain essential characteristics of his work remained, however, those of the country of his birth and descent, rather than that of his adoption. In this connexion it is a little curious to note that the first great painter to find a resting-place in St. Paul's, at the age of forty-two, was Van Dyck, also a Dutchman. This was in 1641 and, therefore, in the old Cathedral.

EXHIBITION OF DRAWINGS AND SKETCHES AT THE BRITISH MUSEUM.

SIR SIDNEY COLVIN's term as Keeper of the Prints and Drawings, a position which he has held since 1883, has come to an end. The exhibition of original drawings and sketches, therefore, which has been recently opened in the gallery adjoining the Print Room at the British Museum will be the last organised and arranged under his official control. The collection only comprises works which have been acquired during the last eight years, but it provides ample testimony of the taste, discretion, and broad-minded judgment which have obtained in the department over which Sir Sidney Colvin has presided for so considerable a period. Many of the finest exhibits have been presented, others have been purchased—319 have, in fact, been purchased out of a total number of 565. The purchases are probably directly due to the initiative of the Keeper or his assistants; the almost priceless gifts may have been often indirectly due to the same source of inspiration. At any rate, they are a tribute to the faith of great collectors in the competence and care of this department of our national collections. It is not our object to indulge in a panegyric of the late Keeper, but as this exhibition has been opened at the moment of his retirement we should be an ungrateful public indeed if we did not render passing homage to the value of labours which have operated so beneficially on behalf of our national artistic effort.

The exhibition covers a large area of artistic effort; it includes both great and comparatively small masters—the old masters of various continental schools, of the British school, and some examples of British artists who are still living. None can complain of a lack of catholicity in the acquisition or choice of these specimens. From the point of view of architecture there is much in the general type of the drawings to interest the student of draughtsmanship, while there is a certain number which possesses a more direct architectural value. From an album of eighty-four original drawings, for instance, by Piranesi eleven examples are shown, which illustrate his adventures in fanciful creation in architecture, either in the Roman or Renaissance manner, in many of which there is a good deal of delightfully free and interesting penwork. Equally fanciful, but the conception of a more formalistic and conservative decorative gift in the rococo manner which he affected are four designs for stage scenery by Bibiena (Giuseppe Galli). There are also an interesting classic ruin with figures by Pannini, a Venetian view by Guardi, and, to come to the Dutch school, an effective drawing of a palace on a wharf by Moucheron. Canale is represented by six drawings which admirably illustrate his genius for topographical precision combined with pictorial composition and atmosphere.

There are many more or less fugitive examples of architectural or purely decorative draughtsmanship to be found among the artists of the British school; and certainly the *bonne-bouche* of this phase of the collection is to be found in the fourteen drawings by Alfred Stevens, which are not only valuable on their own account, but also on account of the light which some of the earlier drawings throw upon his native artistic instinct and evolution as an artist. They also display his gifts as a decorative designer in vases and other smaller forms of ornamental and plastic art. Among other drawings of the same school which may be noted, but which are not of great importance, are a sketch for the decoration of Burlington House staircase by Stothard, the drawing of a Tudor chimneypiece by C. R. Leslie, two water-colours (the Doge's Palace, Venice, and a view of Segesta) by Charles Vacher, and a Corfe castle by Joseph Nash. A

view in Paris by Richard Parkes Bonington is a brilliant example of an English artist realising in his own country. Mr. Muir Bone and Mr. E. H. New possess the distinction of a place among the few examples of work by living artists.

For the rest, the collection as a whole has been seen to be appreciated; it contains examples of the world's greatest master-painting. When Dr. Burnet's addition to the British Museum is available for use, a portion of the new building will, we understand, be allocated for the permanent exhibition of original drawings and sketches. We have often insisted in our pages on the value of an artist's drawings, sketches, on their importance often veritable works of art which in inspiration and genuine artistic vitality may surpass works of more elaborate workmanship by same painters. In any event they go to show the processes of achievement in the making as in the case of the wonderful Titoretto sketches in tempera at the present exhibition. Titoretto was counted as the great *improvisatore* among painters, but in pictures, we find, involved many conscientious experiments before he arrived at the effect of fluency and ease hitherto ascribed to improvisation.

WINCHESTER CATHEDRAL.

ON Monday next, the 15th inst., the King and Queen will attend a Thanksgiving Service at Winchester Cathedral, and afterwards visit Winchester College. We propose to deal in our next issue with the past and present condition of this most interesting cathedral. Meanwhile we are able to print the official Report of the architect, Mr. T. G. Jackson, R.A., to the Dean which is as follows:—

14, Buckingham-street,
Strand, W.C.
May 1, 1912

DEAR MR. DEAN.—As we are now after seven years' work arrived at the last stage of the repairs that have been contemplated may be useful for the information of your subscribers, and the public generally, if I give a brief account of what has been done.

It is hardly necessary to repeat that the cause of all the mischief is the nature of the foundation. The whole Cathedral stands on a bed of compressible, loamy soil overlying peat, which in some places is 7 ft. thick. This rests generally at a depth of from 20 to 24 ft. on a compact, hard gravel, heavily charged with water; but in some cases there is a thin bed of soft, chalky silt between the two. It would hardly be possible to find worse foundation on which to place a heavy building.

The case is complicated by the fact that the whole of the subsoil at the depth of 10 ft., and in some seasons less, is charged with water, and it was on reaching this that the old foundations stopped, the Norman and medieval builders having no means of coping with the difficulty.

The first part that excited serious alarm was the south wall of Bishop de Lucy's Retro-choir. This wall had sunk from 7 ft. in the middle to nearly 2 ft. at the east end, and had split off from the Norman work on the west of it, leaving a crack 5 in. wide.

On examination it was found that the wall rested on a double layer of beech-tree laid crossways, which had been forced down into the soft ground to the extent first mentioned. The north side was not much better, and in both cases the vaults had overpowered the walls and thrust them out of the perpendicular, tearing the buttress piers, of which the thrust was concentrated, away from the curtain walls between them. The movement of the walls had dislocated the stone vaults, which were bulged and cracked in all directions, the ribs having sunk so badly as to have lost their curve of stability, and being only prevented from falling by being bolted to timbering above. The situation was critical, for on February 26, 1906, a stone did actually fall from the groining

the north presbytery aisle, near Bishop Wykeham's Chantry, and more was ready follow.

The vaulting of the crypts was disturbed throughout, partly by the movement of all the walls, and partly by the settlement of the piers from which the vaulting sprang. The condition of the choir and choir aisles is not quite so dangerous as that of the presbytery, but the walls were seriously cracked and the vaulting of the aisles so much disturbed that parts were actually unsafe.

The great transepts of the original Norman building were in a condition to cause the most anxiety. Cracks had appeared in the walls of the north transept so large that daylight could be seen through them, and in the north end and the side walls were located in all directions. But the south transept was far worse, the end wall being broken away by great fissures from the side walls and having an inclination of over 10 ft. in a height of 120, which nearly brought the centre of gravity outside the so. The side walls also were badly ruptured, and that on the east inclined seriously towards.

It was expected that farther westward the undation would not be so bad, but we were disappointed to find it no better in the nave than at the east end. In fact, one of the west piers is on a line across the church at Wykeham's Chantry. The south wall, consisting of Norman work cased with Perpendicular masonry, leans seriously outward, having drawn the roof away from the clear-story of the nave and caused the flying buttresses, which are concealed under the roof, to be seriously combined with the transverse ruling ribs of the aisle, to drop and come disjoined.

On the north side the same settlements occurred. To this side Bishop William Wykeham had applied buttresses with uncles; but, as their foundation was not so deep as that of the Norman work, they have done more harm than good by leaning on the wall instead of supporting

The central tower, which is not of Bishop Wykeham's building, but was rebuilt after the fall of his tower in 1107, is cracked in several places.

The best part of the structure, as regards ability, is Bishop Edington's west front, and the short length of the nave which he built. His front stands on the east side of the massive western towers and porch of the original building, which projected 40 ft. farther westward.

This general disturbance of the walls affected the flying buttresses of the choir, which had sunk and were in imminent danger of falling, their abutment having given way and drawn them away from the masonry wall. The choir vault, being of good, has little thrust, if any, but it is remarkable that the flying buttresses in other parts of the church which are opposed to one vaults have given way, owing to the walls of abutment having gone outwards, and not owing to the pressure of the nave vaults, which they have left standing securely without them. Those in the choir, of course, merely ornamental, and those of the nave appear to be unnecessary.

I need hardly say that the problem before me when you consulted me in 1905 was very difficult of solution.

It was obviously necessary to replace the old foundation by something solid, but the old hard bottom to be found was the gravelled at a depth of 20 ft. and more, 10 ft. below water level. The underpinning on the gravel of one corner of the church which I first undertook was not altogether satisfactory, and proved very expensive. With your consent I thereupon consulted my friend Mr. Francis Fox, the Civil Engineer, who had, I knew, great experience of subaqueous building, and by his advice a diver was employed to lay the lower courses of the underpinning under water, on which the masons and bricklayers carried the rest up to the old foundations.

In this way the Retro-choir and Lady Chapel were underpinned successfully.

The question then was how far to continue the underpinning of the rest of the Cathedral. The whole of it stood on the same soft beds, and the ideal remedy, of course, would have

been to underpin it all on the gravel stratum, 20 ft. or 24 ft. down. This was so gigantic an undertaking, involving among other things taking down and reconstructing the chancery, that I naturally sought an alternative. It seemed to me that the great piers of the interior must, in the course of more than 800 years, have compressed the peat to the utmost, provided lateral expansion were prevented, and that consequently if the outer walls were underpinned down to the gravel, and the interior soil confined, this result might be obtained. It was obvious that the outer walls, at all events, must be underpinned at once to prevent their falling, whether the interior were dealt with or not. And it was decided to leave further work to the interior to be undertaken hereafter should it prove necessary, which there was good reason to hope would not be the case.

On this principle the repairs have been conducted, and the underpinning has been confined to the outer walls. Experience alone can show whether what we have done is sufficient, but from accurate observations that have been made, and regularly continued up to the present time, there is good reason to believe that the main fabric is now stable, and that the principle on which we have worked is just.

The most hazardous part of the operations has naturally been the south transept. To underpin so vast a wall, 120 ft. high and nearly 4 ft. 6 in. out of the upright, required some courage. It has, however, been done; the lower part has been strengthened by bringing it forward with large buttresses, and the whole is strongly chained back to the side walls with iron ties. The shoring was slackened last August, and, as no movement has been detected, it is now being removed.

Of other work, the groining of De Lucy's Presbytery has been partly reconstructed and partly repaired; the flying buttresses of the choir have been reset, and those of the nave aisles repaired; the groining of the crypts has been grouted and made good, and some of the columns have been taken out and re-fixed on new foundations. The cracks of the main walls, of which there were more than 100 in all parts of the building, have been bonded with hard stone and grouted full of liquid cement with the Greathead grouting machine, which has been of the most valuable service. The tower has been strapped together with iron. The west end has been repaired and the pinnacles restored, but the foundations of this part have not been touched.

The south nave wall, which was actually in movement towards a fall, has been secured by buttresses, which are arched over an inner walk along the south side of the church; and these are the only evidences above ground of all that has been done to secure the building.

The work now approaching an end has been one of unusual difficulty, and has made constant demands upon one's invention and resources. We might, as I have shown, have done more; I am sure we could not have done less. I was strongly urged by more than one adviser to take down and rebuild the south side of De Lucy's work and the great south gable of the transept. It seemed to me that it was better to preserve them if it were possible, and they are therefore still standing, and I trust will stand for many generations.

At various stages of the work I have been able to avail myself of Mr. Fox's advice on points that belonged more especially to engineering than architecture, and I am under great obligations to him for his assistance. He has already sent you an independent report on the result of our operations.

I must not conclude this account without mentioning the debt we owe to the diver, Mr. Walker, to whose careful work—which admitted of no regular supervision—our success is so largely due.

In Messrs. Thompson, of Peterborough, we have had contractors whose experience in dealing with work of this kind has been invaluable, and we are also indebted to Mr. Long, the clerk of works, and to Mr. Ferrar, the builder's foreman, for constant and careful supervision of the operations.

I am, dear Mr. Dean,

Yours very truly,

(Signed) THOS. G. JACKSON, R.A.

BRITISH ARCHÆOLOGICAL ASSOCIATION: CONGRESS AT GLOUCESTER.

(Concluded from page 5.)

Historic Gloucester.

Mr. F. A. HYETT, who is the author of a book on "Gloucester in National History," then contributed a paper on the history of the city, recalling its many associations with our national annals from Roman times onwards. Much information was compressed in a short compass, and a specially interesting section of the paper was the account of the famous siege and the eventual career of Edward Massey, who was governor of the city during that period of storm and stress.

The Town Clerk, Mr. G. Sheffield Blakeway, explained the chief points of interest connected with the Corporation insignia, Charters, and other records.

Tuesday, June 25.

In the morning some of the interesting churches of the city were visited. First the antiquaries inspected the little church of St. Mary Magdalene, Wotton, which was described by the Rev. Canon Bartleet. Only the chancel remains. By an act of vandalism the Charity Trustees of Gloucester in 1861 pulled down the nave of the church, but the beautiful west doorway was preserved and built up inside the chancel arch. The church was connected with the Hospital of St. Mary Magdalene, which was a leper hospital, and in the XIIIth century belonged to the Priory of Llanthony. The church, in spite of the rude treatment it has received, shows some fine Norman work. Two windows were inserted in the time of Edward IV.; there are the remains of a mural painting representing Our Lord, and there is a small stone effigy of a young maid of the date 1290. This was described by Miss Roper, who has made a special study of monumental effigies. The figure shows flowing ringlets bound by a fillet, and is clad in a simple costume, a long gown flowing down gracefully. She wears a narrow necklet, and has at her feet a lion or a dog. It is said that the figure was brought from the Hospital of St. Kineburgh. Some rude carvings on the exterior wall seem to represent the Star of the Epiphany, the Fleur-de-lis of the Blessed Virgin, and other devices supposed to be mementoes of pilgrimage.

Our space will scarcely permit of a detailed account of all the churches and other objects inspected by the members. The church of St. Nicholas, described by Canon Bazley, the municipal church, is full of interest. It is a XIIIth-century church attached to the Hospital of St. Bartholomew, with Early English, Decorated, and Perpendicular additions. Its quadruple squint is remarkable; its spire has been shorn of its upper portion. On the tympanum of the South doorway is the Agnus Dei with cruciform nimbus, supporting the cross and banner on the left forefoot. The so-called "sanctuary" knocker is remarkable, showing a demon carrying off an intemperate woman, who tries to touch with her tongue a bunch of luscious grapes. The Church of St. Mary le Crypt and the ruined priory of St. Oswald, which requires immediate attention, as the arcade shows signs of collapse, were also visited, and some members of the party inspected the remains of the Blackfriars' house amidst the soda-water bottles of Messrs. Talbot, and the Roman wall amongst Messrs. Bolla's printing-presses.

In the afternoon we drove in brakes up the steep incline of the Cotswolds through Birdlip to the interesting church of Elkstone, a very remarkable building of Norman date. The tympanum surrounded by the zigzag and pellet ornament shows Our Lord in Majesty with evangelistic emblems. There is a curious columbarium above the chancel. Amid torrents of rain the party drove to Pricknash Park, formerly the country seat of the Abbots of Gloucester, where they were hospitably entertained by Mr. Dyer-Edwards. In the evening the Bishop of Gloucester and Mrs. Gibson gave a reception at the Palace.

Wednesday, June 26.

The Severn Valley was traversed on this day. Two of the shire's famous castles were visited.

* A full description of this and other Norman doorways in the county is given by Mr. Keyser in "The Memorials of Old Gloucestershire," edited by Rev. P. H. Ditchfield (G. Allen & Co.).

By the kind permission of Lord Fitzhardinge we were allowed to see Berkeley Castle under the guidance of Canon Bazeley, the shell keep, the baronial hall, the room in which Edward II. is supposed to have been murdered, the prison with its oubliette, where a huge fat toad is said to have fed on the unfortunate prisoners, the chapel, historic documents in admirable preservation, and the pictures, all affording much interest. The historic old church of Berkeley, one of the finest in the county, was next visited, and we read again the lines on the tombstone of Dicky Pearse:—

"Here lies the Earl of Suffolk's fool;
Men called him Dicky Pearse,
His folly serv'd to make folks laugh,
His wit and mirth were scarce.
Poor Dick, alas! is dead and gone,
What signifies to see?
Dickys enough are still behind
To laugh at by-and-by."

Buried 18th June, 1728, aged 63 years."

After lunch at the Berkeley Arms Hotel we set out for Thornbury *via* Hill and Rock-hampton. Thornbury Church belongs to the early XIIIth-century period, with a decorated chancel built by Fitzhardinge of Berkeley in 1350. The tower is a very beautiful example of early XVth-century work, and was restored in 1843. The Castle was inspected by the kind invitation of Sir Stafford and Lady Howard, and in their absence their daughter, Miss Alice Howard, welcomed the party, entertained them to tea, and conducted them through the building. In the evening Mr. F. W. Waller, F.R.S., B.A., read a valuable paper at the Guildhall on the "Tower of Gloucester Cathedral," illustrated by lantern slides. It is hoped that this will be published in *extenso*. It revealed the alarming responsibilities of a cathedral architect who has the care of such an important structure. The tower rests upon somewhat slender piers, which have to support an enormous weight, and the strain is aggravated by the great pressure of the wind. The thinness of the walls of the upper part is noticeable, and the ingenious manner in which Mr. Waller constructed his scaffolding for the work of restoration, resting the weight on the lower and more substantial portion of the tower, is an achievement which fills with wonder the lay mind.

Thursday, June 27.

Deerhurst and Tewkesbury were the places visited on this day, and these were reached in a pleasant mode by travelling in the *River Queen* steamboat along the Severn River. Deerhurst was the first stopping-place, where the vicar, the Rev. E. C. Parmenter, met the party, and the church was described by Canon Bazeley. With the exception of the Saxon church at Bradford-on-Avon, Deerhurst is perhaps the most important specimen of Saxon architecture in the kingdom. It has often been described, and will be well known to the readers of the *Builder*. The font is especially noticeable, and was described by Mr. Ditchfield. It had been ejected from the church at some unknown period. The upper portion was discovered by Bishop Wilberforce in 1845 and placed in Longdon Church. Miss Strickland, of Apperley Court, found the lower portion and succeeded in gaining both parts for the church. Professor Westwood considered that the spiral ornament was the most characteristic of all Celtic patterns, and the Bishop of Bristol pronounces it to be unmistakable Irish work combined with elegant classical Arabesque.* The neighbouring farmhouse contains remains of the old priory buildings. The Saxon Chapel of Odia was then visited, which was only discovered in 1885. Many pages would be required for a full description of this important early building.

At Tewkesbury the antiquarians were welcomed by the Mayor and Mayoress, Canon and Mrs. Wardell-Yerburgh, and other chief residents of the town, and lunched at the Swan Hotel. They then adjourned to the Abbey. Tewkesbury Abbey has so often been described that it is not necessary to record here its beauties and attractions, which were ably pointed out by the vicar and the sacristan, Mr. Bannister. The old town is remarkable for its number of beautiful specimens of half-timber houses, several of which were visited under the guidance of Mr. Godfrey. After tea at the vicarage we walked along the "bloody lane," the site of the Battle of Tewkesbury, concerning which Canon Bazeley has written learnedly, after much

* A full description of this font and of other fonts in the county is given by Dr. Fryer in the "Memorials of Old Gloucestershire." (G. Allen & Co.)

careful study of the scene of the engagement, and then from the Lower Lode steamed back to Gloucester.

The evening was profitably spent at the Museum, where Canon Bazeley lectured on some Roman inscribed tiles found during the excavations at Hucclecote, which disclosed the civilian character of Roman rule at Gloucester, and clearly established what was never surely known before. Mr. Payne exhibited some remains found in the Bown Hill Long Barrow and in the Bisley Long Barrow; and the President, Mr. Keyser, gave a short address on the mural paintings in Gloucestershire, on which subject he is one of our chief authorities.

Friday, June 28.

Bishop's Cleeve was the first place visited on Friday, which possesses a beautiful church. There was formerly here a priory founded by King Arthur of Mercia, in 790. The west and south doorways are Norman. The chancel was rebuilt in the XIVth century. The President pointed out the similarity between this and Bredon Church. There are some interesting monuments, including that of a knight, cross-legged, under a canopy with ball-flower ornament. It is supposed to be a memorial of one of the De Bohun family. We were then driven to Hayles Abbey, the history of which has been admirably written by Mr. St. Clair Baddeley. Excavations conducted by the local society have revealed the plan of this much despoiled Cistercian abbey, and the little museum contains some remarkably fine bones and tiles.

Winchcombe, once the proud capital of Mercia, was next visited, and lunch was served in the George Inn, which was an old pilgrims' hostel, and has a gallery yard. The church is a splendid Perpendicular building erected by the last Abbot of Winchcombe, and contains many features of interest. Then a short walk brought us to the gates of Sudley Castle, redolent with the memories of Queen Catherine Parr and her second husband, Lord Seymour of Sudley, and the young Princess Elizabeth, who was sent away from the Castle because of her "unseemly romping" with my Lord of Sudley. Many notable families have been connected with the Castle, and many royal visitors entertained there. The late Mrs. Dent wrote an admirable monograph on its history, and that lady and her husband did much to restore the Castle to its former splendour.

In the evening Mr. W. H. Bruton gave a reception at Bewick House and exhibited his fine collection of mezzotint engravings after Rembrandt.

Saturday, June 29.

The work of the Congress was brought to a conclusion, but before dispersing the members visited the interesting church of Bredon, a full account of which has appeared in the *Journal* of the Association, written by the President, and also the churches of Overbury and Beauford, which were described by Mr. Keyser. Heartfelt thanks were given to him for all his labours in connexion with the Congress, which owes its success mainly to him, and also to Canon Bazeley, who accompanied all the excursions, and gave us the benefit of his intimate knowledge of the antiquities of the shire, and to the Hon. Secretary, Mr. Austin, who, with much tact, energy, and skill, so ably carried out the arrangements.

The Association will retain many pleasant recollections of Gloucester and of the kindness and hospitality its members received, and we trust that somewhat less a period than sixty-six years will elapse before it again visits the city of the West.

P. H. D.

OXY-ACETYLENE WELDING.

TUBAL CAIN would probably have been incredulous if some Mother Shipton of his time had prophesied the execution of welding without the aid of hammer or anvil. And in times nearer to our own the welding of cast-iron was quite outside the range of ordinary practice. But at a demonstration of Oxy-acetylene Welding and Cutting, held at the Northern Polytechnic on Friday last, under the auspices of the British Acetylene and Welding Association, the operation of welding by means of the oxy-acetylene blowpipe was performed upon mild steel, wrought-iron, brass and copper; and a large number of exhibits of work—much of it impossible of equally good execution by other methods—was submitted to an interested audience.

Among engineers this method of weld has become fairly familiar, but the supply workmen capable of handling it is found to be quite inadequate.

A course of instruction has therefore been arranged at the Northern Polytechnic, and it is already found that the students are eager sought after by employers so soon as proficiency has been attained.

The process is not quite that which is ordinarily associated with the word "welding," which implies the joining of two pieces of metal by pressing or beating them into actual contact with one another at a suitable temperature. It is nearer akin to soldering or brazing, but with the vital difference that the metal inserted between the pieces to be joined is practically the same as the metal to be joined, thus in welding wrought-iron, mild steel, brass or copper, rods of the same material are used. For cast-iron, ferro-silicon forms the filling.

For mild steel and wrought-iron no flux is required, but for cast-iron, cast-steel, copper, bronze, brass and aluminium it is necessary to use "welding powders" to eliminate the metallic oxides formed when the metal is in a molten state.* The composition of the fluxes varies. For example, borax is often used with brass, preferably in lump form, its purity is then more to be relied upon. For cast-iron one of the fluxes used consists chiefly of manganese, chlorate of potash, and borax.

The danger of "burning" the metal, familiar to the blacksmith, is reduced in the oxy-acetylene method by a careful regulation of the proportions of the two gases forming the jet. There is no difficulty in this, as the mixture is, by means of a tap on the blowpipe, quite under the control of the workman, who can judge it by a glance at the flame. The proportions in practice are about two parts oxygen to one of acetylene.

The relative strength of an oxy-acetylene weld in mild steel when compared with that of the original metal has been shown by tests to be from 87 to 92 per cent., in some cases even 95 per cent., results superior to those obtained from ordinary welding.

The mechanical preparations for the actual welding are simple. If, for instance, a metal plate is to be joined by its edge to a similar plate lying in the same plane, the edges of the two pieces are splayed down on each side to a rough knife edge, the splay being about equal to the thickness of the plate. The joint is then filled with the filling-metal, the latter being used in a stick, like a stick solder, and the general effect of the process being somewhat similar.

A weld in a piece of ordinary 3-in. iron plate was roughly tested by gripping the plate in a vice and bending it by hammering. When bent parallel to the weld it broke through the untouched plate—the weld remaining intact. When broken at right angles to the weld it was the weld itself that offered the greatest resistance. In this case the superior quality of the inserted welding material made the joint easily the strongest part of the whole.

Welds have been made by this method of metal measuring 9 in. by $\frac{1}{2}$ in. in section area, and by its work such as boiler repairing *in situ* and many other operations in place difficult of access can be accomplished.

Another sphere of usefulness is found for the oxy-acetylene blowpipe in the cutting of pieces of such things as boilers and girders. A special jet, in effect the ordinary inject type of blowpipe, with an additional annular nozzle through which an extra supply of oxygen is delivered, is used for this purpose, and on Friday's demonstration Mr. William Kemper, the instructor, cut plate-iron $\frac{1}{2}$ in. thick at the rate of 1 in. run in ten to twelve seconds. This application of the process has been found useful in removing large boilers from the basements of buildings, in cases where boiler removal was impossible and the noise of hammer and chisel would have been intolerable.

MEMORIAL HOSPITAL, HAYWARD'S HEATH.

Messrs. Wheeler & Godman, of Horsham, are the architects for the King Edward Memorial Hospital, which was opened last week at Hayward's Heath by H.R.H. Princess Christian. The building consists of a central block with two projecting wings, and the wards are on the ground floor, the upper floor being devoted to the staff. The building was Mr. Horace Finch, of Hayward's Heath.

THE ARCHITECTURAL ASSOCIATION: WEEK-END VISIT TO LIVERPOOL, JULY 5-7.

MANY reasons combined to make an A.A. visit to Liverpool desirable. Strongest attraction must be placed the new cathedral, such a building being sufficiently common as alone to justify an excursion rather more than ordinary distance; second, many important commercial buildings of recent erection promised further interest; ally, the members of the Association have always entertained a friendly curiosity as to the doings of the Liverpool School of Architecture, and readily accepted the invitation tendered to them by Professor Reilly to visit the School while in Liverpool. Additional attractions held in reserve were the fine examples of the scholarly work of the early XIXth century Elmes and Cockerell.

Arriving from London on Friday evening, the first building visited was the Adelphi Hotel, where the party was located. Recent exhaustive descriptions which have appeared in the *Builder* make any further notes on Mr. Atkinson's fine scheme superfluous. When complete will be the finest hotel on this side of the Atlantic. On Saturday morning the party, joined by members of the Irish Association, under the conduct of various members of the Liverpool Architectural Society got to work early.

Risking subsequent anti-climax, the first building visited was St. George's Hall. It is in the day to add anything to the encomiums which have been showered upon this magnificent building, while any criticism can only be uttered at the roof conception of architecture which would produce it. Allowing its designer's aims and ideals to be right ones, of itself it is almost perfect, but it is difficult to understand the attitude of mind which expresses surprise that it should have been produced by so young a man. One feels that under English conditions it must have been done by a man young in years and practice, or not at all; the fortunate fact is that with a spirit enthusiastic enough to form so large a conception was united a head capable of working out such grand ideas hardly a false note. The building is, of course, favoured by its position—it is one of the few great city buildings in England that is possible to see as it should be seen. The use of the great open place, free from traffic, is hardly to be over-estimated.

The interior of the great hall, though grand, rises to the level of the exterior. The design given by the granite columns is rather related by the uneasy division of the structure into them into three nearly equal parts by gallery fronts and impostas. There is, however, an air of mid-Victorian taste about the finishings which conflicts with the large manner of the general conception. Despite Cockerell's great reputation and Elmes's pressed wish that he should complete the scheme one feels that it could have been better. The small concert hall, by the same hand, is much more successful, and the east tribune is entirely charming. The vexed position of the threatened podium at the west end was, of course, debated, the consensus of opinion being that the wise course is to refrain from disturbing the present arrangement. After studying the exterior from all points a short visit was next paid to the portico Theatre, originally a music-hall, but converted by Professor Adshad with some amount of alteration, including the formation of a foyer out of an old beer cellar. An empty theatre by day is inclined to be dismal, and the party showed little disposition to linger, specially in view of the full programme ahead them. With the next building—the Cotton Exchange, by Messrs. Matear & Simon—commenced a round of the important modern commercial buildings. A detailed description will be prefaced by a few general remarks. These buildings which are of a public or semi-public character bear the stamp which distinguishes so much modern competition work all over the country—good planning combined with a rather strained cleverness in rational treatment. Hasty design seems separable from modern commercialism, and thereby pays the penalty through many long years. There is probably no single building of series visited which fully satisfies its authors, which would not have been improved by a

longer period of study. Each professedly adheres to the Renaissance—most to a pretty free rendering of it—yet it is where least renaissance that the work is most successful. The Cotton Exchange is a fine building excellently laid out to serve its purpose. The screen front and portico facing west are boldly conceived and well carried out, though a few grammatical difficulties of the style have hardly been conquered; but the essentially rational and modern north front will probably prove of more enduring interest and value as a contribution to the progress of architectural style. The building was erected in 1906 for the Liverpool Cotton Association, Ltd., whose members originally transacted their business on the Exchange flags. The chief part of the new Exchange is occupied by the hall, 140 ft. by 128 ft., extending to the top of the building, and galleries on all four sides. The galleries are supported by polished monolithic columns of Royal Blue granite of the Doric Order, above which an upper tier of Ionic columns of similar material supports a bold ceiling cove and glazed roof. The corners of the rectangle are splayed internally, and give place for effectively-designed fireplaces. Other fine apartments are the Board room, panelled in English wainscot with a chimney-piece of Mazzano marble, and the members' reading-room, panelled in Italian walnut and having a plaster barrel ceiling. Business was in full swing, and considerable interest was taken in its conduct, which could be well observed from the gallery.

After leaving the Cotton Exchange the party reached next the Town Hall, built by Wood, of Bath, in 1748, but since extensively altered and remodelled, first by James Wyatt, and more recently by other hands. Its chief note of interest lies in the splendid suite of rooms on the first floor, which have largely preserved their original character. Contrasting sharply with these rooms is the Council chamber, the authorship of which was not disclosed. The entrance hall, decorated by Professor F. M. Simpson, is dignified in its general effect. The pendentives of the lofty dome which surmounts the staircase have been finely painted by Mr. Furse.

A rapid tour was next made of Castle-street and James-street, passing on the way several notable buildings. Parr's Bank, by Mr. Norman Shaw, with Messrs. Willink & Thicknesse, displays the hand of the master. Its daring colour scheme of granite, pavonazzo marble with bands of green cipollino, red terracotta dressings, and green slate roof "sounds doubtful with a dash of distrust in it," as Mr. Halsey Ricardo wrote when it was built, but the result is a fine and distinctive building. As an interior the circular banking hall, attained by a daring constructive expedient, is architecturally less successful, the dome ceiling seeming too low in pitch and the cornice unrelated. Nearly opposite is the Bank of England, Cockerell's finest design—bold, forcible yet restrained, conveying admirably that expression of reserve appropriate to a bank. Mr. Norman Shaw's hand is again visible in the White Star Offices, built in collaboration with Mr. J. Francis Doyle. The general scheme of this building is reminiscent of New Scotland-yard, the high granite base, banded brick and stone walling above, and the angle turrets are all present, and there are other points of resemblance. The small Ruabon bricks used do not give so good an effect as the sand-faced bricks of the London building, and their harshness rather mars a powerful and fine design.

The next group of buildings seen were those constructed on the site of the old St. George's Dock, purchased from the Mersey Dock and Harbour Board by the Corporation some years ago. A magnificent site was thus created, and it is a matter for great regret that uncontrolled development was allowed. Two buildings at present occupy the extremities of the site, the centre being vacant; but whatever is introduced between the effect must be discordant, though each, in its way, has considerable merit. The Dock Board offices have a splendid plan, its diagonal corridors converging on a central hall surmounted by a lofty dome, and, with galleries at each floor level, allows the full extent of the building to be grasped in a way unusual in a purely office block. The architects, Messrs. Briggs, Volstenholme, P. B. Hobbs, and Arnold Thornely, are to be congratulated on having produced a stately design, but its period of domination has been terminated by the recent erection of the Royal Liver Building, on so vast a scale that for the present it dwarfs the

city. This gigantic building—ten stories high in the main block with lofty towers at either end—was designed by Mr. Aubrey Thomas, who has handled the problem in a manner both strange and striking, but coming astonishingly near to brilliant success. Structurally, the building is interesting as an example of skeleton construction in reinforced concrete faced with dressed granite. The equipment is also extremely modern and complete.

On their way back to their hotel the party visited the fine Royal Insurance building in Dale-street, but were unfortunate in missing Mr. Francis Doyle owing to loss of time in fulfilling their extensive programme. They were, however, able to inspect the interior of the building, which contains a Board room certainly not inferior to any room in Liverpool. The exterior of the offices is a strong design, free from fuss or confusion, and satisfactory in all respects save the widely-spaced order unnecessarily introduced on the second and third stories.

The early part of the afternoon was devoted to the cathedral; Mr. Gilbert Scott kindly attended and explained the intention of his design. It is not too much to say that the first disclosure of this at the time of the competition produced among architects a real sensation, as much by its bold and unforced originality as by its skilful seizure of the opportunities of the site. It has undergone many changes since, and doubts have been expressed whether all are improvements, but the first completed portion of the work is an excellent augury for the ultimate success of the whole, and inspires great confidence in Mr. Scott's ability to achieve it. In the interior of the Lady Chapel the organic constructive scheme, fine proportion, carefully regulated lighting, well-designed glass, good texture of carving, stonework, and oak combine in an effect which is at once vital and devotional. The lines lead the eye eastward and upward. Externally, too, the delicacy of this chapel serves as a foil and gives scale to the great mass of the choir. Good progress is being made with this, the high vault being in course of construction. Westward a great deal remains to be done, the big central area obtained by the sacrifice of the transeptal towers having been for the present deferred. One is disposed to regret these towers, which showed so finely on the drawings and model, but Mr. Scott knows quite well what he is about. A number of drawings were on view, and no effort was spared to make the visit thoroughly enjoyable. After the cathedral the recent additions to the School of Art, by Messrs. Willink & Thicknesse, were visited, the architects kindly attending. The new work is refined in character, architectural features having intentionally and wisely been suppressed or reduced to their simplest form to enhance the appearance of the casts and models housed. The sculpture court, with simple arcaded galleries, is particularly successful, bearing in mind its purpose. From here the party proceeded to the Students' Union, by Professor Reilly. The completed portion is full of character and pleasing in colour. This is due to the brickwork of the upper portion of the front, where Professor Reilly has used thin bricks wire-cut on the face instead of on bed, as commonly done in America. The effect is entirely to alter the colour and texture of the clay, which in the local common brick is apt to be unpleasant. The stone detail of the lower portion of the front is hardly so successful as the work above, an imperfect realisation of scale being apparently responsible for its crowded effect. The two chief rooms, which extend the full length of the front on the ground and first floors, are quiet and suitable. Professor Reilly, who had been with the party throughout, next accompanied them to the School of Architecture, now occupying the old Bluecoat School, saved and presented for the purpose by Sir W. H. Lever. Tea was here partaken of by kind invitation, and an exhibition of students' work, which was fortunately on show, was examined with great interest. A.A. members have their own views as to architectural education. Some excellently rendered elevations were to be seen, and the designs generally, albeit in rather a narrow groove, were creditable to both authors and instructors. Subjects of a monumental character—architectural scene-painting, if one may so call it without offence—were the order of the day, and the results in this sphere were much superior to the comparatively few essays in everyday design. It would have been

interesting to see plans more frequently, and very few adequate perspective drawings were shown; but the exhibition, taken altogether, is an imposing one. In the evening the party was entertained at supper at the Victoria Club by the hospitality of the Liverpool Architectural Society.

On Sunday morning little definite sightseeing was attempted, but many members visited Messrs. Austin & Paley's grand church at Mossley Hill; St. Agnes, a characteristic work of the late J. L. Pearson; and St. Clare, in which Mr. Leonard Stokes in an inexpensive church achieved one of his finest exteriors and showed the native architects how their common brick should be used effectively. The party returned to town in the afternoon after a most successful week-end. To the members of the Liverpool Architectural Society and Professor Reilly is due the gratitude of the members for liberal hospitality and help.

ARCHITECTURAL SOCIETIES.

Bristol Society of Architects.

The annual excursion of the Bristol Society of Architects took place recently to Malmesbury, Cirencester, and neighbourhood. The party comprised Mr. J. Foster Wood, F.R.I.B.A. (President), Mr. G. H. Oatley, F.R.I.B.A. (President-elect), Messrs. Mowbray A. Green, F.R.I.B.A., G. C. Awdry, F.R.I.B.A., Austin B. Botterill, A.R.I.B.A. (Hon. Treasurer), B. F. G. Wakefield, Lic.R.I.B.A., A. E. Gough, A.R.I.B.A., C. H. White, A.R.I.B.A., H. J. Cavell, T. H. Skinner, C. G. Skinner, R. A. Duncan, W. H. Price, the Rev. R. C. Cole, M.A., and Mr. John Fisher (guests), and Mr. C. F. W. Denning, Lic.R.I.B.A. (Hon. Secretary). Leaving Bristol by car, the first stop was at Cold Ashton, where, by permission of Mr. A. T. Crew, the Manor House was viewed. At Malmesbury the members were received at the Abbey by the Rev. Charles D. H. McMillan, M.A., and under the guidance of Mr. Harold Brakspear, F.S.A., A.R.I.B.A., the building and the Abbey House were inspected. Continuing the journey to Cirencester the party lunched at the King's Head Hotel. At the conclusion the President, Mr. J. Foster Wood, referred to the honour recently bestowed by his Majesty King George V. upon a member of the society, and a letter of congratulation and expressive of the valuable services rendered to and the interest taken in the society during many years, formerly as President and later as member of the Council, was signed by the members present and dispatched to Sir Frank W. Willis.

The party then adjourned to view the parish church, where they were received by the Vicar, the Rev. W. A. Robins, M.A., and under the guidance of Mr. E. C. Sewell (local Hon. Secretary of the Bristol and Gloucestershire Archaeological Society) this interesting building was inspected. By permission of Captain J. Gordon Dugdale, D.S.O., the members walked through the Abbey grounds to inspect the Roman capital and ancient gateway, the only remains of the Abbey. Thence by St. John's (The Pan) Hospital and St. Thomas's Hospital to the Cornium Museum of Roman Antiquities. Mr. Sewell, who accompanied the members, read some notes and gave some valuable information.

Unfortunately the weather was somewhat inclement when a start was made for Minchinhampton, where a stop was made to see the church, and the Rev. J. F. O. Lewis read some notes on the building, the principal feature of interest being the south transept with its stone roof. From Minchinhampton the route was through Nailsworth to Uley. The intention was to have visited the Tumulus and walk to the great camp at Uley Bury, but as the weather would not permit of this being accomplished the journey was continued to Owlpen Old Manor. The delightful old house and grounds and the church—recently restored by Mrs. Trent-Stoughton—were inspected.

Nottingham Architectural Society.

The members were favoured with fine weather for their visit to Cheshire on Thursday last. The party of twenty-four members and friends included the President, Mr. E. R. Sutton; the Vice-President, Mr. H. Gill; Messrs. W. V. Betts, R. Evans, F. W. Gregory, W. R. Gleave, E. H. and A. E. Heazell, Arthur Marshall, W. Pare, A. W. Shelton, and the Hon. Secretary, F. M. Royle.

Moreton Old Hall was the first place visited. This is one of the finest remaining half-timbered manor-houses of the Tudor period. Situated in the midst of verdant meadows, with its projecting upper stories, gabled roofs, and ivy-clad chimneys, it is the delight of artists from all over the world. The interior, with its carved oak beams, panelled ceilings, walls, and massive carved fireplaces, is no less interesting, and the old furniture in the rooms is most carefully preserved. This old mansion is greatly prized and cared for by the present caretaker, Mrs. Dale, one of whose ancestors was the "Rychard Dale carpenter" whose name is recorded on one of the bay windows. Miss Moreton, the last of the Moreton family, died recently at the age of ninety-two, and the property now passes to Bishop Abraham, of Derby.

Astbury Church was then inspected. The earliest portion of this dates back to the XIIIth century. Among many interesting features is a priest's chamber over the south porch, with a small stone window looking from it into the church. The altar-rail, font cover, rood-screen, and pew doors are fine examples of Jacobean carved oak work. Astbury was originally the parish church of Congleton, and a pew is still reserved for the Mayor and Corporation of this latter town.

Lunch was taken at the Lion and Swan Hotel at Congleton, which dates back to the XVIth century and is filled with a unique collection of antique furniture, pottery, pewter, and brasswork collected by the present proprietor.

The church at Marlon was the next call. This is a pretty half-timbered church, and Lower dating from the XIVth century. Through the courtesy of the Vicar, the earliest register on vellum, dating from 1558, was on view.

Siddington Church was also visited. This is a similar example of black-and-white construction, of which the chancel, porch, and roof of the nave are the original XVth-century work.

The last church inspected was Gawsworth, a stone building containing many beautiful alabaster monuments of the Fytton family. A long stretch of water in front covered with water-lilies and a delightful old half-timbered rectory facing the church make the situation an ideal one. Although the distance covered was nearly 50 miles, the motor-cars brought the party back to Stoke in time for dinner.

ARCHÆOLOGICAL SOCIETIES.

Surrey Archaeological Society.

The annual excursion of this Society for the current year is announced to take place on Thursday, July 18, and the places to be visited are Chertsey, Thorpe, and Egham. Londoners will start from Waterloo terminus at 10.25 a.m. and arrive at Chertsey at 11.54. Chertsey Church will be first visited and described by Mr. P. M. Johnston, F.S.A., architect. The members will then proceed to view the remains of the Abbey Mill and the fishponds of the Abbey, which will be inspected by the kind permission of the owner of the site, and will be described by Mr. H. E. Malden, M.A. Thorpe Church will be next visited, and described by Mr. P. M. Johnston. A short visit will then be made to Thorpe Manor House, the carriages then leaving Thorpe for Great Fosters. There the great Tudor house, one of the finest in this part of England, will be inspected by the kind permission of the Right Hon. Lord Dudley. An historical account will be given by Mr. F. Turner, and notes upon the architecture by Mr. Ralph Nevill, F.S.A., architect. Carriages will leave here for Milton Park, Egham, the residence of the Baron De Worms, F.S.A., by whose kindness the party will be permitted to inspect some curious stone doorways in the garden. To those of our readers who contemplate attending this excursion we would mention that an excellent paper by the late Major Heales, F.S.A., will be found on "Chertsey Tiles," with illustrations, published in the seventh volume of this Society's *Transactions*.

CHURCH HALL, FINCHLEY.

The estimated cost of the erection of Holy Trinity Parish Hall is £3,000., and plans for the building have been prepared by Mr. J. C. Stockdale, Lic.R.I.B.A., architect, of Bloomsbury, W.C.

GENERAL NEWS.

The University of Liverpool.

The following awards are announced in School of Architecture:—Degree of B.A. Second Exam.: S. H. Lakshminaras. A. R. Sykes. Certificate in Architecture: First Class (exempting from the Intermediate Examination of the Royal Institute of British Architects): R. F. Dodd, S. A. Harper, S. Jones, S. H. Lakshminarasappa, A. R. Syl W. H. Thompson. Second Class: S. Farad G. N. Hill, S. P. Mahin, J. W. Rutledge. Following scholarships have also been awarded: The Holt Travelling Scholarship, W. Thompson; the Ravenhead Entrance Scholarship, F. Jenkins.

The R.I.B.A. Board of Architectural Education.

The Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by following students, who are qualifying for Final Examination, have been approved:—*Subject III. (a)*—Messrs. R. A. Bar E. F. Bothwell, H. C. Bradshaw, R. S. Dix H. A. Dod, E. Gee, and T. C. Lawrence. *Subject III. (b)*—Messrs. H. Lidbetter, Prestwich, W. H. Thompson, R. A. Walter, W. E. Woodin.

The Federal Capital of Australia.

For some time a large gang of workmen have been engaged on the site of the future Australian Federal Capital City at Canberra, in making necessary roads. These are now in thorough order for the commencement of work on the city itself. Surveys for various purposes are proceeding. One party is engaged on location of a railway line from Canberra to Jervis Bay, where the Royal Australian Naval College will be established. Other parties are engaged on the determination of boundaries of holdings and on surveys connected with such engineering propositions as road deviations and tramways. A staff of draughtsmen is compiling plans as a result of the surveys. The Minister for Home Affairs stated recently that probably ten years will pass before the Federal Parliament would sit in the city. The Federal territory watered by four rivers, the supply from which will be kept separate and used for such different purposes as drinking supply, ornamental water, and utility services.

Office of Works Contracts.

Mr. Pointer acting in the House of Commons recently what steps are taken by the Office of Works to secure that all work done by contractors, especially work that can be easily examined when a job is completed has been properly and efficiently executed according to the contract.

Mr. Benn replied that clerks of works appointed to see that all work is properly and efficiently executed, while, in addition, building inspector pays surprise visits while the work is in progress. The architects charge exercise general supervision over building works. The Board's contracts provide that builders shall give notice to the architect or clerk of works when it is their intention to cover up any portion of the work, and if the work is so covered up or hidden without written authority the builders may be required to uncover the same at their own expense.

Plans for Workmen's Houses.

Sir Arthur Markham asked the representative in the House of Commons of the First Commissioner of Works whether, seeing that under the Housing of the Working Classes Act 1890, plans of dwelling-houses have to be approved by his department before a loan sanctioned, he will say why his department require four complete sets of drawings of every general plan, four sets of plans of the house and the elevations of the said houses, and if sets of drainage plans, water plans, of whether he is aware that city councils or other public bodies charged with the business only require one complete set of plans whether a complete set of plans in duplicate would be sufficient for the purpose of his department; will he say what is done with all numerous plans, and if the designs are treated as confidential within the department.

Mr. Wedgwood Benn, in reply, says he understands that two sets of plans are asked for

Public Works Loan Board. Only one set forwarded to the Office of Works. The plans are treated as confidential within the Department.

Doncaster Housing Scheme.

In answer to a question by Mr. Jowett, John Burns states that the Doncaster Corporation has submitted an amended housing scheme for Doncaster, which includes the provision of thirty-six separate dwellings, in ten houses, being two separate dwellings in each house, with a view to the same being let from 2s. 6d. to 4s. a week. He has approved the principle of erecting these dwellings, but has returned the plans to the Corporation for amendment in certain respects.

Town-Planning Scheme, Walthamstow.

The Walthamstow Urban Council have applied to the Local Government Board for permission to frame a scheme relating to an area of 1,534 acres lying for the most part to the north side of Forest-road; it is intended to devote as an open space in connexion with the scheme, about 100 acres of "amenity lands" upon the banks of the Lea. The scheme represents 1,600 acres within the Council's jurisdiction are built over, and provide housing for a population of 125,000.

The George Petrie Memorial, Dublin.

A meeting of the General Committee of the George Petrie Memorial was recently held at the rooms of the Royal Society of Antiquaries, 15, Green, Dublin, G. N. Count Plunkett, F.R.S., in the chair. It was decided to engage for a popular lecture, illustrated by lantern views, descriptive of the life and works of Mr. Petrie, and detailing his great services to Irish Archaeology, in particular in laying the foundations of our present knowledge of early Irish Architecture, to be held during the coming autumn. The Right Hon. M. F. Cox consented to deliver the lecture. It was decided to include in the scope of the project so as to include the erection of a bust and suitable inscription to the worthy monument in some public place, in addition to the erection of a monument over the grave. The following were appointed an Executive Committee to deal with the details:—G. N. Count Plunkett, F.R.S.; Sir Gabriel Stokes, K.C.S.I.; Sir Clifton Ball, Litt.D.; Dermot O'Brien, F.R.S.; R. M. Butler, F.R.I.B.A.; Robert Kane, LL.D., F.R.I.B.A.; the Right Hon. M. F. Cox, M.A.; Edwin Lloyd, P. J. Lynch, LL.B.; S. W. Maddock, Frank Stokes, and J. O'Reilly, F.R.S.A.I.

Extension of Municipal and County Engineers. The orphan fund of this Institution mentions their annual Report that, although no increase in the subscriptions could be shown for the past year, no serious diminution occurred, the amount subscribed being £68, as against £44. 1s. 9d. in 1910, while the number of subscribers had been three less. Grants made from this fund have rendered tribute to six widows of late members of the Institution towards the schooling and maintenance of their children.

Kingston Vale.

We regret to see from the report of the Executive Committee of the Wimbledon and Epsom Commons Extension Fund that much yet to be accomplished before their plans can be finally crowned with success. Kingston Vale is considered safe from the hands of the spoiler. It seems rather extraordinary that London as a whole does not seem to realise its responsibility in this matter. The City Corporation has made grant. The Surrey County Council has invited the proposal of its General Purposes Committee to subscribe £5,000, and even the Borough of Wandsworth, which is so immediately concerned, has acted in the same way. On the other hand, the Urban District Council of Malden and Combe has voted £3,000, the District Council of Merton £500, all which it is to be hoped the Local Government will sanction in due course, while the Borough of Wimbledon first voted £10,000, then determined to postpone its application to the Local Government Board for six months, during which time the options on the land will expire. The proposal of the London Traffic Board of the Board of Trade to create a main starting from Robin Hood Gate and running east to Malden by way of the valley of the Ottery Brook, introduces a new factor into

the problem, which will probably have some influence over the future development of the district. Although the proposals of the Extension Fund Committee are less ambitious, the ultimate achievement to be striven for is the preservation of the rural character of the whole of the Kingston Vale district, and this is a matter which seems to be of vital importance to the future of London.

"Bungalows and Country Residences."

An interesting event took place on Tuesday evening last, when Mr. R. A. Briggs entertained at dinner Mr. Herbert Batsford, Mr. Harry Batsford, Mr. Harry Browning (Mr. Briggs' partner), and several of the oldest members of Mr. Batsford's staff, to celebrate the twenty-first anniversary of the publication of his "Bungalows and Country Residences."

BOOKS.

Modern Practical Design. By G. WOOLLS-CROFT RHEAD. (London: Batsford. 1912. 7s. 6d. net.)

This book differs from the author's former work on "Principles of Design" in the following particulars:—(1) The last-named is confined to the elucidation of principles, while "Modern Practical Design" deals with the technique, tools, and practical methods relating both to design and craftsmanship; (2) the illustrations of the present book are, with one or two exceptions, representative examples of the work of modern craftsmen, instead of being, as in the "Principles," drawn chiefly from the art of the past. Design here is taken to mean the forms of "applied art" covered by the syllabuses of the Board of Education in elementary, advanced, and honours design. The book should, therefore, appeal to teachers, students, and craft-workers generally in its capacity as a practical guide to the preparation of designs for the various branches of art industry. The author is to be credited with considerable experience as a teacher, and we believe he has actually practised with conspicuous success many of the subjects dealt with. There are chapters on patterns for paper and fabrics, book-decoration in all its branches, pottery, stained-glass, metalwork and woodwork, dress embroidery, fans, lace, and posters—on all those phases of artistic activity, that is to say, which are included in the term "applied art." The whole is prefaced by a chapter on plant form as the basis of ornament, in the true South Kensington manner. There are 160 illustrations of considerable interest. But, as the author remarks in his introduction, "it will be obvious that in a work aiming at covering such a wide area little more than the mere fringe of the different subjects can be touched; it will be necessary for students to supplement their reading by reference to the monographs published on the different crafts which (the monographs, we take it) are well-known." That is just the trouble. Anyone wanting to know the sort of knowledge proffered would go to the more comprehensive work on the subject of his choice; whereas for anyone just vaguely and generally interested this book is probably not sufficiently illuminating.

In the sphere of decorative and applied art there is as good work being done to-day, with certain reservations, as was ever done in the past, and the standard of design, no less than the skill of the craftsman, is continually advancing. The book should prove stimulating to the student, and it cannot fail to interest all concerned with the decorative arts, though it may not be sufficiently exhaustive in the way it deals with any one craft to stand all the tests to which some of Mr. Rhead's confrères are sure to subject it.

The Great State. Essays on Construction by H. G. WELLS, CECIL CHESTERTON, ROGER FRY, and others, under the general editorship of H. G. WELLS. (Messrs. Harper & Brothers. 1912. 6s.)

MR. ROGER FRY is one among the several contributors of essays, to which Mr. Wells has added an Introduction and edited, under the title of "The Great State." These essays represent the hopes of science, of art, agriculture, the Church, the politician, and the intimate social relationships under reorganised social conditions. These conditions are only suggested. "Our conception of the Great State

is still altogether unsubstantial," Mr. Wells explains. We gather, however, that the basis is industrial and strenuous. We are not invited to cakes and ale, amid the perfume of hay and hedges that mark the millennium of William Morris. The days of such Utopian romance Mr. Wells declares to have passed. Robert Louis Stevenson defined romance as the "Poetry of Circumstance." In this sense Mr. Wells and his colleagues are eminently prose writers.

Those who speak of the part to be played by the science of the future have an especial advantage. The man of science can advance with comparative sureness. His premises remain unchanged whatever social gyrations may occur. The article by Mr. C. J. Bond on "Health and Healing in the Great State" is a satisfactory example. The premises of the artist are, at best, but an expression of his hopes and his fears for art. Mr. Fry commences with a survey of the artist's position. His earlier and aristocratic patron was not unsympathetic, if ignorant. The later plutocrat was both. "But both alike desire to buy something which is incommensurate with money. Both want art to be a background to their radiant self-consciousness. They want to buy beauty as they buy love, and the painter, picture-dealer, and the pander try perennially to persuade them that it is possible." At the present moment neither will buy anything without the "patine" of age; whether genuine or put on in Paris. Meanwhile, the artist starves. Are there conceivable conditions under which the artist will fare better? We gather that Mr. Fry thinks not. He seems to see the painter and the sculptor drawn into the ranks of artisan and craftsman, where they may assist in raising the level of trade design and earn a living thereat. He would put the painter on the same basis as the poet. The latter makes no pretence of living on his poetry, but in exceptional instances.

We do not see, however, why a changed social basis is necessary to effect this. Many men of ability already design for the trades. The horrible patterns and detail which Mr. Fry describes as surrounding him in the refreshment-room of a railway-station as he writes is conceivably due to the fact that there are not enough of these men possessing the requisite technical knowledge to go round. He also hopes that something might be the outcome from a resuscitation of the Mediaeval Guild. It might be so. Yet we have to admit that the very same forces that broke up the Guilds are as active to-day as formerly. "Nevertheless, in the long run," he concludes, "mankind will not allow this function which is necessary to his spiritual life to lapse entirely." There is something of despair in this. And when we read in another essay, "A portrait-painter or a poet who gave his whole time to painting or poetry would be a poor stunted creature and his art a poor art," one may wonder whether the conditions of art will be better understood then than now. "If you will read aloud well, then do it constantly; if you will write, then write," said a wise Greek. "But when you have not read aloud for thirty days together, but done something else, you shall see the result."

Somehow or other, despite the vulgarising influence of the aristocrat and the plutocrat, a certain amount of good art was produced. Are we prohibited from welcoming a possible return to these conditions? The American is the principal buyer to-day, not alone because he has the money to spend, but also because he has a house in which to place his purchase. The restlessness of the age, stimulated by the motor-car, the willingness to accept the limitations of a flat in exchange for a life freed from domestic responsibilities, have reduced home-life in this country to a very low ebb. Household gods are an incubus. Society is playing at this sort of life at the moment like a child with a new toy. It may again desire home comforts and pictures as furniture to the walls. The State, it is true, will be no greater than before. But the artist will ply his trade, live, and be happy.

Modern Cottage Architecture. Illustrated from the works of well-known architects. Selected and described by MATTHEW B. ADAMS, F.R.I.B.A. Second Edition, revised and enlarged. (Batsford. 1912. 10s. net.)

A NEW edition of this useful book will be welcomed by the ever-increasing number of the

Proposed New City Street.

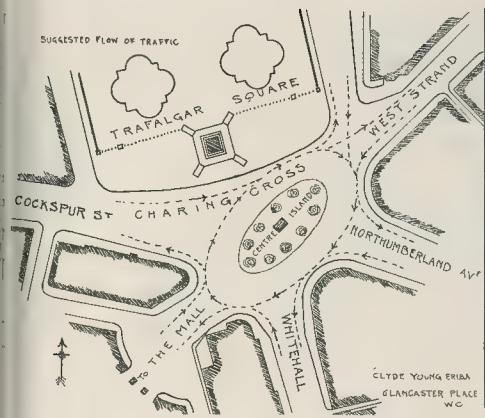


Fig. 1. London Street Dangers: Mr. Clyde Young's Suggestion.

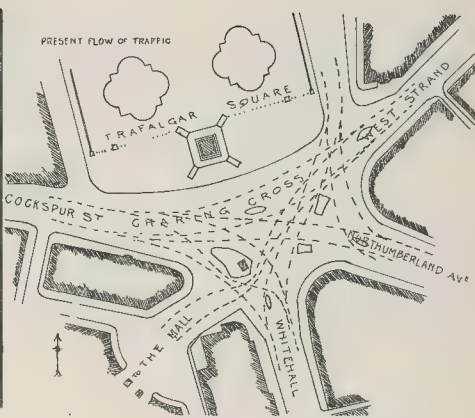


Fig. 2.

London Street Dangers.

Sir,—The recent articles in the daily Press concerning the increasing dangers of the London streets afford subject for thought. The sketch (fig. 1) shows the suggested treatment of Charing Cross, and would, I believe, considerably facilitate the movement of traffic and greatly reduce the danger to pedestrians; they would only have to guard against the traffic proceeding in one direction instead of negotiating eight streams as at present (Fig. 2). The idea of the scheme is to make the traffic rotate clockwise round a central island until it comes to the route along which it wishes to proceed, thus providing a stream continually winging from left to right, and so avoiding the chaos of traffic crossing each other. To form island, plant it with trees, and move King Charles statue would not be a costly matter, and would not interfere with any scheme for re-landscaping Charing Cross when the time comes. To carry the suggestion a step further would be to treat Trafalgar-square itself as a centre and make traffic rotate *vice versa* Charing Cross, Cockspur-street, Pall Mall East, north side Trafalgar-square, Duncannon-street, and West End, which would still further lessen the congestion, as the crossing at the bottom of Duncannon-street, Cockspur-street, and Pall Mall East would be avoided.

CLYDE YOUNG.

*An article on this subject appears on 37.—Ed.]

R.I.B.A. and the National Insurance Act.

Sir,—In accordance with well-established tradition our profession is again rudely awakened by the knowledge that our personal interests are involved in a matter of which away rumours were brought to our notice whose force we failed to discern. Our anxiety is now ruffled by the near approach of July 15, the date of the coming into force of the National Insurance Act.

One would have thought that the piercing shriek for unity would have taken form and idity on any ground, however disdained and parently mean, that presented itself as a visible centre for further growth and extension.

An opportunity is now available in the National Insurance Act, and nothing, to my knowledge, has been done.

I cannot imagine that it would prove ungratified or impracticable for the Royal Institute to form an approved society under the conditions laid down in the Act, with the co-operation of the Institution of Civil Engineers, the Surveyors' Institution, and the Society of Architects.

The compulsory conditions of the Act will weigh heavily upon the architect's assistant, and one of the primary indignities he will suffer will be that of being forced into societies which his special conditions and consequent disabilities of improved benefits will not consider, and he will find himself amongst very mixed crowd of mechanics and working men whose conditions of employment are far more provocative of ill-health and consequently lowering the scale of benefits to their level.

There is strong reason for believing that the bulk of practitioners will cease paying the full salary to their assistants when absent due to illness. An Inter-departmental Committee has recommended that civil servants shall not receive wages from the State during the period sick benefit is being received under the Act. With such an example as this before them, any benevolent decision that may have been made by employers on behalf of their assistants will be greatly shaken. It follows, therefore, that the scale of benefits for architects' assistants should be raised to the maximum to relieve those who desire to maintain their assistants' income at the same level in sickness as in health. This can only be done by an approved society composed of members living under similar conditions and thus presenting the necessary factors to determine the risks of illness and the consequent maximum benefits. It would prove more businesslike for the bulk of the profession to deal with a society promoted by the Royal Institute, and certainly more dignified and independent for the assistant than the alternative of compulsory entry into an organisation which cannot appreciate his interests or those of his employer.

The conditions for the formation of an approved society are mainly as follows: It must not be carried on for profit; the members elect their executive committee and officials; the membership must be at least 5,000; security against misuse of funds, either in form of a guarantee fund, a bond with personal securities, or that of a guarantee society; an audit of accounts by Government auditors, and a triennial actuarial valuation and adjustment of benefits or contributions to preserve solvency.

The Royal Institute is fully capable of this undertaking in conjunction with the societies I have named.

The advantages to be gained are those which will arise out of the proper study of all the circumstances which peculiarly concern our profession and to apply the result to the mitigation of any evils which may be brought about by this unwelcome addition to the Statute Book.

The prospect of the founding of such a society in which all classes of the profession are brought together suggests the formation of a platform of mutual interest upon which many reforms dealing with organisation could find a basis for further development. Other societies dealing with obscure trades are being formed with similar objects, and there is no reason why the Royal Institute of British Architects should not endeavour to make a similar use of the Act in regard to the architectural profession.

I trust that this effort to bring before your readers a practical aspect of an Act which is compulsorily thrust upon us, and will render its working less inconvenient, will receive the early attention of the Council of the Royal Institute within the next three months—October 14 next being now fixed as the final date for the formation of an approved society.

ERNEST J. DIXON. A.R.I.B.A.

Alterations to a House: John Thompson & Co. v. Thompson.

Sir,—From the report of this case given in your paper for July 5, page 25, it would appear that we had employed no foreman on this work.

Will you kindly allow us to correct this and to say that, whilst we did not consider it right to saddle our client with the expense of a "walking" foreman, we had in charge of the work a trustworthy "working" foreman in whom we have the utmost confidence, and such as we are accustomed to employ on work of this nature, whether contract or day work!

JOHN THOMPSON & CO.

The Insurance Act.

Sir,—The National Insurance Act will shortly be upon us, and no doubt thousands of your readers, like myself, are beginning to realise that a considerable amount of extra work will be thrust upon them every week, not only in stamping the cards, but in adjusting the wage sheets and books wherever any large number of men are employed; in other words, the clerks and others who have to deal with wages will become unpaid collectors for the friendly societies—a state of affairs which, to my mind, is unjust in the extreme. The societies themselves are entirely relieved of the cost and trouble of collecting the contributions. Can anything be done? Surely the societies or the Government should allow a stated sum for, say, every 100 men employed on large concerns, more especially where they come under both sections of the Act.

G. J. OSBOEN.

INTERCOMMUNICATION COLUMN.

Mural Painting.

Sir,—In your issue of July 5 "Mural Painter" inquires how his canvas should be affixed to the wall to avoid sagging and the ill-effects of damp. If the wall of his new church are now damp in any degree he will be unwise to begin operations at all; but if they are now thoroughly dry he should proceed as follows:—First paint the wall to be covered two or three coats in oil; also paint the back of the canvas. When he wishes to attach the canvas it must receive another coat of very stiff, or, as the painters call it, "round" white-lead; but, since handling it thus painted is a difficult matter, it is better to place it on a wood roller (if the space allows), rolling it on to the wall and painting it bit by bit as the canvas back is exposed. This needs much care, both in starting on a true line and pressing it evenly to the wall. Your correspondent speaks of painting in tempera; but a damp-proof back does not make for safety in tempera unless the painter is experienced in the strength of his medium (size or other), for it is apt to scale. If his walls are really dry he had better paint direct on the plaster. If he paints on canvas affixed as described he had better paint in "spirit fresco," or some such method. Gambier Parry painted in Gloucester Cathedral on canvas attached to the wall in the manner described.

J. D. CRACE.

ILLUSTRATIONS.

Regent's Quadrant Competition.

THE result of the competition instituted by the proprietors of the *Builder* was announced last week, and in the present issue several of the designs are illustrated. One of our plates shows the design placed first. It is by Messrs. Richardson & Gill, and of it the following criticism was made by Messrs. Fluckhart, Rickards, and Munby:—"The assessors consider that the principles embodied in the design placed first, as illustrated in the alternative sketch, are effective as carrying on the main horizontal lines laid down by the Piccadilly Hotel frontage, while preserving a scale of architecture suitable for the width of this particular street. They regret that the shop fronts and frieze of the windows under the main cornice were not detailed on the eighth-scale drawing, as they are shown on the alternative sketch."

Of the design by Mr. Albert W. Moore, F.R.I.B.A., which forms our second plate, the assessors wrote:—"No. 103 shows the same regard for practical considerations and general proportions as the above, but the use of pediments on this curved frontage is questionable, and the depth of the recessing between the two end blocks is too great. The detail would require to be more scholarly in execution than suggested on the drawing."

Thames House, Southwark Bridge.

This important building by Mr. Stanley Hamp, A.R.I.B.A., of Messrs. Colcutt & Hamp, is described in detail in the article beginning on p. 47.

MEETINGS.

SATURDAY, JULY 13.

Manchester Society of Architects.—Visit to Liverpool Cathedral and Midland Adelphi Hotel.

WEDNESDAY, JULY 17.

Northern Architectural Association.—Annual excursion.

COMPETITION NEWS.

A list of current Competitions is printed on page 60.

Regent's Quadrant Competition.

Illustrations appear in this issue of some of the designs submitted for the Regent's Quadrant competition promoted by the proprietors of the *Builder*, and further illustrations will be given in subsequent issues.

Scottish National Memorial to King Edward VII.

The following gentlemen were invited to take part in a competition for a memorial in Edinburgh to his late Majesty:—Sir R. S. Lorimer, Mr. G. Washington Browne, Mr. Hippolyte J. Blanc, Mr. J. J. Burnet, Mr. H. E. Clifford, and the late Mr. R. J. Macbeth.

The Executive Committee have adopted the design of Mr. G. Washington Browne, R.S.A., 24, Charlotte-square, Edinburgh. Mr. Albert H. Hodge will be the sculptor of the bronze group.

Glasgow Municipal Buildings Competition.

At a meeting of the Glasgow City Council, held on the 4th inst., the conditions of this important competition were finally approved, and they will be issued immediately to intending competitors.

The existing municipal buildings are well known as one of the most important works of the late William Young, and are practically square in plan with a centre courtyard. The principal front is to the west facing George-square, while the other fronts are on the north side to George-street, the south to Cochrane-street, and the east to John-street. The intention generally is to erect the extensions on the east side of John-street, and connect them to the existing buildings by a bridge or bridges, thus forming John-street practically into a second internal court.

The disposition and architectural treatment is, of course, left to the competitors, but its harmony with the existing building and with the existing sanitary chambers in Cochrane-street will require very careful consideration.

The conditions of competition as drafted were all that could be desired, but two rather

important modifications were made on them at the Council meeting. The arrangement is that the competition will be in two stages, and the intention was that the five best sketch designs submitted in the preliminary competition should be elaborated in the "final," but the right of nominating three additional well-known architects for this stage was reserved.

By a majority the Council decided to withdraw this latter clause. The other amendment made was to the clause in the conditions which provides that if no instructions are given to the selected architect to proceed with the building within twelve months from the assessor's award then he shall be paid a sum equal to 1½ per cent. of the amount of the estimated cost.

As this is 150,000L., the Corporation would thus be liable to pay about 1,800L. in the event of the building not proceeding. The majority of the Council considered this to be too large a sum, and it was agreed to fix the liability instead at 500L. An attempt was made to remove the clause excluding the Corporation's own architects from competing, but this proposal did not receive support.

The assessor, as we have before stated, is Mr. John J. Burnet, of Glasgow, and the profession at large will look forward with interest to the results of this very interesting competition. The date for submitting designs in the preliminary competition is fixed for October 29 next. The five selected competitors will be paid the sum of 100 guineas each.

Sheffield King Edward Memorial.

The assessors in the competition for the King Edward VII. Memorial Crippled Children's Institution (Mr. E. M. Gibbs and Mr. F. E. P. Edwards) have now submitted their award, which has been confirmed by the Committee. The names of the successful competitors are as follows, in the order stated:—(1) Mr. A. W. Kenyon, 84, George-street, Sheffield; (2) Mr. W. J. Hale, 13, St. James'-row, Sheffield; (3) Messrs. Hall & Fenton, 10, Paradise-square, Sheffield. The whole of the designs will be exhibited in the Mappin Art Gallery as soon as arrangements can be made for this to be done.—*Sheffield Independent*.

Proposed High School at Motherwell.

At a recent meeting of the Dalziel School Board it was resolved to proceed with the erection of a new High School on a site off Hamilton-road, and it was agreed to invite competitive plans from a few of the best-known architects in Edinburgh and Glasgow, and to allow local architects to compete if they desired.

Mr. J. J. Burnet, A.R.S.A., of Glasgow, was appointed assessor, and the premiums to be offered were fixed at 50L., 30L., and 20L.

The intention is to provide for a fully-equipped higher grade school, with provision for an elementary department which could be completed at some future date. No estimate of cost was fixed, but it is understood that this would be well up to 20,000L.

Town Planning in Huddersfield.

The Housing and Town Planning Committee of the Huddersfield Corporation invite competitive designs from architects for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums of 100 guineas, 50 guineas, and 25 guineas are offered.

Proposed West of Scotland Teachers' Training College.

We understand that in connexion with the limited competition for this building the conditions are now being adjusted, and that Mr. Frank T. Baggeley, F.R.I.B.A., of London, has been appointed assessor.

The names of the invited architects for this competition are given on page 635 of our issue of December 1 last. They will receive an honorarium of 50L. each.

Proposed School at Govan-hill for the Govan School Board.

The Govan School Board propose to erect a new school at Govan-hill, and have invited the following architects to submit competitive plans:—Mr. Andrew Balfour, Messrs. H. & D. Barclay, Bruce & Hay, Halley & Nell, Honeyman, Kippie, & Mackintosh, and Thomson & Sandilands.

Designs for Royal Palace and Law Courts Sofia, Bulgaria.

H.M. Legation at Sofia report that the Ministry of Public Works, Sofia, invite the submission of designs for (1) a new Royal Palace and (2) new Law Courts. Four prizes are offered in each competition to the value of 10,000 francs (400L.), 7,000 francs (280L.), 4,500 francs (180L.), and 2,500 francs (100L.) in the case of (1); and 6,000 francs (240L.), 4,000 francs (160L.), 2,500 francs (100L.), and 1,200 francs (50L.) in the case of (2). Architects wishing to compete must submit their designs not later than December 1 next to the "Section d'Architecture au Ministère des Travaux Publics," Sofia, where copies of the programmes, etc., may be obtained on request. A copy of the programme (in French) of each competition may be seen by British architects at the Commercial Intelligence Branch, as above.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chelysmore, Chairman, presiding.

Loans.—The Finance Committee recommended, and it was agreed, that loans should be made to borough councils as follows:—Battersea, 997L. for street improvements; Stoke Newington, 8,000L. for repaving works; and Westminster, 21,436L. for street improvements.

Lambeth Bridge.—At the next meeting of the Council the Improvements Committee will recommend the Council to proceed with a scheme to Parliament for the building of new bridge over the Thames at Lambeth at cost of about 240,000L.

Chief Engineer.—The General Purposes Committee recommended, and it was agreed, that applications should be invited by public advertisement for the position of Chief Engineer to the Council to succeed Sir Maurice E. Maurice, who has resigned, at a salary of 2,000L.

The members of the present staff are to be allowed to make application.

FIFTY YEARS AGO.

From the *Builder* of July 12, 1862.

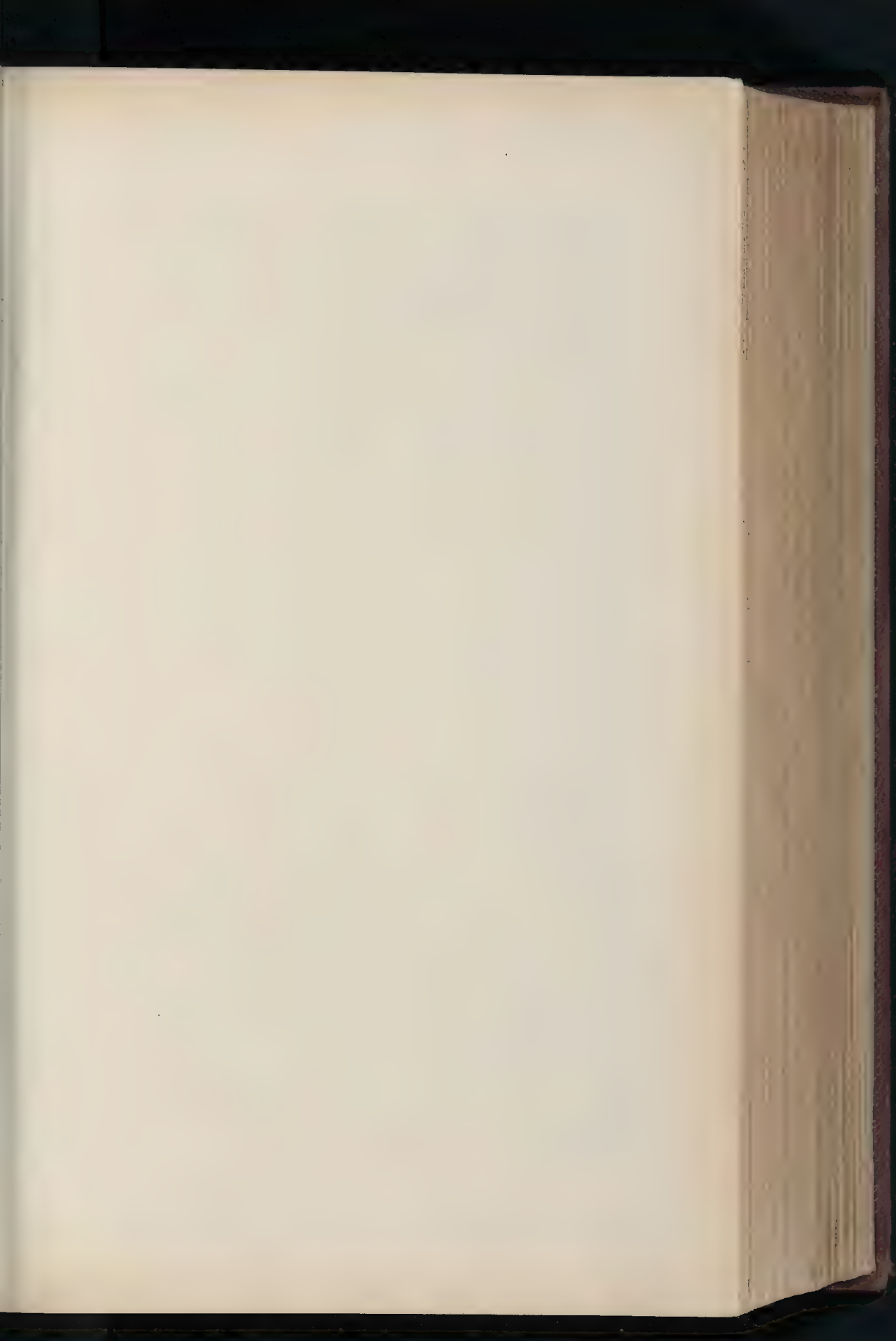
The Thames Embankment Bill.

THIS Bill has passed, in the Commons, through Committee of the whole House, which have expunged the obnoxious clause restricting the public roadway to a footpath between Whitehall Stairs and Westminster Bridge. This the House quite rightly persisted in doing, although the Government desire merely to amend the clause so far as to limit the absurd arrangement till Parliament should otherwise provide. Parliament preferred at once otherwise to provide.

** This exhibition of jealous regard displayed towards the precincts of Westminster finds a parallel two hundred years earlier, and is recorded in a footnote to Lord Braybrooke's edition of "Pepys's Diary":—"The landing-place leading from the Thames to New Palace-yard, still used by the Lord Mayor on their way to be sworn into office at the Exchequer, was styled in the old maps 'Westminster Bridge.' There had been a plan of building a bridge across the Thames near this place in 1664, which is thus noticed in the correspondence of the French Ambassador with Louis XIV.:—'Sur ce qu'avait été proposé de faire un pont devant Whitehall pour passer du côté de Faxeall, il n'y a été opposé par des vives remontrances; et le Roy a déclaré que de so vivant il n'y consentirait ce qui a extrêmement satisfait les bateliers qui sont un corps fort considerable dans cette Ville.'—Ed.

ARCHITECTURAL DEPARTMENT, UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

An exhibition of work done by students in the Architectural Department during the past session will be held in the Science Library, University College, from Saturday, July 13, to Saturday, July 20, both days inclusive. The exhibition will be open to the public from 9 a.m. to 6 p.m.





THAMES HOUSE, SOUTHWARK BRIDGE, E



"THE FRUITS OF LAND AND WATER."

MR. RICHARD GARBE, SCULPTOR.



"WISDOM IN COMMERCE."

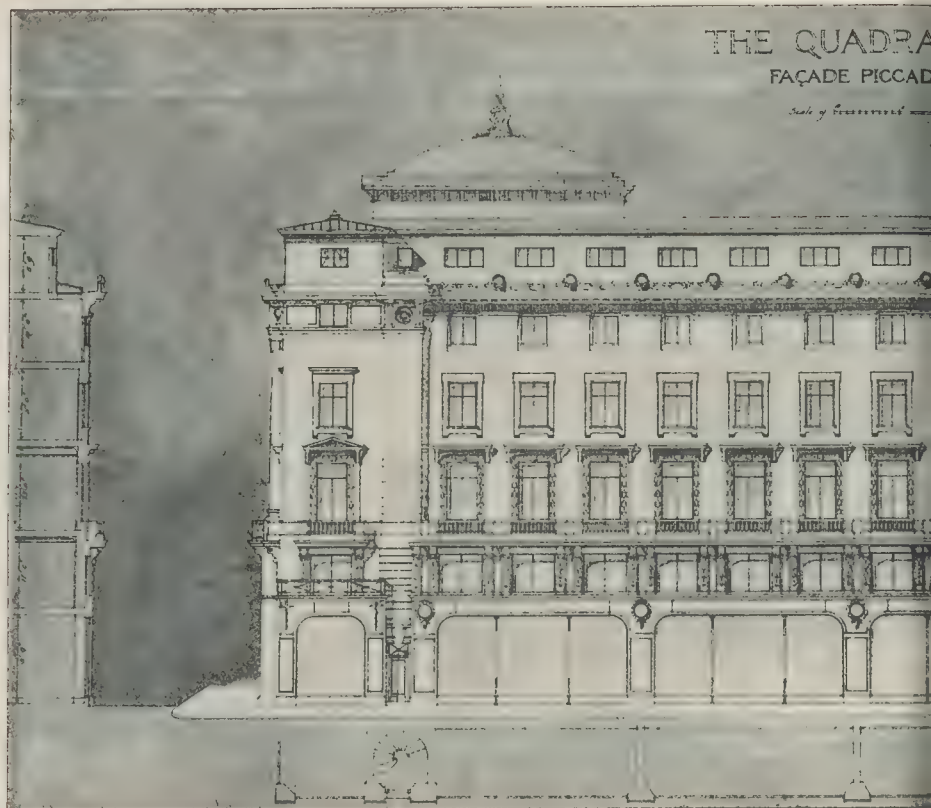
MR. RICHARD GARBE, SCULPTOR.

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., Soho, W.

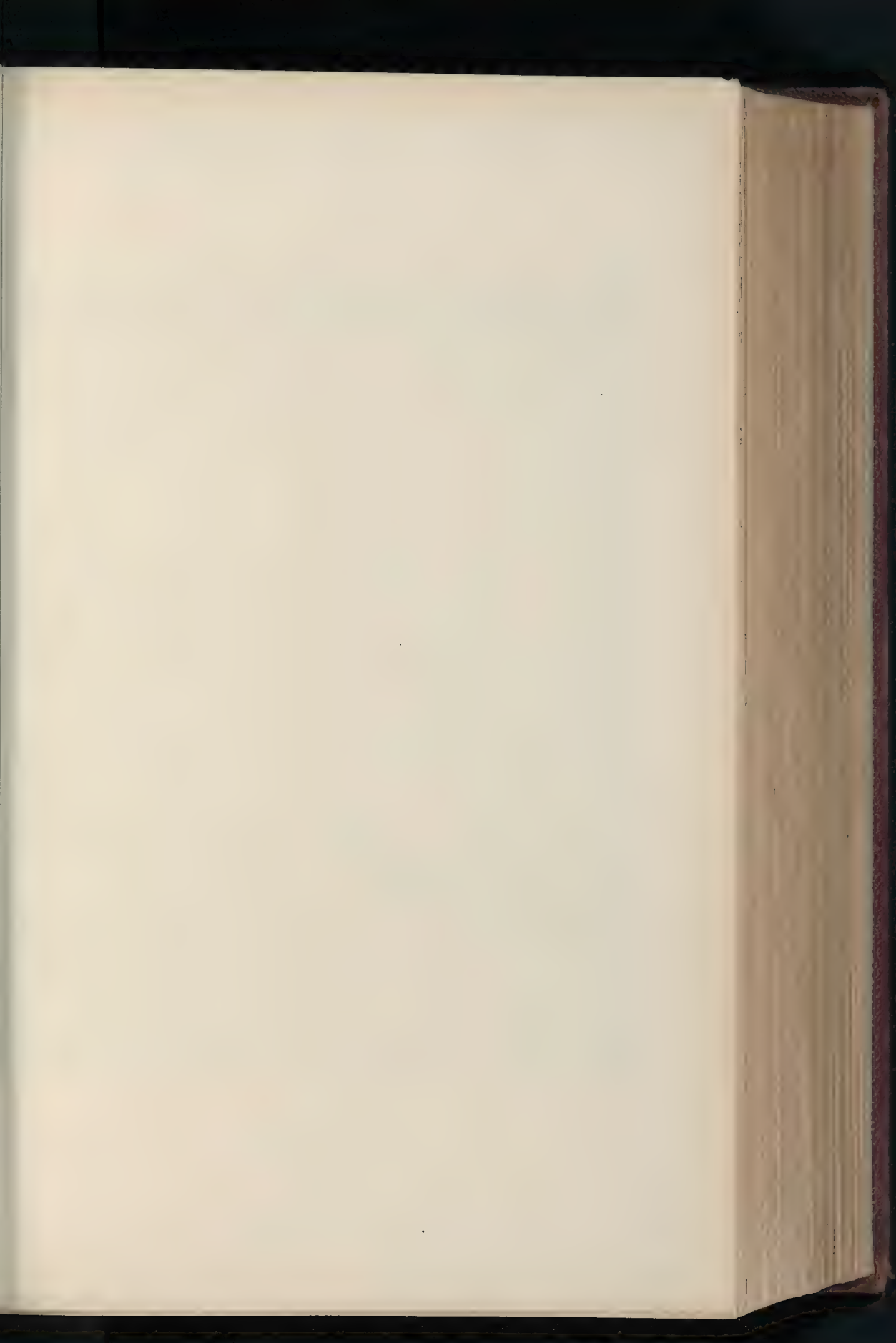
R.I.B.A. (of Messrs. Colcutt & Hamp) ARCHITECT.

THE QUADRA FAÇADE PICCAD

Scale of Proportions



"THE BUILDER" REGENT'S QUADRANT COMPETITION



TO
SUGGESTED DESIGN FOR THE

• QUADRANT



"THE BUILDER" REGENT'S QUADRANT COMP

ENT STREET FACADE



PREMIATED DESIGN.—By MR. ALBERT W. MOORE, F.R.I.B.A.

MONTHLY REVIEW *of* CONSTRUCTION.

Thames House : Central Entrance Hall.
Mr. Stanley Hamp, A.R.I.B.A., Architect.

THAMES HOUSE, SOUTHWARK BRIDGE, E.C.

STRIKING architectural work recently erected in a quarter of the City hitherto not particularly renowned for buildings consists of the large block of occupying a fine site at the junction of Thames-street and Queen-street-place, Southwark Bridge; it has been carried out from the designs of Mr. Stanley Hamp (of Messrs. Colcutt & Hamp).

The premises, known as "Thames House," occupy a portion of the estate of the Vintners' Company and adjoin Vintners' Hall at the end. They have been built for Liebig's Extract of Meat Company, Ltd., the lower portion including two covered yards, occupied by the London and South-Western Railway Company Messrs. Tate, together with a range of offices occupied by Messrs. Sandeman. The remainder of the building has been laid out for use as offices.

The main front, of which a portion is shown in one of our plates, extends along Queen-street-place for the length of about 280 ft., the front on Upper Thames-street is about 6 in. long, and the south front looking towards the river is about 80 ft. long.

As shown by the plans reproduced on page 49, the building is L-shaped in plan, the south wing providing several unusually lighted offices in an exceptionally open position.

On the steep gradient of the Southwark Bridge each—the main obstacle to the general of this cross-river communication—must be presented some interesting problems of solution by the architect when setting the floors of the new building. It is will be gathered from the statement

that the first floor is little above pavement level at the south end, and approximately 20 ft. above Upper Thames-street at the north end.

The varying level of the street has been dealt with by the architect in the ingenious manner illustrated in part on page 48, which shows a longitudinal section.

At the junction of Upper Thames-street and Queen-street-place the office or showroom, provided with a separate corner entrance, starts at a level about 3 ft. 6 in. below that of the ground floor, reducing the height of the lower ground-floor story beneath it by an equal amount.

By lowering the floor in this manner the height of the corner apartment is advantageously increased, and the floor is brought within 4 ft. 6 in. from the pavement, convenient means of access being furnished by two flights of four steps in the entrance.

On the western side of the Upper Thames-street front there is an independent entrance to the left, the use of which is not indicated on the drawings, but we presume the entrance and lift are intended for delivering goods to and from the vaults constituting the basement story.

In Queen-street-place, next to the corner office, is the lower main entrance, about 6 ft. below ground-floor level.

The entrance hall, slightly above street level, measures 25 ft. 6 in. wide by 12 ft. from front to back and includes two flights of stairs, one of eight steps leading up to the main hall and the other leading down to the lower ground floor and the basement.

On page 48 is a reproduction of a photograph of the lower entrance hall, and, although it enables our readers to gather an excellent idea of the general architectural treatment and the

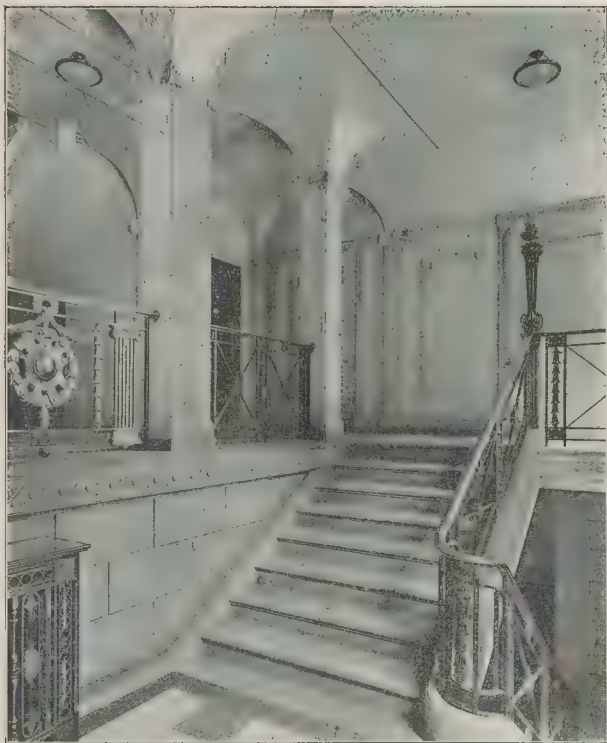
handsome metal balustrades on the stairways and landings, it affords no indication of the harmonious colour scheme which is an equally noteworthy feature of the whole design.

The flooring and stair-treads are in Sicilian marble with black marble floor bordering, the walls and columns are finished in French *stucco*, and the ceilings and column capitals are executed in enriched modelled fibrous plaster.

The proportions of the main hall are considerably reduced by the store and lift enclosure at the left hand and right hand respectively, as well as by the staircase leading to the upper floors. The finish of the hall and staircase is generally similar to that of the entrance hall, and, as will be noted with satisfaction by those of our readers who are practically interested in fire-resisting design, the lift enclosure is solidly constructed in incombustible material.

About midway between Upper Thames-street and the south end of the building is the central entrance, approximately at ground-floor level. Just beyond this entrance the ground floor, lower ground floor, and basement stories are stopped by a transverse division wall, on the other side of which are the offices and covered yard of the London and South-Western Railway Company and the covered yard of Messrs. Tate.

The exterior of the central entrance is surmounted by a group of statuary representing Abundance, by Mr. F. Lynn Jenkins, R.B.S., of Kensington. Passing through a vestibule with curved sides, the main hall is reached, a well-proportioned apartment, at the back of which is the principal staircase, with a passenger lift in the square well.



Thames House: Interior of Lower Main Entrance Hall.

Mr. Stanley Hamp, A.R.I.B.A., Architect.

The walls are lined with marble to the height of 7 ft., the stiles and rails being in Vert d'Estours marble, and the panels opened out in Arni Alto marble. The pavement is laid in slabs of demi statuary with bands in Cipolline marble, other details of the decorative work being similar to those in the lower main entrance.

A few steps to the south of the central entrance is a doorway opening upon a lobby with a flight of three stairs giving access to the offices of the London and South-Western Railway Company. These offices are suspended over the adjoining covered yard, and are at the same level as the ground floor of the main building.

At the south end of the premises the first

floor is only a short distance above street level, and is approached directly from the upper main entrance, illustrated in our plates.

The sculpture over the doorway and above the windows on the fourth-floor story was executed by Mr. Richard Garbe.

From the porch a flight of ten steps leads up to the entrance hall, 26 ft. long by 10 ft. wide, including the staircase communicating with the floors above. The lift well here, as at the lower main entrance, is enclosed by the fire-resisting walls. Beneath the stairs is a room for the accommodation of electricity meters and main switches and fuses in connexion with the power and lighting circuits.

As shown in the plans, the offices over the yard occupied by Messrs. Tate are provided

with exit stairs, affording convenient means of communication between the various floors, and providing additional safety for occupants of the building in the event of fire.

Including the basement and lower floors, the building comprises five floors, with the exception of the part facing Upper Thames-street, where the main roof gives place to one at the lower level.

The plans illustrated are typical of the floors. The third floor is partitioned off for occupation by the directors and office staff of proprietors. On the upper floors the principal staircase landings from the ground floor to the fifth floor are finished in Sicilian and marble, the skirtings around the landings up the stairs being in Hauteville marble. The staircase walls and ceilings are in French and fibrous plaster, harmonising with the entrance halls. The corridors on the principal floor are similarly treated. Parquetry flooring has been laid in various offices and corridors, and marble terrazzo pavement in the lavatories.

The board-room on the third floor is a large apartment, 36 ft. long by 18 ft. wide, with two bay windows opening upon a balcony over Upper Thames-street. The interior is panelled in mahogany with carved limbo-frieze and enrichments executed by Messrs. H. H. Martyn & Co., Ltd., of Cheltenham.

With the exception of the principal rooms, halls, and staircases, the interior of the building is finished on simple lines suitable for office purposes, and we may add that the general character of the construction is well adapted for the erection of partition walls wherever may be required for the subdivision of interior space into large or small offices.

The building throughout is constructed of fire-resisting materials with solid floors, roofs, and, although considerable quantities of steel have been used in the form of stanchions, girders, and joists, it is essentially a masonry structure.

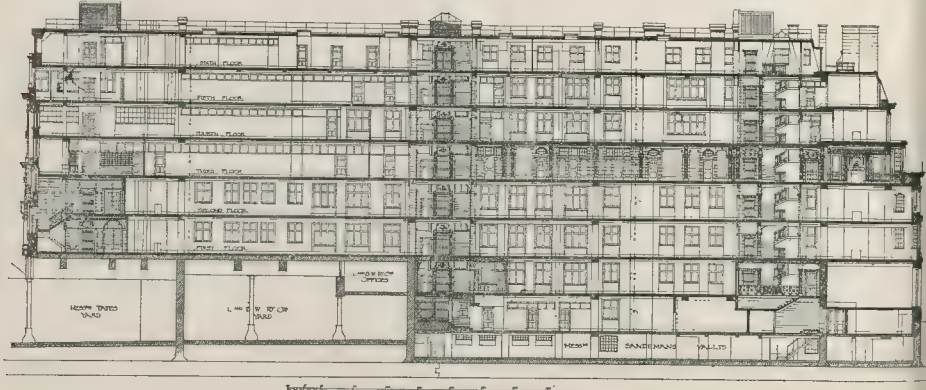
The exterior is faced with brown Portland stone on a basement story of grey Aberdeen granite, the front slopes of the roof being covered with green Westmorland slates, the roofs and flats at the back with asphalt. All the front window-sashes are in wrought iron, which has also been used to a large extent in the form of sliding sashes.

The general building contractors were Messrs. George Trollope & Sons & Colls & Son, Ltd., and the clerk of the works was Mr. Robinson.

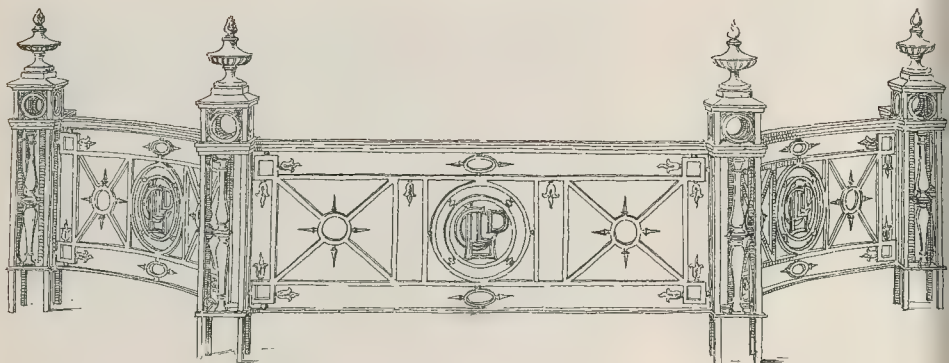
The steelwork was constructed and erected by Messrs. H. Young & Co., Ltd., of Nine Elms, S.W., under the direction of Messrs. Rees Jackson, & Parry, the consulting engineers acting in conjunction with the architect.

Granite for the exterior was supplied by Messrs. Fyfe, Ltd., and the Portland cement by Mr. F. J. Barnes, of Portland. The London Fireclay Company, Ltd., supplied the "Gryppo" patent wall tiles and safety tiles in light green, ivory, and white glazes, and "Shepherd" partition bricks.

All the marble work described above was carried out by Messrs. Burke & Co., Rathbone-place, W., who also laid the terrazzo pavement in the lavatories and parquetry flooring in offices and corridors.



Thames House: Longitudinal Section.



Thames House: Part of Wrought and Cast Iron Balcony.

fittings generally are in white glazed fireclay, but a few single lavatories have whiteware basins with marble tops and skirtings.

Lifts.—The lift installation includes three passenger lifts supplied and fixed by the Otis Elevator Company, Ltd. Each lift has the capacity of 14 cwt., equal to the weight of about ten persons, and the car is arranged to travel at the maximum speed of 225 ft. per minute.

The guides are of steel T section, machined after rolling, and the car as well as the counter-balance is fitted with safety devices, intended to come into operation if excessive downward speed should be attained. Each lift is controlled from the car by a self-centring lever handle switch, enabling the attendant to run the car at maximum or slow speed at will.

The landing gates are equipped with electric contacts and auto-mechanical locks, preventing the car from being operated unless all the gates are closed, and also preventing the opening of any gate unless the car is opposite to it.

THE DRESDEN LABORATORY FOR ARCHITECTURAL ACOUSTICS.

By a decree of the Government Board of Education (Kultusministerium) of the Kingdom of Saxony, dated March 28, 1912, a Laboratory for Architectural Acoustics has been established in connexion with the Technical College (Technische Hochschule) in Dresden. Professor Dr. Heger, who for years has been engaged in examining concert-rooms, lecture halls, and churches as to their acoustic properties, is at the head of the Laboratory, which also contains a collection of instruments for acoustic experiments and researches. His proposals for improvements in that regard have in most cases proved quite satisfactory.

The Laboratory is intended to examine acoustic theories and to study the properties of building materials, especially to find co-efficients by which their acoustic qualities and their fitness for sound absorption can be numerically expressed. At the request of private persons and public corporations interested in concert-rooms, lecture halls, and churches, etc., the acoustic effect of these buildings will be examined either before or while they are being built, or while in practical use; if improvements are necessary, the Laboratory offers to work out the respective plans and to superintend their execution. Designs for new halls, etc., may also be submitted to the Laboratory for advice as to measures conducive to good acoustic results.

The result of the work achieved by Professor Heger before the opening of the Laboratory is laid down in the following fundamental rules, which will give directives for future work:—

The unsatisfactory acoustic effect of a room is generally caused by the fact that the sound arriving at the hearer's ear is disturbed by secondary sounds—i.e., the echo or reflection of preceding sound-waves; the reason of bad hearing is, therefore, always a surplus of sound, not too little of it. (The same result was arrived at by Exner, Vienna.)

The echo is caused by the sound-waves being reflected from the boundaries of a closed room, its walls, ceiling, floor, etc.

Every surface struck by sound-waves travelling through the air absorbs a certain part of the sound energy; thus every spot in the boundaries of a room is in its part effective in causing an echo. The total amount of sound thus absorbed is independent of the angle of incidence.

The absorbing factor of a wall, a ceiling, etc., indicates the amount of sound energy reflected by them. For a wide opening immediately leading into the open air this factor is 1. (Tabine's unit of sound absorption.) It is possible to treat the surface of a wall in a manner as to obtain a factor of absorption approximating 1.

The desirable distinctness of hearing can be attained in rooms of every description by treating the walls, ceiling, etc., so as to produce a sufficient absorption of sound. For most purposes a factor of absorption between one-tenth and one-seventh may be considered sufficient.

In order to produce a powerful acoustic effect the surfaces in the neighbourhood of the source of sound ought to reflect as much sound as possible, while the rest of the room ought to absorb as much sound as possible. The measures conducive to this effect in every particular case can only be ascertained by an expert in architectural acoustics examining the individual properties of the room in question.



Thames House: Metal Doors.

The Dresden Laboratory, though only short time in existence, has been requested give advice for improving the acoustic quality of concert-rooms, etc., at several places in Germany.

THE DISINTEGRATION AND PRESERVATION OF ANTIQUITIES.

F. RATHEN states that the disintegration of stone objects and pottery can nearly always be traced to the presence of soluble salts, the most effective way to preservation is to remove the salts by lixiviation. The method used may be for large objects, especially limestone blocks, pure tap water, spring or rain water for the smaller, more valuable articles distilled water must be used.

Occasionally articles are met with which not withstand lixiviation with water, and a trial test should be made in all cases. The water is changed frequently at first, and later at intervals of a week.

Illustrations are given in the author's paper of the manner in which the lixiviation, both small and of large objects, is carried out the laboratory of the Berlin Museum. After lixiviation and drying, limestone objects have their surface hardened by a treatment with "Fluat"; whilst the enamelled side of enamel bricks is coated with molten paraffin, the excess which is removed by rotating brushes. Cracked articles are bandaged before lixiviation, and afterwards are immersed in molten paraffin being allowed to cool before the bandages are removed. In the case of coloured objects treatment with "Fluat" will often fix and preserve the colour.

Superficial deposits of carbonate of lime objects which are themselves acid-resistant are removed therefrom by lixiviation with very dilute hydrochloric acid, followed by thorough washing to remove all traces of the acid used. In other cases such deposits are removed by mechanical means.

Superficial deposits on burnt clay or pottery are removed by heating slowly in a drying oven to 120 deg. C., and then introduced in a muffle-furnace heated slowly to 600 deg. C. After slowly cooling the articles are deprived of the deposits by a blast of air, by a soft brush or by prolonged immersion in water, as the case may be.

Metal objects are usually cleansed best by electrolytic reduction process, the metal object being either used as or connected with the cathode, and a weak electric current passed through the electrolyte. The hydrogen liberated loosens the coating of rust or the like, which can subsequently be removed by brushing, after which the object is thoroughly washed in water and then dried. Iron objects are removed from the water and immersed directly in molten paraffin at 120 deg. C., whereby the water is evaporated and the object becomes coated with paraffin the excess of which is subsequently removed. Bronze articles after cleaning are lacquered and lead ones are coated with wax. Iron objects frequently contain chlorine compounds which may completely disintegrate them; these compounds are to be removed by lixiviation in water, and then molten paraffin applied as described above. Tin objects must be kept

TABLE B.—COMPARATIVE COST OF REINFORCED CONCRETE AND TIMBER "MILL CONSTRUCTION" BUILDINGS.

Class of Building.	Area		Number of Stories.	Floor Superload per sq. ft.	Cost.		Reinforced Concrete Cost More or Less than Timber.	
					Reinforced Concrete.	Timber.		
	Ft.	Ft.		Lb.	£	£	Per Cent.	Per Cent.
Factory	140	60	3	330	5,700	5,600	18	—
Factory	140	60	5	200	11,300	10,400	7.7	—
Factory	112	112	4	—	17,200	17,000	0.82	—
Factory	100	45	5	—	16,500	14,800	11.4	—
Warehouse	155	20	9	—	14,400	10,400	33.0	—
Warehouse	155	20	9	—	39,300	42,500	—	7.8
Warehouse	94	38	6	20	8,600	7,900	10.2	—
Warehouse	120	100	4	—	12,720	12,300	3.25	—
Warehouse	200	100	4	—	26,200	23,400	12.0	—
Bakery	(60,000 sq. ft.)	—	—	300	12,500	12,800	—	2.35
Shop	—	—	—	—	3,580	3,500	19.4	—
Shop	—	—	—	—	13,800	13,100	5.6	—

the Museum at a temperature not below 50° C. in order to prevent the formation of "tinpest." Wooden objects should be coated with paraffin immediately after removal from the excavation, the fused paraffin being sprinkled or poured on to the object. Excesses of paraffin is subsequently removed by the application of a small gas flame $\frac{1}{8}$ in. in diameter. The author describes forms of air-tight cases in which objects can be preserved in an atmosphere free from pure and carbon dioxide, the usual active agents in corrosion.

Water casts may be rendered washable by coating the surface with wax or paraffin, the chemical which renders it less permeable. Cement for the cast with a solution of cellulose, known as "zapon," yields the results, and when this is done it may be easily washed with soap and water and a brush, but the treatment should be repeated every year or two as the surface cracks. Instead of "zapon," acetylcellulose, known as "cello," "cellite" may be used. In the discussion the foregoing recommendations as to casts, drying of the same was attributed to dry-smoke as well as to dust and handling. Ink stains may be removed by alcohol or methyl spirit.

THE COST OF BUILDINGS.

At the annual meeting of the National Association of Cement Users (U.S.A.) the following unit costs were presented of reinforced concrete buildings of various types as estimated by Messrs. Lockwood, Greene, & Co., architects and engineers, of Boston.

This firm have had extensive experience in the building of reinforced concrete, and the figures given below (see Table A), are of the same order of value.

TABLE A.—COST OF REINFORCED CONCRETE INDUSTRIAL BUILDINGS.

Class of Building.	Area.		Number of Stories.	Floor Superload per sq. ft.	Cost (including foundation).	
					Per sq. ft. of Floor Area.	Per cu. ft. of Contents.
	Ft.	Ft.		Lb.	s. d.	d.
Line shop	230	50	4	150	4 10	3 1
Line shop	230	100	2	150	7 9	5
Edge works	223	56	2	300	6 5	5
On mill	550	125	2	75	4 5	3
On shed	341	231	1	125	7 5	3
House	181	56	4	150	4 9	3
House	256	100	12	4	4 1	3
Average cost	—	—	—	—	5 7	4 3

The foregoing costs include everything, with the exception of heating and ventilation, lighting, and mechanical installations. The cost per square foot represent the total cost by the aggregate floor area.

Figures presented at a previous meeting of the same Association showed the average costs for twenty-one reinforced concrete buildings to be 7s. 2d. per square foot and 1s. 7d. per cubic foot. These structures were of varied character, the lowest costs having been 4d. per square foot and 3d. per cubic foot, the highest costs 22s. 8d. per square foot and 1s. 7d. per cubic foot.

In a recent issue of the *Engineering Magazine* H. G. Tyrrell gives a digest of the comparative unit costs of industrial buildings in the United States, and although the rates for materials and labour in that country differ considerably from those prevailing in Great Britain, the subjoined figures will be found useful for the purposes of comparison.

Reinforced concrete factory buildings from one to five stories high and about 50 ft. wide are to involve the following unit costs, exclusive of interior partitions, plumbing, heating, lighting, lifts:—

Number of stories.	Cost per sq. ft. of Floor Area.	Cost per cu. ft. of Contents.
	s. d.	d.
1	4 2	4 7
2	4 4	4 9
3-5	4 7	5 0

These prices apply to work done by contractors who are regularly engaged in reinforced concrete construction, and it is estimated that the cost would be exceeded by about 25 per cent. if the same work were performed by ordinary labour.

Building types in order of their relative first cost are thus arranged by Mr. Tyrrell:—

(1) Steel frame (complete), fire-proofed, with brick curtain walls and timber flooring.

(2) Steel frame (interior), fire-proofed, with self-sustaining brick walls and timber flooring.

(3) Steel frame (complete), fire-proofed, with brick curtain walls and reinforced concrete flooring.

(4) Steel frame (interior), fire-proofed, with self-sustaining brick walls and reinforced concrete flooring.

(5) Reinforced concrete throughout.

(6) Steel frame (part interior), not fire-proofed, with self-sustaining brick walls and timber flooring.

(7) Timber (mill construction) throughout.

It is a noteworthy point that even in an important timber-producing country like the United States the cost of reinforced concrete buildings is sometimes less or only a little more than that of timber buildings.

This comparison is similar to another estimate of the same kind in our possession relative to the cost of timber and reinforced concrete construction in America, and shows that the maintenance charges for a building of the second type may reasonably be expected to be 420l. less than those for one of the first type on the stated cost basis.

If capitalised at 6 per cent., the saving of 420l. per annum is equivalent to 7,000l. Consequently a reinforced concrete building would not really cost in the long run more than a timber mill construction building, even on the supposition that the initial outlay were 35 per cent. greater.

Comparing fire-protected steel-frame construction with reinforced concrete, Mr. Tyrrell finds that in the United States, for floor superloads of 150 lb. per square foot and upwards, reinforced concrete is from 5 to 20 per cent. less costly; for lighter loads the cost of the two types is nearly equal; and in the case of very light loads and long spans steel framing is less costly than reinforced concrete, particularly in single-story buildings.

Table C gives the relative cost for different kinds of protected steel-frame and reinforced concrete buildings in America.

Those figures appear conclusive as to the saving effected in the cases quoted, but it would not doubt be possible for a similar table to be prepared showing equal advantages for steel in respect of other buildings in the United States. Nevertheless, the comparison shows that reinforced concrete can often compete successfully with steel-frame construction.

It is to be regretted that figures of the kind quoted in this article are not available to show the relative cost of buildings in the United Kingdom.

DEMOLITION OF A TOWER BY EXPLOSIVES.

Owing to projected alterations on the property of the Port Talbot Railway and Docks Company, it recently became necessary to undertake the demolition of a power-house, together with a brick-built hydraulic accumulator tower 56 ft. high by 17 ft. square, the walls averaging 2 ft. 3 in. thick. Some large blocks of concrete, formed as foundations for boilers, engines, and machinery, had also to be removed.

Having regard to the proximity of the docks, it was necessary that operations should be conducted with the greatest possible care, and, as all the structures were of considerable thickness and built of concrete made with a view to permanent durability and strength, the work of removing them was one of considerable difficulty.

TABLE C.—COMPARATIVE COST OF REINFORCED CONCRETE AND STEEL-FRAME BUILDINGS.

Class of Building.	Area.		Number of Stories.	Floor Superload per sq. ft.	Cost.		Reinforced Concrete Cost More or Less than Steel Frame.	
					Reinforced Concrete.	Steel Frame.		
	Ft.	Ft.		Lb.	£	£	Per Cent.	Per Cent.
Factory	132	66	6	30	12,130	13,350	—	13
Factory	100	50	3	200	5,000	5,600	—	10.7
Warehouse	150	140	10	200	50,000	56,000	—	10.7
Office	120	86	8	70	34,000	36,800	—	7.6
Office	—	—	17	70	—	—	—	4.9
Mill	—	—	3	—	55,640	57,280	—	2.8
Mill	320	60	5	—	18,900	17,490	3.1	—
Store (shop)	120	71	6	125	17,900	19,200	—	3.6
Hospital	—	—	6	—	185,600	164,600	—	3.6
Hotel	140	120	8	70	34,200	36,800	—	7.0
Hotel	—	—	11	70	55,000	60,800	—	4.6

For the purpose of razing the accumulator tower the walls were drilled horizontally near the base along three sides. The holes were 1 ft. 9 in. deep, and were charged with ammonal explosive, 4-oz. and 6-oz. shots being employed on two opposite sides and 8-oz. shots on the third or falling side.

The total quantity of ammonal required to bring down this tower, the weight of which was fully 600 tons, was only 8½ lb., a fact illustrating forcibly the extraordinary power of modern explosives.

All the charges were connected by the means of Cordeau cable passing around three sides of the tower, and finished at the ends by electric detonator fuses coupled together and placed in connexion with an electric battery.

In order to obviate the risk of flying debris railway sleepers were stacked around the base of the tower, a device that proved quite efficacious after the firing of the charges.

The power-house walls also were demolished by blasting, the charges being fired by the Cordeau detonator.

A few days after the first series of operations the massive foundation blocks previously mentioned were destroyed in a similar manner. In every case the concrete was broken up into fragments of size convenient for removal from the site.

The operations were conducted throughout without any misadventure or injury to property, and to the entire satisfaction of the company.

CONSTRUCTION NOTES.

Reinforced Concrete Liquor Storage Tank.

IN a paper submitted to the Institution of Gas Engineers, by Mr. S. Meunier, Engineer of the Stockport Corporation Gasworks, is given a description of his experience in securing watertightness in a concrete tank. That description, with the accompanying diagram, we subjoin.

An additional liquor storage tank and a boiler-house were constructed near the river bank, the boundary wall of which was, after being raised and strengthened, cleaned and repointed. They also immediately adjoin the sulphate of ammonia stores. The gable wall

of this was taken down, and, after the liquor tank was completed, rebuilt upon the wall forming its west side. The liquor tank was put in on the reinforced concrete principle, after careful consideration of strengths, costs, and possible risks of leaking. The Kahn system was the one ultimately adopted, and from the illustration given herewith it will be seen that the walls, etc., are very light, being only 8 in. thick at the bottom and 4 in. at the top, while the tank is 10 ft. deep. The reinforcement, however, together with the arrangement of buttresses and the tying together of bottom, sides, and tops, makes the whole extremely strong. On completion it was left empty for a considerable time and kept under daily observation, and not the slightest sign of fracture or "giving" in any part was ever discovered.

The testing of the tank for leakage was also very carefully carried out. One or two leaks were found in the bottom (probably due to a little carelessness in rendering or defect in the mixing of the concrete), which varied somewhat in accordance with the height of the water in the adjacent river, but after being made right, and finding that the latter had ceased to create any effect, the tank was filled with water and left to stand, daily observations being made after the first week. It was found for a time that a small but definite loss took place, which was at last partially counteracted by floating dry and fine cement over the surface of the water; but a further difficulty then arose. There would be no diminution in level for a day or two, and then perhaps a drop of ½ in. a day for several days, interspersed with variations from zero to ½ in. each. After many attempts to elucidate the cause of this varying trouble, it was decided to coat the top of the tank with a hot mixture of thick tar and sand. It was then found that the apparent loss of water was stopped, but for a few days only. However, by a repetition of the process, with an ultimate addition of a further two coats, a complete cure was established.

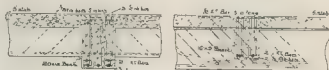
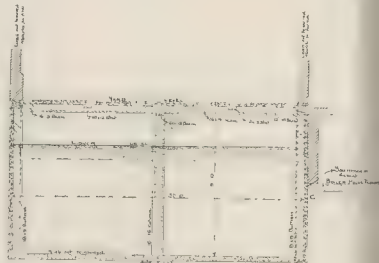
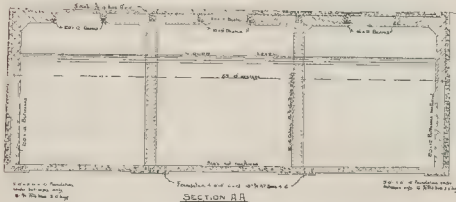
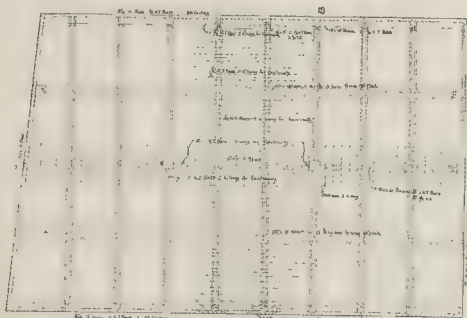
Reconstructed in the most advantageous manner appears to have originated in Germany, where this waste product is largely employed as

flooring, wainscoting, stair-covering, and roof material, in the form that may be designedly reconstructed wood. The sawdust is mixed with magnesium chloride in proportions determined by scientific investigation, the result a composition suitable for the manufacture of tiles, or if mixed on the site where it is used for the formation of floor and surfaces. The addition of colouring materials imparts the appearance of linoleum to finished work. This method of utilising sawdust is by no means unknown in Great Britain, where compositions of the character described are sold by various firms under distinctive designations.

Reinforced Cast-Iron.

A SOMEWHAT novel suggestion made by Dr. von Empey, Vienna, embodies the employment in building construction of hollow cast-iron columns reinforced with concrete in which are embedded spiral coils of steel. Experiments made with four columns of which one consisted of cast-iron only and the other three were reinforced, showed that the effect of the reinforcement was to increase the ultimate resistance by about two and a half times. While the idea is distinctly ingenious we scarcely think it will be generally adopted in view of the greater economy of concrete as compared with iron and steel, for resistance to compression.

F. M. LITTSCHIED examined the so-called "Risk of Lead Poisoning from coating on the interior of Domestic Boilers." certain large copper boilers used for obtaining hot water for household purposes, found that this coating sometimes contained a large quantity of lead. Solder containing lead is also employed in making the joints in vessels. Experiments showed that lead dissolved in appreciable quantity when water was heated in such vessels; a part of the remains in solution, whilst some goes into the sediment of calcium salts, which separate from the water when raised to the boiling-point. The formation of scale in the vessels may, at a time—especially with a hard water—diminish the quantity of lead dissolved from the coating, but a possible source of lead poisoning may arise from the fact that the coating is not of pure tin.



The Stockport Gasworks: Liquor Storage Tank.

Mr. S. Meunier, Engineer.

THE BUILDING TRADE.

INSURANCE ACT: UMPIRE'S DECISIONS.

in pursuance of the regulations made under sect. 91 of the Insurance Act the umpire has given a very large number of decisions various classes of workmen in respect of contributions are payable as being engaged in insured trades for the purposes of insured insurance. The insured trades are listed in the sixth Schedule of the Act, and we set out those decisions which appear under the heading of "Building."

Workmen described as bricklayers, plumbers, masons, scaffolders, plasterers, and the like, of each employed by millers and so forth wholly or mainly in the work of construction, alteration, repair, decoration, or erection of buildings. Bricklayers, slaters, and labourers of each similarly employed by any company. Workmen employed by painting and weaving company as carpenters, joiners, and mechanics wholly or mainly in the repair of machinery; apprentices to the same if employed wholly or mainly by way of labour under a contract with the employer if above the age of sixteen and not under apprentices.

Painters and tilers employed by builders' firms in construction, etc., of buildings. Workmen engaged in the work of fixing stone preparation and dressing of stone (excluding slate) to finished dimensions for use in insured trade under Schedule 6.

Joiners, carpenters, joiners, plumbers, masons, scaffolders, plasterers, and their like, engaged wholly or mainly in the construction, etc., of buildings in connexion with businesses other than insured trades, etc.

Joiners and labourers employed by a firm of joiners engaged wholly or mainly in the construction or rebuilding of kilns. The firmers of the same employed engaged in fixing tiles on or existing buildings, also carpenters and joiners engaged in repairing buildings. Workmen in the employ of a borough council engaged in internal fixed woodwork of school buildings. Workmen engaged in fixing stone preparation and dressing of stone (excluding slate) to fixed dimensions for use in insured trade. Workmen employed by a firm of roofing felt manufacturers and roofers, and engaged in the work of fixing tiles on or existing buildings, also carpenters and joiners engaged in repairing buildings. Workmen engaged in the work of fixing tiles on or existing buildings, also carpenters and joiners engaged in repairing buildings.

It is "persons engaged in lathing, plastering, gutters and spouting, slating, and rendering lead gutters, lead flashing, and counter-flashing."

Persons preparing and dressing stone for use in the construction of a simple character, such as are to be found in cemeteries, and fixing the same.

Persons engaged in the work of repairing sewers, and persons engaged in the work of repairing sewers.

In carrying through the above decisions it will be seen that the difficulty of ascertaining the liability of employers under this part of the Act is really occasioned by sect. 107 subsect. (2), which provides that "in determining any question as to whether any trade in which a man is or has been employed is an insured trade or not, regard shall be had to the nature of the work in which the workman is engaged, and to the business of the employer on whom he is employed."

When the Insurance Bill was introduced the question was certainly conveyed that employment insurance was in the nature of a new specified industry. The above decision has extended the operation of the Act to a most extraordinary way, and this has led to the general health insurance.

It is to be seen from the above decisions, any person carrying out a process which is not to come within the trades mentioned in Schedule II, is liable under penalty to pay contributions. This involves the same kind of difficulty that was introduced in the Work-

men's Compensation Act of 1897, and which experience proved to be so inadvisable.

In the building trade some sort of principle can be extracted that any person wholly or mainly engaged in the construction, alteration, repair, decoration, or demolition of buildings is to be insured, but in other trades, such as "mechanical engineering," the difficulty of determining who has to be insured is greater. But even in the building trade, difficult points arise. For instance, take the decision quoted above, "workmen engaged in the preparation of stone and dressings (excluding slate) to fixed dimensions in connexion with any trade set out in Schedule 6." What heading in Schedule 6 does this come under? The definition of "building" is the construction, etc., of buildings, "including the manufacture of any fittings of wood commonly made in builders' workshops or yards." We can see no heading which would include the dressing of stone to fixed dimensions apart from fixing the same in position. By sect. 101 subsect. 6 these decisions of the umpire, moreover, appear to be conclusive, yet the points he has to decide are very similar to those which have caused such difficulty both in the lower Courts and in the Court of Appeal and the House of Lords. This decision by departments is a new modern departure, and it may save litigation, but it imposes "burdens grievous to be borne" on individuals who can have no redress.

THE SELECTION OF BUILDING MATERIALS.

In days when the transport of materials from place to place in one country or from one country to another was costly and troublesome, building materials were primarily responsible for the development of architectural styles, or for the adoption of certain styles in different countries and localities.

It is true that materials were sometimes brought from great distances in ancient days, as, for instance, for the building of King Solomon's temple; but the almost universal practice was for architects to employ such materials as could readily be obtained in the immediate neighbourhood of the building to be erected.

One happy result following the employment of indigenous building materials was the harmony existing between buildings and their surroundings.

Examples of this harmonious association are to be found in many parts of England. Nothing is more charming than the timber-built cottage or country house in a well-wooded district; nothing is more appropriate than the warm-toned red brick house in a district where the whole landscape gives evidence of the red earth providing material for the bricks; and nothing more fitting reflects the spirit of a rocky and mountainous region than the solidly-built stone house.

With the increase and multiplication of transport facilities the building materials of the entire world are placed at the disposal of the local architect, with the result that characteristic architecture is far less evident than formerly in individual districts of this and other countries.

That the same kind of change is taking place in Canada is shown by a recent article written by Mr. Philip J. Turner, F.R.I.B.A., of McGill University, on the "Use and Selection of Building Materials." Adverting to this point, Mr. Turner says: "We see stone used in brick districts, brick in stone, and many other such anomalies, apparently for no other reason than that the owners like to be ostentatious and to show they have plenty of money to spend, instead of having a well-designed, unobtrusive building in keeping with its surroundings."

The article to which we refer contains many useful hints on the use of familiar materials, such as stone, brick, and wood, and quite deserves consideration by the profession, as the following references will make clear to our readers.

In the selection of stone durability is obviously a most important point, as evidenced by cases adduced by Mr. Turner.

For instance, the limestone selected by a Commission in 1839 for the Houses of Parliament has proved to be particularly unsuited to the atmosphere of London, although similar limestones have been largely used from early times in the purer air of Yorkshire and the adjoining counties with satisfactory results.

A more happy experience is furnished by the choice of Portland stone for the building of St. Paul's Cathedral and by the precaution of Wren in forbidding the use of any block of stone that had not been seasoned for many months.

But we are reminded further that the numerous variations in the characteristics of building stones make the task of selecting material for any given work, or of adapting the work to the available material, one that often requires serious consideration.

If the material has already been selected style and detail must be adapted to its character. Thus, if it is tough and difficult to work it would be absurd to adopt a style requiring wrought stone in large quantities; if it is also without cleavage or distinct bedding planes even coursed rubble work might be out of the question; and if the beds are only a few inches thick massive effects requiring large stones cannot be attempted.

Again, assuming the stone to be soft and perishable, close joints and smooth finish should prevail, and projections likely to catch water should be avoided unless executed in stone of harder description.

In the endeavour to treat stone sculpturally by undercutting in the same way that he had followed in his wood carving Grinling Gibbons did violence to the true and essential qualities of the material, which in course of time fell to pieces.

Sandstone mouldings must be bold and large, and granite calls for bold and simple treatment without over-elaboration in sculptural details.

Marble in its fulness of grain is the exact opposite of granite, and is capable of receiving the most delicate mouldings and the most exquisite finish in carving. As an illustration of the appropriate uses of marble in architecture Mr. Turner cites the altar in the Church of Santa Maria dei Miracoli, Venice, where this material is employed in three characteristic ways:—(a) In wall panels, the figure of the marble being utilised as decoration; (b) in delicate carving; (c) in mosaic work.

In discussing timber, Mr. Turner deals more particularly with the varieties of wood available in Canada, but many of his remarks are worthy of attention by young architects in every country.

The toughness and density of timber have necessarily to be considered in determining the character and size of details and mouldings. Hardwoods permit sharp thin lines, and small and delicate mouldings that would be impracticable in softer materials.

Certain varieties of wood, like some kinds of marble, are characterised by grain and figure rendering them particularly suited to decorative purposes in the form of panels simply treated with few mouldings.

The possibilities of brick in architecture are great and varied. The material is one lending itself to pleasing effects by the use of different shades of brick. For example, grey or purple brick for the quoins, arches, and bands of a building, in conjunction with red brick for the general wall surfaces, makes a happy combination and gives interest, provided the colour contrasts are not too marked.

The tone of brick walls may be uniform or varied and the texture fine or coarse. With a fine texture the tone should be uniform, and variety of tone is pleasing where the texture is coarse.

Bricks of special dimensions, such as the Roman brick, are often useful for variation of treatment, and cut or rubbed brick can be employed with very pleasing effect, but, as Mr. Turner rightly says, work of this kind should always be framed by stronger material, and not applied in structural forms lending, or appearing to lend, support to stronger material, whether brick or stone.

CONCRETE-MIXERS: THE WHALLEY MIXER.

PATENTED by Mr. Whalley, of Blackpool, this concrete-mixer is supplied by Messrs. Bristowe & Co., Ltd., of Westminster. The illustration on this page shows the machine, which can be placed on any convenient support or supplied with carriage and wheels.

It comprises a stationary pan with a vertical shaft having radial arms which are fitted with stirrers. The pan is cast with brackets for the side standards and bridge carrying the gear for rotating the central shaft and stirrers in connexion therewith. At the front of the pan is a discharge valve for the delivery of mixed concrete, and at the back of the machine is a hopper for feeding materials into the pan.

The action of the stirrers is such that while tending to move the materials towards the periphery of the pan the process of mixing is thoroughly completed before the contents of the pan could escape through the discharge outlet, even if the valve should have been left open by accident or carelessness.

The only parts of the machine subject to appreciable wear are the lower extremities of the stirrers, which can be detached readily and renewed at comparatively trifling cost.

The machine is made in three sizes with the capacity of 7½, 13½, and 18 cub. ft., mixing the same number of cubic yards per hour respectively. The largest machine is stated to be capable of mixing 1 ton of concrete within two minutes, 3·6 horse-power being the maximum power required for driving the machine.

CONTRACTORS AND THE INSURANCE ACT.

ON Tuesday a meeting of contractors was held at the Holborn Restaurant to consider the position arising out of the National Insurance Act. The meeting, which was very well attended, included representatives of the following amongst other firms:—Messrs. Airds, Ltd., Pauling & Co., Ltd., the Metropolitan Amalgamated Railway Carriage and Wagon Company, Ltd., C. J. Wills & Sons, William Griffiths & Co., Ltd., Robert McAlpine & Sons, Louis P. Nott, H. H. Nowell, Perry & Co. (Bow), Ltd., Alfred Thorne & Sons, Pethick Dix & Co., Thos. Wrigley, G. Percy Trentham, F. & H. F. Higgs, W. & J. R. Watson, Ltd., George Law, Rowley Bros., James Dickson, H. J. Harding, Chas. Wall, Ltd., Tabor Trego & Co., Ltd.

Mr. W. Griffiths, representing the National Health Commissioners, explained Part I. of the Act relating to health insurance; and was afterwards questioned at considerable length by those present. He explained that an employer employing over 100 hands could make arrangements for bulk stamping. If the workers agreed to leave their cards with the employers the cards could be stamped quarterly, but full facilities must be given for workmen who left before the end of the quarter to get their stamped cards.

The following were some of the more interesting questions put to Mr. Griffiths:—

Q.—A contractor may have 500 or 600 men working for him during the quarter. At the end of the quarter perhaps only sixty are still in his employ. What advantage therefore is the bulk stamping arrangement for him? A.—If it is no advantage you will not adopt it.

Q.—When 500 or 600 men are employed on a work, will it not be physically impossible to go round and put the stamps on at pay-time and cancel them? A.—You can do that with an indelible stamp; but with all respect I think you will find that the men will not be dying to keep their cards, and that there will be no difficulty in arranging with the employer.

Q.—Supposing a man is discharged in the week for being drunk? A.—At the time of paying the wages you must put the stamp on the card.

Q.—On large works navvies come for a job and are put on. Often they have been tramping and have no money, and at breakfast-time they ask for a "sub." Is that "sub" the first payment of wages? A.—It appears to me to be so. It is actually a payment of wages.

Q.—The ganger puts such a man on, not knowing what sort of a man he is, and after finding out what he is discharges him. Is it the correct meaning of the Act in such a case that the employer pays 3d. and the man 4d.?

A.—I cannot see any possible reason for it not being so. The first employer in the week is responsible, subject to any arrangement he may make with the man's other employers. I will make a note of it and let the Commissioners know of the practice.

Q.—A contractor may get four or five men of the kind in a week, and so would have to pay four or five contributions and yet not get a week's work done? A.—There is no doubt about it. If the contractor is the first employer in the week, or the only employer, he has to pay the contribution.

Mr. Robert Bogan (of the Board of Trade Labour Exchange) then explained Part II. of the Act, and said that the Government had appointed an officer called "the Umpire," who

was to give the final decision as to whether any men or class of men were in or out of the Act. It was the work of the workman, not the business of the employer which was in gauge of whether a man came under Part II. of the Act. As an illustration, a firm of might employ 500 printers who would be liable to be insured, but if they employed one engineer to see to the machinery the man must be insured.

Answering questions, Mr. Bogan said that the difficulty of halfpennies the employer could put a 3d. stamp on the card one week and a 2d. stamp the next week. When a man left his employment he would lodge his card with the Labour Exchange, and the employer would be given a receipt, and the product of that receipt would be equivalent to the deduction of the book.

Amongst the more striking questions addressed to Mr. Bogan were the following:

Q.—A man leaves his employment, his book at the Labour Exchange and his receipt. He goes on tramp and gets two miles away, but in the meantime has been at work. Is it illegal for the employer to have in his employ a workman in the same trade without having received from the workman his unemployment book?

Q.—Contractors often have a big delivery of bricks or girders, and so on, and the foreman goes out and picks up men to unload, and pays them 1s. each. Has the contractor to pay the unemployment insurance? Yes; but I would point out that a telegram message to the Labour Exchange would get the men.

Mr. Newall pointed out that the framers of the Act seemingly had failed to make the conditions of contractors. They carried great waterworks, with aqueducts over 40 miles of country. There were no Labour Exchanges there, and the gangers were the men in charge. The ganger might have men on the Saturday and on the Monday that half had gone and new men had turned up without cards.

Mr. Bogan replied that the contractor must not engage such men, but modify his reply by pointing out that the Act said that a man must hold or at once apply for an unemployment book. If the man had not a book it would be the contractor's duty to take him to get one.

Mr. Bogan was also questioned as to the position of the contractor with regard to sub-contractors, and the case was put before him by the paperhanging. He said that the point was whether the contractor had the exclusive right to a man's services. Supposing the sub-contractor had men working for him, could the substantial contractor employ them? If not, then the sub-contractor would be responsible for the men.

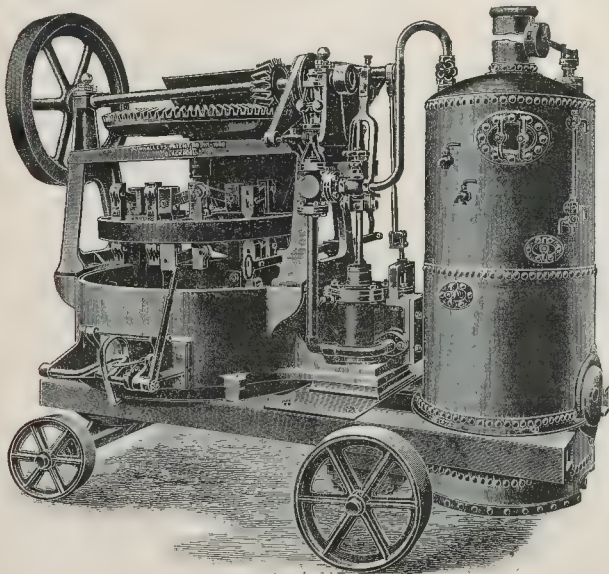
A small Committee was subsequently appointed for the purpose of dealing with points which arose affecting contractors.

Messrs. Carter & Co., Ltd., tile manufacturers of Poole, recently called a meeting of employers regarding the Insurance Act, and Mr. Charles Carter, who presided, informed the employees that it was the intention of the directors to pay the employees' contributions as well as the employers'. The announcement was received with much gratification.

UNEMPLOYMENT INSURANCE

MR. RENDALL asked the Secretary to the Treasury whether a timber merchant dealing in building, supplying the trade with timber, and converting the timber from logs into boards, planks, etc., falls under Part II. of the National Insurance Act.

Mr. J. M. Robertson, in reply, pointed out that decisions as to what class of work was included in the list of insured trades for the purposes of Part II. of the Act rests with the Umpire appointed under sect. 89. On July 1st the Umpire decided as follows:—"Converting of timber is not payable in respect of work done by timber merchants, who are engaged in working sawmills and engaged wholly or mainly in the work of converting timber logs into planks, boards, or scantlings."



The Whalley Concrete-Mixer.

mersmith.—Erection of a building on

Westminster.—Additional story at No. 32, Old Queen-street, Westminster (Mr. H. J. Appleton).—Consent.

* See also our list of Competitions, Contracts, etc., on another page.

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J. H. Langlands, architect, 31, Murraygate, Dundee.

Dunfermline.—Additions to Central Library (2,000.); Mr. James Sheares, architect, 3, Bonner-street, Dunfermline.

Duns.—Alterations to gasworks (2,000.); Secretary, Duns Gas Company.

Dunscur (near Bolton).—Picture hall (2,000.); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

East Cowes.—Liberal club, York-avenue; Mr. S. E. Tomkins, architect, High-street, Newport, Isle of Wight.

East Kilbride.—Church halls, Parish Church (1,850.); Mr. D. A. Robertson, East Kilbride, Edinburgh.—Six houses, Murray Field, gardens, for the Murrayfield Real Estates Company, Ltd. Extensions to College of Agriculture (6,000.); Mr. T. P. Marwick, architect, 43, York-place, Edinburgh. Extensions to school of cookery, Atholl-crescent (4,000.); Mr. Ramsay Taylor, 140, Princes-street, Edinburgh. Church, Roxburgh-place; Trustees, Lady Glenorchy's Church.

Elworth.—Enlargement of United Methodist Sunday-school; the Trustees.

Exeter.—Headquarters for the Devon Royal Garrison Artillery (3,000.); Messrs. Ellis, Son, & Bowden, architects, Bedford-circus, Exeter.

Falkirk.—Extensions to bakery (3,500.). Mr. J. G. Callender, Royal Bank-chambers, Falkirk.

Falkstones.—Plans have been passed for alterations and additions to the Railway Hotel, Cooling-lane, for Messrs. Nalder & Collyer, Ltd., Croydon; Messrs. Bromley & Dahl are the architects. Offices and showrooms in Dover-road, for the Falkstones Co-operative Society; Mr. G. H. Camburn, architect.

Giffach.—Five hundred houses; Mr. Beidoo Rees, architect, Cardiff; Welsh Garden Cities, Ltd., builders.

Gilmerton.—School (5,000.); Mr. James Inch Morrison, 21, York-place, Edinburgh.

Glasgow.—Workshops and stores, Haiston-place, for the Scottish Co-operative Wholesale Society, Ltd., 95, Morrison-street, Glasgow. Conversion of 137, Argyle-street into picture theatre; St. Enoch's Picture Palace, Ltd., London. Offices, St. Vincent-street, for the Phoenix Assurance Company, Ltd. Picture-house, Campbell, Mr. Thomas Bair, architect, 134, Bath-street, Glasgow. Bottling store, Great Eastern-road, for Messrs. A. G. Barr & Co., Ltd., mineral water manufacturers (3,000.); Mr. James Callender, Royal Bank-chambers, Falkirk. Extensions to bakery, Princes-street (4,000.); Messrs. Boston, Menzies, & Morton, architects, 11, William-street, Greenock. Picture theatre, Gairbraid-street (2,000.); Mr. A. V. Gardner, architect, 145, Bath-street, Glasgow. Extensions to Kelvinvale Paper Mills (2,500.); Mr. James Carruthers, architect, 147, Bath-street, Glasgow. Works for Messrs. Stewart & Lloyds, Ltd., tube manufacturers, 41, Oswald-street, Glasgow (7,000.). Extensions to Sidney-street Engineering Works for Messrs. John Deas & Co. (2,500.). Messrs. Miller & Black, architects, 55, Renfield-street, Glasgow. Halls, London-road, United Free Church (2,000.); Messrs. Salmon, Son, & Gillespie, architects, 53, Bothwell-street, Glasgow.

Glossop.—Schools (7,725.); Mr. T. Haynes, Surveyor, Town Hall, Glossop.

Gravesend.—Extensions at works, Clifton Marine-parade, for the Imperial Paper Mills, Ltd.

Greenock.—School, Finnart-street (12,000.); Mr. W. R. Glen, 144, St. Vincent-street, Glasgow. Proposed baths and washhouses, Ann-street; Mr. A. J. Turnbull, Master of Works, Burgh Hall, Greenock.

Halifax.—Picture theatre (10,000.); Mr. W. W. Longbottom, George-street, Halifax.

Halwistle.—Laundry for the South Tyne Laundry Company.

Hastings.—All Saints' School; Mr. F. Plowman, architect, 35, Havoc-road, Hastings.

Heckmondwike.—Extensions to Heckmondwike Co-operative Society's central stores; Mr. H. Stead, architect, Kaye-street, Heckmondwike. Warehouse, Station-lane, for the Great Northern Railway Company.

Hexham.—Additions to Corn Exchange (2,000.); Messrs. Cackett & Burns Dick, architects, Pilgrim House, Pilgrim-street, Newcastle.

Holden Wood (near Haslingden).—Bleach works; Mr. W. H. Booth, architect, 42, Regent-street, Haslingden.

Horsforth.—School (2,400.); Mr. W. V. Dixon, County Council-buildings, Wakefield.

Hove.—A plan has been approved for the erection of four houses in Langdale-road for Mr. T. Barnard. A plan has been lodged for alterations and additions to the Albion Hotel, 110, Church-road, by Mr. A. B. Packman, for Messrs. Tamplin & Sons.

Hull.—Seed mill for Messrs. T. J. & B. Thompson (3,000.); Messrs. Walker & Son, 77, Lowgate, Hull.

Ivybridge.—Catholic church; Mr. B. O. Brian, architect, Coburg street, Plymouth.

Kilmarnock.—Extensions to hospital (10,700.); the Managers.

Kilnnington.—Vicarage (2,000.); Mr. W. D. Caroe, architect, 3, Great College-street, Westminster, S.W.

King's Norton.—School, Selly Oak-road; Mr. H. E. Stilgoe, Surveyor, Town Hall, Birmingham.

Kirkwall.—Restoration of St. Margaret's Cathedral; Mr. G. M. Watson, architect, 15, Dublin-street, Edinburgh.

Langark.—Institute and library (2,100.); Messrs. Traill & Stewart, architects, 38, High-street, Lanark.

Ledbury.—Alterations and additions, Besbury-court, near Ledbury (3,000.); Mr. A. D. Black, architect, 51, North John-street, Liverpool.

Leek.—Extensions at Albion Mill for Messrs. A. Ward & Co. bread manufacturers.

Leicester.—Additions at lunatic asylum (9,300.); Mr. E. G. Mawby, Surveyor, Town Hall, Leicester.

Leven (Fife).—Extensions to Durrie Foundry for Messrs. Henry Balfour & Co., Ltd. (7,000.).

Lisburn.—Bank premises for Ulster Bank; Messrs. Blackwood & Jory, architects, Dublin.

Longton (Stafford).—Proposed alterations and additions at Cottage Hospital; Mr. W. Atkins, Secretary, Cottage Hospital, Longton.

Mansfield.—Additions to Conservative club, Blind-lane; the Secretary.

Mexborough.—Business premises (6,000.); Mr. W. C. Laidlaw, architect, 13, George-street, Edinburgh.

Middlesbrough.—Graving dock; Mr. J. Mitchell Moncreiff, architect, Consett-chambers, Newcastle; Sir John Aird & Co., Ltd., builders, 22, Queen Anne's-gate, Westminster, S.W.

Millport.—Additions to school (2,500.); Mr. A. McKinley, architect, 6, Castle-street, Rothsay.

Mirfield.—Warehouse, Holm Bank Mills, for Messrs. James Walker & Sons, Ltd., blanket manufacturers.

Moulton.—Four houses (740.); Mr. J. W. Darby, builder, Boston.

Nethertown.—Institute; Mr. James Lindsay, architect, 248, West George-street, Glasgow.

Newton Abbot.—Extension, Constitutional Club; Mr. F. E. L. Downes, 36, Queen-street, Newton Abbot.

Norwich.—Children's home (2,956.); Surveyor, Guardians' Offices, Norwich.

Nottingham.—Picture hall, Harley-street (1,800.); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Partick.—Alterations and additions to Pathological-buildings (3,000.), for the Managers, Glasgow Western Infirmary.

Pelsall.—School (250 places); Mr. G. Balfour, County-buildings, Stafford.

Pontefract.—Artisans' dwellings; Mr. W. J. Tennant, architect, Bozergate, Pontefract.

Pontypridd.—Co-operative premises; Messrs. Richards & Kaye, architects, Market-street-chambers, Pontypridd.

Port Talbot.—Church, Oakwood; Mr. F. R. Kempson, architect, High-street, Cardiff.

Preston (South Devon).—Church; Mr. J. C. Beare, architect, 68a, Queen-street, Newton Abbot.

Prince Rock (Plymouth).—Almshouses; Mr. F. A. Wiblin, architect, 82, Old Town-street, Plymouth. Messrs. Wakeham Brothers, builders, Knighton-road, Plymouth.

Rampton.—School (200 places); Mr. C. J. Bristowe, County-buildings, Nottingham.

Rawtenstall.—Weaving shed, Fuld (4,500.); Mr. A. Brocklehurst, architect, St. James'-chambers, Waterpool; Messrs. Moore Brothers, builders, Burnley-road, Rawtenstall.

Redcar.—Court-house (1,200.); Mr. W. H. Brierley, Architect, County Hall, York.

Rhynie (Aberdeen).—Additions and alterations to schools (2,500.); Messrs. Brown & Watt, architects, 17, Union-terrace, Aberdeen.

Romford.—Isolation hospital at infirmary; Mr. W. Smith, Guardians' Offices, Romford.

Rothsay.—Church hall (3,080.); Mr. A. McKinley, architect, 6, Castle-street, Rothsay.

Royston.—Extensions to Roy Spinning Mill; Mr. Sidney Stott, architect, Oldham; Mr. J. T. Bates, 625, Rochdale-road, Royston.

Salisbury.—Extensions to station (5,000.); Mr. J. A. Coomb Hood, London and South Western Railway, Waterloo Station, S.E.

Shoreham-by-Sea.—Congregational church (2,500.); Mr. E. J. Hamilton, architect, 13, Wellington-road, Brighton.

Smethwick.—Stores, Grove-street, for the Centaur Tool Works, Ltd., 1, Grove-street, Smethwick.

South Shields.—Graving dock for Messrs. Redhead & Co.; Mr. J. Mitchell Moncreiff, architect, Consett-chambers, Newcastle; Messrs. Nuttall & Co., builders, Trafford Park, Manchester.

Southwick-on-Wear.—Public hall, Beaumont-street; Messrs. J. Potts & Sons, architects, John-street, Sunderland.

Stratford.—Extensions to baths and alterations to Town Hall and Library (7,750.); Robert Carlyle, builder, Elsinore-road, Trafford, Manchester. The following have been passed: Picture hall, City, for Mr. W. Openshaw; cotton storage houses, Westinghouse-road, for the Trafford Park Company; picture palace, King-street, for Mr. J. L. Doniger.

Tipton.—Alterations and extensions to of for the Horseley Company, Ltd., whole ironfounders, Horseley Works, Tipton.

Truro.—School, Daniel-road (3,000.); J. Collier, builder, 25, St. Dominick-street, Truro.

Upper Penn.—School (4,390.); Mr. W. I. builder, Wolverhampton.

Ushaw Moor (Co. Durham).—Church; H. Wood, architect, The Bailey, Durham.

Messrs. Rutter & Sons, builders, Langley P near Durham.

Wakefield.—Additions to County Hall; George Crooks, builder, Henry-street, Wakefield.

Walsend.—Temperance hotel; Mr. F. Brown, architect, Peel-buildings, Newcastle.

Mr. T. Lumsden, builder, 84, Albert-jarrow.

Wanstead.—Special instruction centre, C bridge Park (600.); Messrs. R. Woolasto Co., builders, 40, Turners-road, Burdett-E.

Wokington.—Extension, Carnegie H Mr. W. B. Williams, Surveyor, Town E Wokington.

FOREIGN AND COLONIAL.

The Building Trade in Ottawa.

According to the report of Mr. J. B. Imperial Trade Correspondent at Ottawa, building operations during the past year have on a large scale, and would continue to be for a number of years to come, a fact of British manufacturing interests, particularly in the iron and steel trades, should be noted. It is probable that the business district of Ottawa will be largely rebuilt on a basis within the next decade, and the erection of many large business blocks are in contemplation. The Dominion Government has large projects under consideration, involving the erection of many buildings for the accommodation of the different departments of Government, and also in the direction of beautifying the city. During the next five years the Government will expend millions of dollars for these purposes. Some of the work which is being done, as is known, no British contracting or engineering firm have undertaken any construction contract of any importance in the Ottawa district for many years. Good opportunities are offered in this direction, and should be taken advantage of by British firms. Special attention is called to the new large building proposed to be erected by the Government and by private concerns in the city, which will involve the use of a tremendous quantity of structural steel. In one departmental building, which will shortly be erected, there will be no less than 7,000 or 8,000 tons of steel. British manufacturers do not seem to be capturing anything like a fair proportion of the import trade of Canada in structural steel. During the fiscal year ended March 1911, the imports of rolled iron or steel in beams, channels, girders, etc., from the United Kingdom amounted to 1,104,394 dollars compared with 3,685,000 dollars' worth imported from other countries. In iron and plates, too, British manufacturers supply a small proportion of Canadian requirements. In the construction and equipment of buildings of all kinds, it is found that there is great room for development.

Building Materials for British India.

Building materials, such as asphalt, cement, enamelled bricks, fire-bricks for boiler setting, terra-cotta, and iron pipes, are in considerable quantities (mostly from England) in British India. It is about 2,250,000 dollars' worth, 1,845,000 dollars' worth of iron from England; only about 40,000 dollars' worth from Germany, a fact to which the German technical expert in Calcutta calls attention of German exporters.

Building Trades in Berne.

These trades (reports the British Consul) a very good year in 1911, in consequence of the almost entire absence of strikes. Estimates of all kinds, however, are rather forces and money for the purpose of striking in view of the Landesausstellung (National Exhibition) in 1914. Numbers of new houses have been built in the city of Berne, numbers are undergoing repairs.

DON STREET DANGERS.

THE recent publication of statistics of the increasing number of fatalities due to pedestrians in the streets of London, renewed attention has been given to the question of appointing a central authority in compliance with the recommendation of the Royal Commission.

There are always have been in favour of appointment, for it is certain that the facilities now required and those that are gradually becoming necessary with the increase of population and the development of the districts cannot be adequately provided under the existing system of divided liability.

As predicted at the time when the Royal Commission was sitting, the recommendations of the body have been systematically discredited by successive Governments. Mr. W. B. Young has recently stated that "the Government not at present propose to introduce any giving effect to the recommendations of the Royal Commission," at the same time attention to the valuable investigations of the traffic branch of the Board of Trade.

As we have already had enough in the investigation. What we want is action, and it is precisely what cannot be expected of the traffic branch—an office having no powers to carry out any of its suggestions, no money to spend, no control over and no connexion with the police forces now engaged in traffic regulation. The situation as a whole once more demonstrates the incompetency of Parliament for dealing with urgent requirements and the incapacity of Governments, whether Liberal or Conservative, to undertake legislation that connected directly or indirectly with traffic.

So important as it undoubtedly is that an authority with ample powers should be established to undertake the reorganisation of traffic facilities and the control of traffic, we must remember that the creation of the most perfect system of roads and the establishment of the most effective methods of regulating traffic cannot eliminate the element of danger to so long as roadways are used exclusively by foot passengers and rapidly-moving vehicles.

The problem for the moment is to devise a method for reducing the loss of life and personal injury that have become so increasingly evident.

The solution of the problem at present lies mainly upon the Metropolitan Police. If traffic is regulated, and it is difficult to see that they can do much more than is being done to ensure the safety of the roads.

In straight open stretches of roadway, the Thames-embankment, a good deal of it is often required in crossing from one side to the other. After the pedestrian, the foot pavement next the river, has been dodged tramcars running contrary to the rule of the road and has evaded its own vehicles proceeding in the opposite direction, it is generally held up in the middle of the roadway by a flock of motor-cars and which seem to spring out of the ground, and has to remain more or less in this life until an opportunity presents a dash to the further pavement. To the reverse direction is an equally serious undertaking which also demands the presence of mind.

Interference of threading one's way across an important junction where traffic is rarely interrupted, as at Charing Cross, for involves risks still greater than those that by crossing an ordinary street, owing to many unexpected lines followed by travelling vehicles.

People who are mentally and physically alert, and are not liable to sudden alarm, negotiate any crossing in London with comparative safety. But careless, inattentive, nervous, and feeble persons run serious risks certainly ought to be reduced.

Nothing in this direction may be accomplished by more stringent control by the police, and still more could be done if the local authorities were compelled to facilities in the form of subways for crossing dangerous points, and to erect refuges wherever requisite in the form of streets and open spaces used by

Another improvement in which the police and local authorities might usefully participate would be the adoption of the gyratory system of traffic regulation at all important street junctions, on the lines proposed by Mr. Clyde Young in a letter in this week's issue.

This excellent method was suggested to the London County Council many years back by Mr. Holroyd Smith, and its application to various metropolitan street junctions was fully discussed about five years ago by Mr. W. Noble Twelvetrees in his Presidential Address to the Civil and Mechanical Engineers' Society, as reported in our issue of October 12, 1907.

Mr. Young has prepared two plans (page 45) following the model of those illustrating the address by Mr. Twelvetrees, one representing the confusing intersections of traffic lines resulting from the existing lack of systematic control, and the other showing the simplicity and safety that would be secured by establishing an oval route in the middle of the junction, around which all entering vehicles would pass until reaching the desired outlet.

This system is strictly in accordance with the dictates of common sense and could be tested practically at Ludgate-hill, Oxford-circus, and other places where circular areas already exist, without involving appreciable outlay, and just as easily abandoned if found unworkable.

Why the suggestion has never been adopted we are unable to say. The answer to this question is probably to be found in the hopeless conservatism of the official mind, and the lack of an authority empowered to initiate reforms in the regulation and control of London traffic generally.

THE STRAND ISLAND SITE.

By WILMOT CORFIELD.

DURING the lifetime of this generation no more sweeping and welcome public improvement has been made than that effected by the creation of Aldwych and Kingsway at the very heart of the capital's dominating domain, and in a region of the widest historical interest. Both thoroughfares have survived controversy and tribulation, both are facts of high accomplishment. For better or worse both have to be accepted and made the best of, and in the main London is thankful for the good they offer.

Critics abound to belittle the beauty of Kingsway, to doubt the fullness of the architectural strength evident in the putting through of a scheme of so comprehensive a conception. It has been said that the thoroughfare has no end at one end and two ends at the other end, and it is clear that a glance along its vista from either direction reveals a loss in dignity by reason of non-insistence on a stricter uniformity in the height of the buildings already erected. This defect may, however, be to some extent in course of time remedied by the raising of some of the lower elevations to the level approximating to that of the neighbouring structures. Land is cheap aloft, and top-stories spell profit and therefore prosperity, so that the hope may surely be indulged of something approaching more nearly continuity of sky-line instead of the present conspicuously irregular arrangement.

All Londoners know the "island site," hard by the spot where once rose, 100 ft. high, that very ancient thing, the Maypole of the Strand. All the world has seen it or read of that gaping gap hedged round by skirting-pale of appropriate severity just where the two grey churches sentinel the long world-loved stretch of street of momentous memories—wild and wonderful, compelling and repelling memories, ever recalling the story of the shadowy days of old resolute England in the making, shaping herself for her mission of to-day. Roman and Dane are gone, but just below to the left of Strand-lane, a declivity leading from one of the churches to the river, are the signs of an old Roman bath, and in the very name of St. Clement Danes there remains a suggestion of that fighting, coast-raiding race, fashioned to rule the sea, who became bone of our bone, and sib with us to conquest. The site for more than twenty years has lain open to the London skies, the weeds of a score of seasons have spread a fantastic cloak of restrained colour and straggled greenery above the ghostly evidences of still disinterred collarages and the ragged kennels of dead but famous London byways, chiefly to the edification of holders

of temporary vantage seats on the tops of gliding motor-cars. Here is the "island site," a huge wilderness of golden possibilities, hacked out of a London central desert of masonry exactly where the disregarded finger of opportunity has pointed during a working generation to the just demands of the future for consideration by the present.

The County Council pipes to speculators, but the speculators will not dance. The seed-time and the harvest have come and gone. The tin tabernacle of the Revivalist, the alluring poster of a French Syndicate, the corner pavilion enticing to the joys of a big glass palace, the seats of price for a coronation crowd, the giant hoardings of a well-discussed weekly, and a modelled object-lesson in the inequalities in the opportunities for voting of Parliamentary electorates have all in turn adorned or misadorned the "island site"; but still the County Council keeps on piping, while the Londoner yet to be, whose heritage it is ours to make or mar, is stepping up behind to take our place.

A great plague devastated London, and a great fire purged London, and a wise Wren saw the great finger of opportunity pointing. So Wren planned a new London on the charred ruins and was denied a hearing for his pains. We know the story well of London's scorn of Wren's finer judgment. The voice of the huckster prevailed, and London's majesty was dwarfed. The hagglar and the huckster are with us yet. It is the huckstering spirit that has left the "island site" for all these years to the tender mercies of the London weed and the London sparrow, and it is that same spirit which is striving to draw a close-packed line of bricks and mortar along the north side of the Strand (and the south bend of the Aldwych arc) from the Lyceum to the Law Courts, oblivious of the ever-pointing hand of opportunity and the folly of declining to hear the calling of the future.

It is not for the London lover in desire for the city beautiful to raise the spectre of money cost. It is for him to dream and to suggest, to keep alive the sacred flame dear to the wisher for beauty and reverence for the higher amenities of life. It is for the Gradgrinds, not the London lover to ever harp on the cost, to exaggerate its extent, and probably in the long run to lose in every way.

A few weeks ago the present writer urged in these columns the devotion of Smirke's doomed old Post Office in St. Martin's-le-Grand to the purposes of a postal museum. It has since been stated that the site alone is worth a million sterling. Accepting this statement as correct (for the sake of argument), why, then, use it for post-office purposes? Why, place a huge building upon it which would be equally of service in a less expensive street? Prominent sites should be kept for high-rented, attractive shops of rate-reducing possibilities, or else for churches, museums, picture-galleries, and other public edifices—ends in themselves, not means to ends. We do not cook our dinners in our drawing-rooms. Why, then, handle matter in million-pound City situations, when the same acreage can be acquired for perhaps a tenth of the money at an equally suitable distance from everywhere else? When Governments and democracies have been taught to grasp the full meaning of certain economic truths the possibility of a site for health-giving or for decorative purposes will be a factor taken into account before deciding upon its final disposal quite as much as its chance suitability for the less exalted destiny occasioned by the mere prosaic needs of a Government department.

No suggestion is now made for the turning of the whole of the still unappropriated "island site" in the Strand into a public garden, but the suggestion is made for the permanent retention of a large open garden or space in the middle of the ground between the wing occupied by the Gaiety Theatre and Marconi House and that taken by the Australian Government for offices. Kingsway should lead southward to King's-square, with, in the centre of the square, King's-square-gardens, and in the centre of the gardens the Edward VII. statue. The full fine vista of Kingsway would then be visible from the Strand, and the whole noble scheme of the County Council glorified and rendered worthy of the vast community for whose delight it serves.

There is no finer urban walk in the world perhaps than that from the Bank to the world bow shot of Hyde Park-corner by the most direct line available. In all its thrilling and splendid length of throbbing life only the little

green cases of the Cathedral churchyard and the Law Courts' side-garden exist. The staggering stupidity of this thing! Turn in thought to Paris, Vienna, or Calcutta, and grieve for what London, acting in the spirit of Wren's successful critics, has missed and is still lacking. But men grieve because fate has saved us from ourselves for twenty years. They fret lest a single inch of the "island site" should prove an unproductive asset yielding but little revenue; light and air and rest to eye and nerve count for nought, and so they go on building post-office warehouse accommodation for parcel-sorting people on million-sterling ground. They decline to see the finger of opportunity ever pointing to the waywardness of an obsession, and fling with both hands of their real wealth to winds that devour.

WESTMINSTER CITY COUNCIL.

At the fortnightly sitting of the Westminster City Council on July 5 the following matters were dealt with:—

Paving.—It was agreed to repave the whole of the macadam roadway outside St. James's Palace with creosoted yellow deal blocks at a cost of 355*l.*, and to repave Dover-yard with creosoted pine blocks at a cost of 240*l.*

Surveyors' Institution.—Attention has been called to the fact that the addition to the Surveyors' Institution abutting on the new street north of the Middlesex Guildhall has been erected with a string course projecting 3 in. over the public way at a height of 5 ft. from the pavement; an explanation had been asked, and the Secretary had written expressing regret for the technical encroachment. It was decided to allow the course to remain on the Institution agreeing to pay an annual acknowledgment of 2*s.* 6*d.*, and to remove it on being given notice at any time.

Vincent-square and Rochester-row Improvement.—The Improvement Committee reported that the Ecclesiastical Commissioners have intimated that they are about to grant a building lease of a site at the north-west corner of Vincent-square, on which is to be erected a hostel for King's College (London), and that in this connection they are prepared to give certain land to the unnamed short street which runs into Vincent-square from Rochester-row and is now about 34 ft. 6 in. in width, making that street 40 ft. wide in its narrowest part and about 47 ft. wide at its widest part, and providing for a rounding off of the Rochester-row corner in addition. They also proposed to give up a small strip along the Rochester-row frontage in order that the new building might be rectangular. The area of land proposed to be given up is 1,352 sq. ft., and the proposal is based on the assumption that the City Council will take it over and be at the expense of the necessary paving and road work, with a reservation that, in the event of the property being diverted in the future to other uses (which is unlikely), the Ecclesiastical Commissioners have the right to make the usual vaults under the pavement and the right to make pavement lights.—It was decided to accept the offer with tenders to the Commissioners.

LEGAL COLUMN.

Trade Union Law.

The law relating to trade unions is so complicated that there appears no end to its ramifications. Judgment has recently been delivered in a case, *Zuby v. Warwickshire Miners' Association*, which occupied the Court on two days early in June.

The plaintiff, a checkweighman, and recently a member of a trade union registered under the Trade Union Act, 1871 and 1876, was applying to the Court for a declaration that a resolution expelling him from the union was *ultra vires*, and for an injunction restraining the union from acting upon it.

There was no question of benefits or payments, as his entrance fee and subscription had been returned to him, but he alleged that the deprivation of his status as a trade unionist would prevent him from obtaining occupation and earning a living.

The defendants alleged that the man had retained certain books and behaved improperly, and contended that by the rules they had power to expel a member; but with this portion of the case it is unnecessary for us to enter into details, as we are concerned only with a technical defence also raised by the union. They contended that under two statutes of the reign of George III., the

Unlawful Societies Act, 1790, and the Seditious Meetings Act, 1817, as the union was divided into branches, with separate jurisdiction and with delegates to other unions, the union was a criminal association, and the Court had no power to exercise jurisdiction. The Court held that subsequent legislation dealing with trade unions was inconsistent with such of the provisions of the above Acts as still remained in force, and therefore that the legislature must be deemed to have exonerated trade unions from their application. In the result, the Court declared the expulsion to be *ultra vires*, and granted an injunction. It is somewhat remarkable that a trade union should have raised a defence which, if it had succeeded, would have resulted in many of the trade unions being declared criminal associations. In view of the Trade Union Bill, which if it becomes law will extend the powers of the unions, it may be well to shortly consider some of the decisions. In the second Osborne case (the *Builder*, March 31, 1911), the Court of Appeal held that where a member was illegally expelled, the Court had jurisdiction to declare the resolution of expulsion *ultra vires* and to grant an injunction. In that case the rules of the society were held not to be illegal at common law as being in restraint of trade; but it does not appear that this finding was essential to support the jurisdiction of the Court on the other point.

When the rules are illegal in the above sense the Courts have no jurisdiction by reason of sect. 4 of the Trade Union Act, 1871, to enforce payment of benefits (see *Russell v. Amalgamated Society of Carpenters*, the *Builder*, April 5), or possibly whether the rules are in restraint of trade or not (see *Thomas v. Portsmouth A. Branch of the Ship Construction, etc., Association*, the *Builder*, April 26 last). Therefore, should the unions under the Trade Union Act, 1900, have political powers expel a member because he declines to subscribe to the political fund, it appears that the Courts can intervene and restore him to membership, thus enabling him to claim the status of a trade unionist for the purpose of obtaining work. But if the Courts cannot secure to him the benefits which the unions confer upon members. Thus the remedy is very imperfect.

In another case, *Gaskell and Others v. Lancashire and Cheshire Miners' Federation*, an appeal from the Court of the Chancellor of the County Palatine, at one time it appeared that an interesting point would be decided under the Trade Disputes Act, 1906. The plaintiffs were members of an Association which, it was alleged, the defendants' Federation desired to absorb. The plaintiffs alleged that threats had been made to them and their employers, that if the plaintiffs did not resign their Association the men in the mine would be called out, and that in consequence the plaintiffs had been discharged. Besides a denial of the allegations, the defendants, amongst other defences, pleaded the Trade Disputes Act, contending that any action taken had been in contemplation or furtherance of a trade dispute. The plaintiffs to this replied that as the defendants' union had a Parliamentary franchise it was held to be illegal in the case, *Osborne v. Amalgamated Society of Railway Servants*, they were not a trade union under the Trade Union Acts, nor entitled to rely upon the Trade Disputes Act. If there were no trade dispute, the Court would have had to decide the point which has been in doubt since the decision in *Vacher & Sons v. London Society of Compositors* (the *Builder*, April 12), as to whether sect. 4 of the Trade Disputes Act is general in its terms or is limited to torts committed in contemplation or furtherance of a trade dispute. The Court of Appeal, however, affirming the Court below, held that there was a trade dispute—i.e., a dispute as to whether men not members of the Federation should be employed at the colliery. This brought the defendant Federation within the Act without question, and the Court held there was no substance in the point about the illegality of the Parliamentary Fund.

The action was also brought against one of the officials of the Federation; but the Court in *Appel* held, affirming the Court below, that there had been no threats, and that the words complained of were really a statement that, having regard to the feeling among the men, the pits would be stopped unless the non-union men were approached at their houses. The action was held to have been taken in contemplation of a trade dispute, the protection of sects. 1 and 3 also applied. In this case it should be noted that the men had given due notice to determine their contracts, and had been guilty of no breach of contract, so, although it is to be regretted that union men object to work with non-union men, the case was not a strong one to bring before the Courts.

The Highways Act.

By sect. 23 of the Highway Act, 1835, provided that "no road or occupation made or hereafter to be made by and expense of an individual or private body politic, or corporate, nor any way or hereafter to be set out as a highway or housepath in any award of commissioners under an Inclosure Act, deemed or taken to be a highway," rep by the inhabitants at large, unless the body politic, or corporate proposing to do such highway to the use of the public have observed certain formalities and obtained a certificate of two justices.

A decision has been given upon the meaning of this section in the case of *Osborne v. Walton-upon-Thames District Council* (the *Law Reports*). Under the Private Works Act, 1839, the Council had resolved to make up a private street, and an agreement had been made on the plaintiff's behalf, but the plaintiff objected to the apportionment alleged that the street was a highway of a person who developed it as a private estate, causing other roads to join the highway, which had been reserved in previous years, and at that date it admittedly had a highway. It had been reserved as a highway in 1856, and the Council had found that the street was not a highway before 1835. It was contended that the section of the Highway Act only applied where there was an intentional dedication, a where dedication occurred by public authority, no application of the Divisional Council was made, and held that the section applied, although there was no at what precise date or in what

stances the way had become a highway or other words, the section gets rid of the presumption that a highway is repairable at large, and affirmative evidence of the fact must be offered.

LONDON COUNCILS.

Acton.—The following plans have passed:—Extensions to works, Church-street, Acton Green, for Messrs. E. Vignoles; transforming station, Acton Green, for Messrs. E. Vignoles; printing works, Acton-lane, for Augener, Ltd.; Great Marlborough-street.

Barnet.—The Surveyor to the Urban Council has been instructed to prepare estimate of the cost of remaking a portion of the pavement in Electric Road to be invited for making up Newnham.

Battersea.—Owing to some of the blocks recently laid in St. John's-road, signs of coming loose same are put in a satisfactory condition, and the work of paving is to be regraded with the Company's bituminous mastic at a cost for the former and 5*l.* 12*s.* 6*d.* per the latter. An electricity cable is to be from the Central Station at an estimate of 2,256*l.*

Bushy.—The tender of Messrs. L. Son has been accepted, at 415*l.*, for mending Windmill-street.

East Ham.—The Borough Engineer directed to prepare plans and estimate the erection of a convenience, part ground and partly over, on the Town site. The tender of Messrs. Gibbs & Co. at 190*l.* 17*s.* has been accepted for the terra-cotta for the swimming-bath. Plans have been passed for Messrs. Bond & Slade for the erection of eight new street Plans have been passed for the erection of a warehouse in road.

Greenwich.—The tender of Messrs. Brothers, Lion Wharf, Greenwich, accepted by the Borough Council, at 1*l.* forming and paving Kilbrook garden new plans have been passed by Messrs. W. F. Blay & Co., Ltd., for construction works at the premises of the Export Packing Company, Ltd., Wharf-road.

Hucknry.—Sanction has been received from the Local Government Board to the effect of 1,355*l.* for the provision of an and convenience in Kingsland-road, and to

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, x. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary. The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

AUGUST 6. — Cardiff. — FIRE-STATION. — The Cardiff Corporation invite designs and estimates for a fire brigade station in Westgate-street. Mr. A. Marshall Macdonnie, assessor. Particulars from the Town Clerk, City Hall, Cardiff.

AUGUST 30. — SAXON SNELL PRIZE. — Fifty guineas, with medal, is offered for essay on "The Lighting, Heating, etc., of an Operating Room for a General Hospital." Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W.

SEPTEMBER 1. — GOOL. — MUNICIPAL OFFICES. — Premiums 30l. and 15l. Particulars from Mr. R. Tyen, Council Office, Gool.

SEPTEMBER 9. — Chorley. — SCHOOL. — The Chorley Education Committee invite designs for Council school for about 500 children. See advertisement in this issue for further particulars.

SEPTEMBER 30. Dublin. — UNIVERSITY COLLEGE: NEW BUILDINGS. — Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

OCTOBER 1. — Ottawa. — MONUMENT TO KING EDWARD VII. — Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa.

*** OCTOBER 25. — Glasgow. — DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.** — The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in this issue for further particulars.

*** OCTOBER 31. — Huddersfield. — TOWN PLANNING.** — The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. See advertisement in this issue for further particulars.

NO DATE. — Jordanhill, Glasgow. — PROPOSED TRAINING COLLEGE. — Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE. — Warrington. — SCHOOL. — The Warrington Education Committee invite competitive plans for the erection of a public elementary school. See advertisement in issue of February 16 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JULY 12. — Carlrow. — ROOM, ETC. — Erection of a directors' board-room, secretary's office, lavatory, etc., at the Carlrow Ose Company's premises, Montgomery-street, Carlrow. Mr. R. J. Nicholson, secretary, Board-room, Carlrow.

JULY 12. — Denbigh. — ALTERATIONS. — For alterations at the Salem Wesleyan Chapel, Denbigh. Plan and specification with Mr. John Roberts, Railway Stores, Denbigh.

JULY 13. — Killough. — HOUSES, ETC. — The Governors of Charles Sheila's Institution, Killough, Co. Down, invite tenders for the erection of a block of houses, water tower engine, and pump-house, etc., adjacent to the present houses. Plans and specification with Messrs. Young & Mackenzie, Scottish Provident-buildings, Belfast, and quantities from Mr. S. C. Hunter, Building Surveyor, Belfast, on deposit of 2l. 2s.

JULY 15. — Aberdeen. — ALTERATIONS. — For the alterations on gardener's cottage at Stoneywood House. Plans and specifications with Messrs. Jenkins & Marr, civil engineers and architects, 16, Bridge-street, Aberdeen.

JULY 15. — Arny. — HOUSES. — Erection of twenty-one working-class houses. Plans and specifications by Mr. James F. Reade, A.M.Inst.C.E., the Council's Architect, 23, Barronstrand-street, Waterford.

JULY 15. — Barnet. — ADDITIONS, ETC. — For alterations and additions at the Brunswick Park County Council School, East Barnet. Drawings, specification, agreement, etc., at the County Surveyor's Office, Hatfield. Deposit of 2l. 2s.

JULY 15. — Copley. — ROOMS. — Erection of a new cloakroom, alterations, etc., at the Copley Council School, near Wells. Plans and specification with the architects, Messrs. Samson & Conlithurst, 51, High-street, Bridgewater.

JULY 16. — Coventry. — SHOP, ETC. — Erection of shoeing and repair shop at sewage pumping-station. Whitley. Drawings, general stipulations, and conditions of contract seen, and forms of tender and quantities from Mr. J. E. Swindiehurst, City Engineer and Surveyor, St. Mary's Hall, Coventry. Deposit of 1l. 1s.

JULY 16. — Cresshaven. — CONTACT. — For the building of a lightkeeper's cottage near Weaver's Point, Cresshaven. Plan, specification, and form of tender at the Harbour Engineer's Office, Custom House-street, Cork.

JULY 16. — Leeds. — DWELLINGS. — Erection of two dwellings in Edmond-terrace, Armley, Leeds. Specifications and drawings seen, and forms of tender, with quantities, from Mr. W. T. Lancashire, City Engineer, Municipal-buildings, Leeds.

JULY 16. — London. — EXCHANGE. — Erection of the Museum Telephone Exchange. Drawings, specification, and a copy of the conditions and form of contract with Mr. J. Rutherford, 22, Carlisle-place, London, S.W. Quantities and forms of tender at H.M. Office of Works, Storey's-gate, London, S.W., on deposit of 1l. 1s.

*** JULY 17. — Brentford. — EXTENSIONS TO LAUNDRY.** — The Brentford Guardians invite tenders for additions and alterations at laundry of Workhouse. See advertisement in this issue for further particulars.

JULY 17. — Bury. — ALTERATIONS. — The Lancashire and Yorkshire Railway invite tenders for alterations to the grain warehouse at Knowles-street Goods Yard, Bury. Plans seen, and quantities and specification at the Engineer's Office, Hunt's Bank, Manchester.

*** JULY 17. — Fulham. — REPAIRS AND FOUNDATIONS.** — The Fulham B.C. invite tenders for repairs to economiser-house, and sinking two additional piers for foundations. See advertisement in this issue for further particulars.

*** JULY 17. — Kingston-on-Thames. — CHIMNEY-SMART AND ROOFS.** — The Kingston Guardians invite tenders for repairs to chimney-shaft and roofs. See advertisement in this issue for further particulars.

JULY 17. — London. — BLOCKS. — Erection of ward blocks at Workhouse and Infirmary, Acton-lane, Willesden, N.W. Designs, specifications, and general conditions of contract and drawings, with the Guardians' Surveyors, Messrs. Northcroft, Neighbour, & Nicholson, of 388, Birkbeck Bank-chambers, Chancery-lane, W.C. Deposit 20l.

JULY 17. — London. — DEMOLITION. — The Metropolitan Asylums Board invite tenders for demolishing old boiler-house chimney-shaft and other buildings at the North-East Fever Hospital, St. Ann's-road, Tottenham, N. Drawings and specifications by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E. Engineer-in-Chief, at the Office of the Board, Embankment, E.C., on deposit of 1l.

JULY 18. — Bangor. — INFIRMARY. — For the erection of a new infirmary at Bangor. Plans and specifications, by the Guardians' Architect, Mr. F. Bellis, Bangor, at the Union or Architect's offices. Deposit of 5l. 6s. to Mr. R. Benjamin Evans, Clerk, Union Office, Bangor.

JULY 18. — Barrow-in-Furness. — ALTERATIONS. — For alterations to St. George's School, Barrow-in-Furness. Plans seen, and quantities from Messrs. Scitell & Brundell, A.R.I.B.A., Barrow-in-Furness.

JULY 18. — Glenafish. — SCHOOLS. — Erection of new schools at "The Bay," Glenafish. Plans and specification with Mr. T. J. O'Neill, architect, Bellinacastle.

JULY 18. — Llanelli. — ADDITIONS. — For alterations and additions to the Llanelli Prison and specifications, etc., with the architect, Mr. J. Evans, C.E., 47, Steney-street, Llanelli.

JULY 18. — Penryn. — ENGINE-HOUSE, ETC. — The Penryn Industrial Co-operative Society, Ltd., invite tenders for proposed new stable accommodation and engine-house, at rear of Blaenlae-street, Penryn. Plans and specifications with Mr. Fredk. Lewis, architect and engineer, National-chambers, Penryn.

JULY 19. — Cardiff. — SHELTER. — For erection of a ferro-concrete boat shelter at the Roath Park. Specification, drawings, and form of tender from the City Engineer, Mr. W. Harpur, M.Inst.C.E., City Hall, Cardiff.

JULY 19. — Eboli Hall. — For works to thirty-eight semi-detached villas, and for the completion of nine partly-erected houses in one terrace. Also for making-up accommodation roads at Badington-rove, Eboli Vale, for the Blasen Eboli Building Club. Plans and specifications with Messrs. Wm. Harris & Son, architects and surveyors, Bank-chambers, Bargoed, and 58, Commercial-street, Tredegar, Mon.

JULY 19. — Embleton. — FOUNTAIN. — For a fountain at Embleton, Northumberland. Drawings and specifications with Mr. G. Beavel, A.R.I.B.A., Lloyd's Bank-chambers, Albion-street, Newcastle. Deposit of 1l. 1s.

JULY 21. — Blackwood. — HOUSES. — Erection of four or more semi-detached houses in Warr road, Blackwood, Mon., for the Trustees Woodbine Building Club (No. 3). Plans and specifications with Messrs. W. Morgan & Walters, architects and surveyors, Pontypridd.

JULY 22. — Evesham. — ALTERATIONS. — Alterations and additions to road for cottage, at the corner of Avon-street, and Close, Evesham. Specification and plan with Borough Surveyor, Town Hall, Evesham.

*** JULY 22. — Orrell. — ALTERATIONS.** — The Guardians invite tenders for alterations at Union Offices. See advertisement in this issue for further particulars.

JULY 22. — Tyrona. — SCHOOLS. — Erection and alterations at Tyrona, at Mortown, Tyrone. Plans and specifications at Police House, Arboe.

JULY 23. — Berwick-upon-Tweed. — RESERVOIR. — Construction of a service reservoir. Situations, quantities, and forms of tender from Robert Dickinson, Borough Surveyor, Berwick-upon-Tweed. Deposit of 1l. 1s.

*** JULY 23. — West Norwood. — DWARF WALL RAILINGS.** — The Lambeth Guardians invite tenders for erection of dwarf walling and iron railings at the Home for Aged Poor, Edgware Road, West Norwood, S.E. See advertisement in this issue for further particulars.

JULY 24. — Belper. — SHED, ETC. — The Midland Railway invites tenders for the erection of shed and offices in brick at Belper. Plans, specifications seen, quantities, and particulars at the Engineer's Office, Derby Station.

JULY 24. — ROOSE. — EXTENSION. — For extension of the Workhouse at Roose. Plans, specification, and form of contract at the office of the Engineer, A.R.I.B.A., Cornwallis-Barrow-in-Furness.

JULY 25. — Rainhill. — COTTAGES. — Erection of two cottages at Asylum. Drawings and specifications at the Engineer's Office. Quantities from Mr. James Gornall, Clerk and Steward, Asylum, Rainhill Asylum.

*** JULY 26. — Brighton. — ALTERATIONS.** — Rooms, etc.—The Asylum Visiting Committee invite tenders for alterations and additions to ward No. 6, and for fencing walls and other work to airing court. See advertisement in this issue for further particulars.

*** JULY 26. — Surbiton. — POWER-STATION.** — The Surbiton U.D.C. invite tenders for erection of power station and destructor-house. See advertisement in this issue for further particulars.

JULY 29. — Dundee. — STEELWORK. — For mason and structural steelwork of new college, Dundee. Quantities from the Mr. T. M. Caddon, F.R.I.B.A., 32, Bank-street, Dundee, on deposit of 1l. 1s.

JULY 31. — St. Helens. — LIBRARY. — Completion of a public library, with tinted works, at the south-west corner of Thatch Heath Park. Drawings seen, and quantities of contract, specifications, and quantities with form of tender, from Mr. Arl Bradley, M.Inst.C.E., Borough Engineer, St. Helens, on deposit of 2l.

JULY 31. — Wexnesbury. — ADDITIONS. — Alterations and additions to the public municipal offices. Quantities, conditions of contract, and specifications from Messrs. M.S.A., A.R.C.A. architects, Lower High-street, Wexnesbury. Deposit of 3l. 3s.

AUGUST 7. — Penrith. — SHELTER. — For erection of a shelter for the use of the Penrith Rhoela-street, Penrith-where, for the shelterer Co-operative Society, Ltd. Plans and specifications with Mr. J. Jones, architect, Church-street, Penrith, on deposit of 2l. 2s.

NO DATE. — Beccles. — SHOPS. — For erection of shops, with alterations, millinery, making, and stock rooms, for the Beccles Men's Co-operative Association, Ltd., of 106, to Mr. A. Pellis, F.S.I., architect, London. Clerk, Beccles.

NO DATE. — Bradford. — ADDITIONS. — For construction of additions to warehouse and Blythe streets, Bradford. Messrs. Messers & Sons, architects and surveyors, Cheapside.

NO DATE. — Darlington. — ROOMS. — Erection of a dentist's rooms in Crown Street, Darlington. F.R.I.B.A., Darlington, F.R.I.B.A., Darlington.

BUILDING—continued.

data given at the commencement of each year is the latest date when the tender, or names of those willing to submit tenders, be sent in.

DATE.—Exeter.—REBUILDING.—For the addition and rebuilding of Nos. 120 and 140, West-street, Exeter, Mr. J. Archibald Lucas, A.R.I.B.A., architect and surveyor, High-chambers, 49, High-street, Exeter.

DATE.—Ruthin.—SCHOOLROOM, &c.—For the erection of a schoolroom, with kitchen, &c., for the Pendred Congregational Chapel, Ruthin. Plans, on deposit of 11. 1s., from Mr. F. A. M.S.A., architect and surveyor, Earlsburg, Mold.

DATE.—Southall.—BARNY AND STABLES.—Persons wishing to tender for erection of a barn and stables should send their name to the architect's Department, Co-operative Wholesale Society, Ltd., 1, Balloon-street, Manchester. Advertisement in this issue for further particulars.

DATE.—Townyn.—REPAIRS.—For repairs at Bryncregion Council School, near Townyn, and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Wearhead.—CHURCH.—Erection of a church at Heathery Clough, Wearhead. Plans, on deposit of 11. 1s., from Mr. F. A. M.S.A., architect, Pethams, Darlington.

ENGINEERING, IRON, AND STEEL.

DATE.—Whitley Bay.—GARDENS, &c.—For the erection of a new garden, and the reconstruction of back street between Hfracombe and Bideford Gardens. Plans and specifications seen, and quantities and forms of tender from Mr. S. Cameron Gibson, Borough Engineer, Electricity Works, Nuncliff, on deposit of 11. 1s.

DATE.—Dartford.—HEATING.—The Metropolitan Asylums Board invite tenders for heating of cold water supply alterations in certain blocks at Long Reach Small-pox Hospital, near Dartford, Kent. Drawings and specifications, prepared by Mr. W. T. Hatch, C.E., M.I.Mech.E., Engineer-in-Chief, at the Board, Embankment, London, on deposit of 11. 1s.

DATE.—Dublin.—LIGHTING.—For the electrification of Fitzgibbon-street police barracks station, Dublin. Plans and specification at the office of Mr. H. Williams, Secretary, Office of Public Works, Dublin.

DATE.—Glasgow.—ENGINE, &c.—For the installation of electric lighting engine and dynamo in the south bridge over the River Nene in arches. Plans seen and specifications, quantities, and forms of tender from Mr. J. Fidler, M.I.Mech.E., Borough Engineer, Guildhall, Northampton. Deposit of 11. 1s.

DATE.—Northampton.—BRIDGE.—For the reconstruction of a new bridge over the River Nene in arches. Plans seen and specifications, quantities, and forms of tender from Mr. J. Fidler, M.I.Mech.E., Borough Engineer, Guildhall, Northampton. Deposit of 11. 1s.

DATE.—Dartford.—GLAZED ROOF.—The Metropolitan Asylums Board invite tenders for the erection of a glazed roof. See advertisement in this issue for further particulars.

DATE.—Dartford.—WALL.—For the construction of a dam wall. Particulars and form of tender from Mr. H. Entwistle, Surveyor, Office of Public Works, Manchester.

DATE.—Bexhill.—APRON.—For construction of an apron to sea wall. Plans seen, and specifications, quantities, and forms of tender from Mr. E. Ball, Assoc.M.I.Mech.E., Borough Engineer, Town Hall, on deposit of 11. 1s.

DATE.—Valletta.—DESTRUCTOR.—For provision of a destructor for the Central Hospital, Valletta. Deposit of 101. Particulars, drawings, and specifications from the Crown Agents for Colonies, Whitehall-gardens, London.

DATE.—Rhonda.—WALL.—For the reconstruction of mountain retaining wall at Coodes-teraford. Plans and specifications seen, and quantities and forms of tender from Mr. J. Jones, Engineer and Surveyor, Council Agents, Rhonda.

DATE.—Uxbridge.—BRIDGE.—For reconstruction of a new bridge over the River Uxbridge at Raby's Mill, Uxbridge, Middlesex. Plans and specifications with the Council's Engineer, W. L. Eves, F.R.I.B.A., 54, High-street, Uxbridge.

DATE.—Newport.—BRIDGE.—Reconstruction of Chepstow-road Bridge, Newport, Mon. Plans and specifications from the Engineer at Newport Station, London.

DATE.—Widnes.—LOCK.—For construction of a new lock entrance leading from the Widnes West Bank Dock into the River Mersey. Specifications and contract drawings, with quantities and form of tender, from the Trustees, Division-chambers, Widnes. Deposit of 51. Consulting engineer, the work, Mr. R. Wilton, A.M.I.Mech.E., Westminster-chambers, 1, Crosshall-street, Liverpool.

DATE.—Raipur.—RESERVOIR.—For construction of a reservoir, known as the South Central Provinces, India, sixteen miles from the Dhamtari Station, Bengal-Nagpur Railway. Particulars from Mr. F. Davies, Executive Engineer, Mahadadi Headworks Division, Raipur.

FURNITURE, PAINTING, MATERIALS, &c.

DATE.—Bradford.—PAINTING.—For painting and decorating the Girlington Baptist Chapel, Bradford. Specifications and particulars from Mr. Rawnsley, 44, Washington-street, Girlington.

DATE.—Chatham.—PAINTING, &c.—For painting the interior of St. Mary's Boys' School, Cross-street, Chatham. Particulars, specification, and form of tender at the Borough Engineer's Office, Chatham.

DATE.—Dorchester.—PAINTING.—For painting, limewashing, and repairing at the Dorchester Church of England schools. Particulars and form of tender from Mr. H. O. Lock, Secretary to Managers, 24, High West-street, Dorchester.

DATE.—Gravesend.—PAINTING.—For redecoration of sundry schools. Specifications at the Borough Surveyor's Office.

DATE.—Lockwood.—PAINTING.—For painting the greenhouses, &c., at Beaumont Park and Woodfield. Specifications and quantities and general conditions seen, and quantities and forms of tender from Mr. K. F. Campbell, M.I.Mech.E., Borough Engineer and Surveyor, 1, Peel-street, Huddersfield.

DATE.—Eton.—DEALS.—For 40 fathoms of best Swedish yellow deals and batten ends. Mr. J. L. C. Barrett, Clerk to the Guardians, Slough, Bucks.

DATE.—Leeds.—PAINTING.—For painting the bridges over the River Aire, known as the South Accommodation-road, Crown Point, and Leeds Bridges. Specification seen, and form of tender from Mr. W. T. Lancashire, City Engineer, Municipal-buildings, Leeds.

DATE.—Kingston-on-Thames.—PAINTING AND REPAIRS.—The Kingston Guardians invite tenders for repairs and painting at the Workhouse. See advertisement in this issue for further particulars.

DATE.—Canterbury.—PAINTING.—For external and internal painting at the school buildings, and the master's house in St. John's-place. Particulars from Mr. A. C. Turley, A.M.I.Mech.E., City Surveyor, City Surveyor's Office, Guildhall-street.

DATE.—Stockport.—PAINTING.—For painting the exterior of the Town Hall. General conditions seen, and specification, with form of tender, from Mr. John Atkinson, A.M.I.Mech.E., Borough Surveyor, Town Hall, Stockport.

DATE.—Hinckley.—PAINTING.—For painting the interior of the cast-iron tank of the water-tower. Specifications and conditions of contract seen, and tender forms from Mr. E. H. Crump, A.M.I.Mech.E., Surveyor, Council Offices, Hinckley.

DATE.—Edmonton.—PAINTING, &c.—The Guardians of the Strand Union invite tenders for painting, cleaning, &c. See advertisement in this issue for further particulars.

DATE.—Canterbury.—PAINTING, &c.—For painting, distemping, &c., at the City Guildhall. Particulars from Mr. A. C. Turley, A.M.I.Mech.E., City Surveyor, City Surveyor's Office, Guildhall-street, Canterbury.

DATE.—Manchester.—PAINTING.—For painting the Art Gallery, Mosley-street, and plastering and painting warehouse in George-street. Specifications from the City Architect, Town Hall, on deposit of 10s. 6d.

DATE.—Upper Edmonton.—PAINTING.—The Edmonton Guardians invite tenders for inside painting of Infirmary, 77, Bridport-road, Upper Edmonton. See advertisement in this issue for further particulars.

DATE.—Various.—PAINTING.—The Metropolitan Asylums Board invite tenders for cleaning, painting, and repairs at several institutions. See advertisement in this issue for further particulars.

DATE.—Aberangell.—PAINTING.—For painter's work at Aberangell Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Blaenau Ffestiniog.—PAINTING, &c.—For painter's and plumber's work at the Slate Quarries Infants' Council School, Blaenau Ffestiniog. Specification and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Blaenau Ffestiniog.—PAINTING, &c.—For painter's work at the Slate Quarries Boys' Council School, Blaenau Ffestiniog. Specification and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Blaenau Ffestiniog.—PAINTING, &c.—For painter's work at the Slate Quarries Girls' Council School, Blaenau Ffestiniog. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Blaenau Ffestiniog.—PAINTING, &c.—For painter's work at the Higher Elementary School, Blaenau Ffestiniog. Specifications and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Brithdir.—PAINTING.—For painter's work at Brithdir Council School, near Dolgelewy. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Corris.—PAINTING, &c.—For painter's and builder's work at Corris Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Dinas Mawddwy.—PAINTING.—For painter's work at Dinas Mawddwy Council School. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Festiniog.—PAINTING, &c.—For painter's and plumber's work at the Festiniog Council schoolmaster's house. Specifications and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

DATE.—Lincoln.—PAINTING.—For the internal colouring and painting of schools during the midsummer holidays. Specifications and forms of tender from Mr. R. C. Minton, Secretary for Education, Corporation Offices, Lincoln.

DATE.—Merioneth.—PAINTING.—For painter's work at Trawsfynydd Council schoolmaster's house. Specification and particulars from the County Architects, Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, S.O.

ROADS, SANITARY AND WATER WORKS.

DATE.—Shilton.—WALL.—For building about 80 ft. 1 in. of front boundary wall, fixing 140 yds. of W.I. fencing, and making footpaths for the proposed cemetery at Shilton. Plans and specifications from the architect, Mr. Douglas Payne, 25, Burges, Coventry.

DATE.—Dundee.—SEWER.—For supply of 400 tons of sewerage sets, for the Harbour Trustees. Mr. J. Hannay Thompson, M.I.Mech.E., M.Sc., General Manager and Engineer, General Manager and Engineer's Office, Dundee.

DATE.—Farnham.—DRAINAGE.—The Kent Education Committee invite tenders for execution of certain drainage work. See advertisement in this issue for further particulars.

DATE.—St. Annes-on-Sea.—STREETS.—For the making-up of streets. Plans and specifications seen, and quantities and forms of tender from the Surveyor, Council Offices, St. Annes-on-Sea.

DATE.—Ealing.—ROADS.—For the making-up of private gardens, Warwick-place, and back alleys of the West Ebers Estate. Drawings and specification seen, and forms of tender, with quantities and particulars, from Mr. Charles Jones, M.I.Mech.E., Borough Engineer, Town Hall, Ealing, W., on deposit of 21. 2s.

DATE.—London.—ROADS.—For sewerage, levelling, paving, metalling, kerbing, channeling, and making good passages near Royal Parade, Colney Hatch-lane, and back way by Wightman-road, leading to Denmark-road, Hornsey. Forms of tender, etc., and particulars from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highgate.

DATE.—Neath.—GRANITE.—For the supply of granite or granite, and limestone metalling. Specification and form of tender from Mr. D. M. Jenkins, Borough Engineer, Neath.

DATE.—Hampstead.—SEWER.—The Metropolitan Asylums Board invite tenders for providing and filling-up bed-pan and other sinks. See advertisement in this issue for further particulars.

DATE.—Chester-le-Street.—ROAD.—For the construction of a new road between Roper's-lane, Chester-le-Street, and Sower's-lane, near Tinker House. Mr. W. Arton, Highway Surveyor, Chester-le-Street. Deposit of 31.

DATE.—Goole.—DRAINAGE.—For the construction of a drainage scheme. Plans and specifications by Messrs. J. Taylor, Sons, & Santo Crimp, civil engineers, Caxton House, Westminster, S.W. Deposit of 51. to the Clerk to the Goole U.D.C.

DATE.—Hammersmith.—PAVING, &c.—The Hammersmith B.C. invite tenders for making-up and paving of roads and footways. See advertisement in this issue for further particulars.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
Public Building Inspectors	Bradford Corporation	1201. per annum.	July 20

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*FREEHOLD BUILDING ESTATE, MIDDLESEX—At the Mart	S. Walker & Son	July
*FREEHOLD BUILDING PLOTS, NORBURY—At King William IV. Hotel, Norbury	E. Evans & Sons	July
*FREEHOLD CEMENT WORKS SITE & CLAY ISLAND—At Bull Hotel, Rochester, Kent	Fuller, Horsey, Sons, & Caswell	July
*FREEHOLD BUILDING SITE, SIDCUP—At the Mart	Daniel Whitney & Sons	July
*MACHINERY, PLANT, FREEHOLD HOUSE—Wareham Cement Works, Wareham	J. Baker, Cook, & Standen	July
*FREEHOLD BUILDING LAND, POTTERS BAR—At the Mart.	Elliott, Son, & Boyton	July

SOME RECENT SALES—continued from page 59.

By KIVELL & HARRIS.	
Panoseweek, Devon.—Stuckley Estate, 2,350 acres, f.	£31,575
June 27.—By HALL, PAIR, & GOLDBERTH	
Farington, Hants.—Farington and Lower Farington Farms, 541 acres, f.	10,000
Donhampton, Hants.—Park and South Farms, etc., 318 acres, f.	10,251
By W. SALISBURY & HAMPER	
Clayton-le-Dale, Lancs.—Part of De Tabley Estate, 620 acres, f.	23,372
Chief rents 176l. 7s. 7d.	4,375
By G. B. HILLIARD & SON.	
Wickham St. Paul's, Essex.—Wickham Hall Estate, 474 a. 2 r. 22 p., f.	10,441
By JAMES TURNBULL & SON.	
Ingletton, Durham.—Hill Side and Low Hulam Farm, 337 acres, f.	4,300
Starforth, Yorks.—Thornhill Farm, 90 a. 2 r. 32 p., f.	3,350
Romaldkirk, Yorks.—How Gill Grange and Tin Ten Farms, 412 acres, f.	4,760
By W. ARKOTT & SON.	
Ufford, Suffolk.—Hir Farm, 38 a. 2 r. 12 p., f. and c.	570
Charfield, Suffolk.—Brook Farm, etc., 97 acres, f.	2,149
June 28.—By KNIGHT, FRANK, & RUTLEY.	
Finedon, Northants.—Finedon Hall Estate, 1,553 acres, f.	46,212
By G. B. HILLIARD & SON.	
Chelmsford, Essex.—31 and 35, Broomsfield-rd., f.	555
West Hanningfield, Essex.—Gay Bowers Farm, 8 a. 1 r. 12 p., f.	470
By WHITTON & LING.	
Shorbrooke, Devon.—Yendacott Manor Estate, 339 a. 2 r. 38 p., f.	11,100
June 29.—By LEXLAW & SON.	
Aylsham, Norfolk.—The Belt, 250 a. 2 r. 3 p., f. and c.	9,590
Bunningham, Norfolk.—Farm, 45 a. 2 r. 37 p., f. and c.	1,500

Contractions used in these lists.—F.g.t. for freehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; a.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; y.a. for years; l.a. for lease; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cr. for crescent; av. for avenue; gtm. for gardens; yd. for yard; gr. for grove; h. for backhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name) those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

*. Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.	
Per 1000 Alongside, in River.	£ s. d.
Best Stocks.	1 14 0
Picked Stocks for Facings	2 10 0

BRICKS, &c. (Continued).

Per 1000, Delivered at Railway Depot.	£ s. d.	Per 1000, Delivered at Railway Depot.	£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Farnham	3 12 0	Do. Salts	4 0 0
Best Red Pressed	5 0 0	Best Stourbridge	4 0 0
Rubon Facing	5 0 0	Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt		Double Headers	13 17 6
Glaz. Str. 'tch's	11 7 6	One Side and two Ends	17 17 6
Headers	10 17 6	Two Sides and Quoins, Bullnose, and 4 in. Flats	14 17 6
D'ble Stretchers	16 17 6	Splays & Squints	16 7 6

Second Quality £1 10s. per 1000 less best.

Thames and Pit Sand.	£ s. d.
Thames Ballast	5 6
Best Portland Cement	3 10 0 per ton,
Best Ground Blue Lias Lime	19

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.	

STONE.

BARK STONE—delivered on road wagons, a. d.	
Paddington Depot	1 7 1/2
Do. do. delivered on road wagons, Nine Elms Depot	1 9 1/2
PORTLAND STONE (30 ft. average)—	
Brown Whitbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Finslow Wharf	2 3
White Basbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Finslow Wharf	2 4 1/2

Per Ft. Cube, delivered at Railway Depot.	a. d.	Per Ft. Cube, delivered at Railway Depot.	a. d.
Ancaster in blocks	1 10	Closetown Red	2 4
Beer in blocks	1 6	Freestone	2 0
Greenhill in blocks	1 10	Red Mansfield	2 4
Darley Dale in blocks	2 4	Freestone	2 0
Red Cornhill in blocks	2 3	Talcar & Gwespur	2 4

YORK STONE—Robt. Hood Quality.	
Per Ft. Cube, Delivered at Railway Depot.	a. d.
Scrapped random blocks	2 10
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
8 in. sawn two sides slabs (random sizes)	2 6
8 in. to 24 in. sawn one side slabs (random sizes)	0 7
14 in. to 24 in. ditto, ditto	0 6

HARD YORK—	
Per Ft. Cube, Delivered at Railway Depot.	a. d.
Scrapped random blocks	3 0
Per Ft. Super., Delivered at Railway Depot.	
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
8 in. sawn two sides slabs (random sizes)	1 2
8 in. self-faced random flags	0 5

SLATES.

In. In.	Per 1000 of 1900 at Railway Depot.	£ s. d.	In. In.	Per 1000 of 1900 at Railway Depot.	£ s. d.
20x10 best blue	13 2 6		20x10 best blue	13 2 6	
Banger	13 17 6		unfading green	15 17 6	
20x12 ditto	13 17 6		20x12 ditto	18 7 6	
20x12 ditto quality	13 0 0		18x10 ditto	13 5 0	
ditto	13 0 0		18x8 ditto	10 5 0	
20x12 ditto	12 15 0		20x16 ditto	12 15 0	
16x8 ditto	7 5 0		green	11 12 6	
22x10 best blue	12 12 6		18x10 ditto	9 12 6	
Portsmouth	12 12 6		16x8 ditto	6 12 6	
16x8 ditto	6 12 6				

TILES.

At Railway Depot.	£ s. d.	At Railway Depot.	£ s. d.
Best plain red roof ing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	45 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	42 6
Best Brosey (per 1000)	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Staffords (Hanley)	3 8
Best Rubon red, brown, or brindle (Edw'ds) (per 1000)	67 6	Beds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (per doz.)	3 0	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per stand.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 0 0
Deals: best 3 in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	13 10 0
Battens: best 24 in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0
Battens: best 24 in. by 6 in. and 3 in. by 6 in.	10 10 0
Deals: seconds	1 0 0
Battens: seconds	0 10 0
Do. 2 in. by 9 in. and 3 in. by 7 in.	9 10 0
Do. 2 in. by 4 in. and 3 in. by 5 in.	9 0 0
Foreign Sawm Boards—1 in. and 1 1/2 in. by 7 in.	0 10 0
4 in.	1 0 0
Fire timber: best middling Danish or Mo. (average specification)	5 0 0
Seconds	4 10 0
Small timber (8 in. to 10 in.)	3 17 6
(10 in. to 8 in.)	3 5 0
Swedish balks	2 12 6
Pitch-pine timber (30 ft. average)	5 5 0

JOINERS' WOOD.	At per stand.
White Sea: first yellow deals, 3 in. by 11 in.	24 10 0
Do. 3 in. by 9 in.	22 10 0
Battens, 24 in. and 3 in. by 7 in.	17 0 0
Second yellow deals, 3 in. by 11 in.	19 0 0
Do. 3 in. by 9 in.	18 0 0
Battens, 24 in. and 3 in. by 7 in.	14 0 0
Third yellow deals, 3 in. by 11 in.	14 0 0
Battens, 24 in. and 3 in. by 7 in.	11 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0
Do. 3 in. by 9 in.	18 10 0
Battens	14 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0
Do. 3 in. by 9 in.	15 0 0
Battens	11 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
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Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
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Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

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Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg—	
First white deals, 3 in. by 11 in.	15 0 0
Do. 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	13 10 0
Do. 3 in. by 9 in.	12 10 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Second white deals, 3 in. by 11 in.	14 0 0
Do. 3 in. by 9 in.	13 0 0
Battens	10 10 0

METALS.

	Per ton, in London.	
6 ft. d.	£ s. d.	
6 ft. d.	9 0 0	9 10 0
6 ft. d.	9 5 0	9 15 0
6 ft. d.	11 0 0	—
6 ft. d.	9 5 0	9 15 0
6 ft. d.	10 0 0	—
6 ft. d.	17 10 0	—
6 ft. d.	—	—
6 ft. d.	10 5 0	—
6 ft. d.	11 5 0	—
6 ft. d.	12 15 0	—
6 ft. d.	—	—
6 ft. d.	15 10 0	—
6 ft. d.	16 0 0	—
6 ft. d.	17 0 0	—
6 ft. d.	18 0 0	—
6 ft. d.	19 0 0	—
6 ft. d.	20 10 0	—
6 ft. d.	21 0 0	—
6 ft. d.	22 0 0	—
6 ft. d.	23 0 0	—
6 ft. d.	24 0 0	—
6 ft. d.	25 0 0	—
6 ft. d.	26 0 0	—
6 ft. d.	27 0 0	—
6 ft. d.	28 0 0	—
6 ft. d.	29 0 0	—
6 ft. d.	30 0 0	—
6 ft. d.	31 0 0	—
6 ft. d.	32 0 0	—
6 ft. d.	33 0 0	—
6 ft. d.	34 0 0	—
6 ft. d.	35 0 0	—
6 ft. d.	36 0 0	—
6 ft. d.	37 0 0	—
6 ft. d.	38 0 0	—
6 ft. d.	39 0 0	—
6 ft. d.	40 0 0	—
6 ft. d.	41 0 0	—
6 ft. d.	42 0 0	—
6 ft. d.	43 0 0	—
6 ft. d.	44 0 0	—
6 ft. d.	45 0 0	—
6 ft. d.	46 0 0	—
6 ft. d.	47 0 0	—
6 ft. d.	48 0 0	—
6 ft. d.	49 0 0	—
6 ft. d.	50 0 0	—

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.	
1 Rolled plate..... 24d.	Figured Rolled, Oxford Rolled, Oe-
2 Rough rolled and rough cast plate..... 24d.	and Arctic Muffed, and Rolled Cath-
3 Rough rolled and rough cast plate..... 3d.	edral, white..... 34d.
	Ditto, tinted..... 5d.

* Not less than two crates.

OILS, &c.

	£ s. d.
Raw Linseed Oil in pipes..... per gallon	0 3 10
" " " in barrels.....	0 3 11
" " " in drums.....	0 4 1
Boiled " " in barrels.....	0 4 1
" " " in drums.....	0 4 4
Turpentine in barrels.....	0 3 0
" " in drums.....	0 3 2
Genuine Ground English White Lead, per ton	30 0 0
Red Lead, Dry.....	26 10 0
Best Linseed Oil Putty..... per cwt.	0 10 6
Stockholm Tar..... per barrel	1 12 0

VARNISHES, &c.

	£ s. d.
Pine Pale Oak Varnish.....	0 8 0
Pale Copal Oak.....	0 10 6
Superfine Pale Elastic Oak.....	0 12 6
Fine Extra Hard Church Oak.....	0 10 0
Superfine Hard-drying Oak, for seats of Churches.....	0 14 6
Fine Elastic Carriage.....	0 12 0
Superfine Pale Elastic Carriage.....	0 16 0
Fine Pale Maple.....	0 10 0
Finest Pale Durable Copal.....	0 18 0
Extra Pale French Oil.....	1 1 0
Eggshell Flating Varnish.....	0 18 0
White Pale Enamel.....	1 4 0
Extra Pale Paper.....	0 12 0
Best Japan Gold Size.....	0 10 6
Best Black Japan.....	0 16 0
Oak and Mahogany Stain.....	0 9 0
Brunswick Black.....	0 8 0
Berlin Black.....	0 16 0
Knottling.....	0 10 9
French and Brush Polish.....	0 10 6

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 1000, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

ALLINGTON (Wilt).—For extensions to water-works. Mr. T. J. Moss-Flower, C.E., engineer, Westminster and Bristol:—

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BARRY.—For erection of a house at Romilly Park, for Mr. F. N. Jones, Messrs. J. Jones and P. Thomas architects, Cardiff. Quantities by architects:—

H. S. Rendell, £1,613 0 0 W. Britton, £1,418 0 0 D. Francis, £1,600 16 9 S. J. Martyn, Griffiths & Son, £1,337 0 0 St. Nicholas H. Fisher, £1,610 15 10 road, Barry, £1,418 4 10 Vickery Bros., £1,459 10 0 Gibby & Clark, £1,070 0 0
‡ Accepted subject to amendments. Withdrawn.

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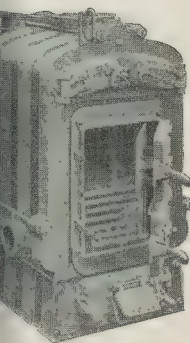
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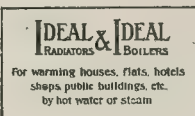
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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3624.

JULY 19, 1912.

ILLUSTRATIONS.

PORT OF WINCHESTER CATHEDRAL, VIEW IN THE NAVE LOOKING EAST. A PHOTOGRAPH BY MR. T. E. WAY. PORT OF LONDON AUTHORITY NEW HEAD OFFICES: ACCEPTED DESIGN, BY MR. T. EDWIN COOPER, F.R.I.B.A.

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THE PORT OF LONDON COMPETITION.

NO competition of recent times has evoked more attention and interest among architects than that just decided for the Port of London Authority. The opportunity given to design a building for purposes so closely connected with the commerce of the greatest city in the Empire, the unique situation of the site next to Trinity House and the Tower of London, and the very difficulties of the subject have attracted an unusually wide response from the architectural profession.

The problem to be solved was rendered exceptionally difficult one by the fact that no specific portion of the irregular angle lying between Trinity-square, Fenchurch-lane, and the old gardens was allotted to the new buildings, competitors having to decide themselves on what portion of the new offices were to be placed, and also to suggest lines of development for the remainder of the site acquired by the Port of London Authority. In fact, with the exception that the new offices were to face Trinity-square and to contain

certain specified accommodation, and to be built within a given cost, no information was given to competitors. The irregular nature of the present frontages to Trinity-square, the poor design of all buildings surrounding it, with the exception of Trinity House itself, formed additional difficulties keenly felt by those who were wishful to solve the problem in accordance with modern principles of town planning.

Nowhere, probably, could a worse example of the old haphazard, irregular layout of streets and frontage lines be found.

A suggestion contained in the original conditions and repeated in the instructions to selected competitors has proved a serious stumbling-block over which many schemes have met with shipwreck. This was that the general idea should be that of a large hall in which as many of the principal departments as possible should be grouped. Of these departments the Port Rates Office was to be placed in the most accessible position. In most of the designs submitted this suggestion has been adopted, and the success of the winner is largely due to the fact that he has thought out the reasons underlying

the suggestion, while entirely abandoning it as the root idea of his design. This may be regarded as an instance of one of the many reasons why competitive conditions should not contain "suggestions," but only binding requirements, and as few of the latter as are absolutely necessary.

It is impossible and unnecessary in most cases for an assessor to plan out the subject himself, and without this it is very difficult to ascertain whether a certain suggestion should be made or not. Had the suggestion in this case been a binding condition, it would have excluded what is unquestionably the most masterly solution of the problem; but the winner alone has had the courage to disregard it.

We may say at once that there can be no question that the best design has been chosen, whether from a point of view of plan, which is masterly, and should, we imagine, need little or nothing in the way of modification, or of architectural treatment, which is dignified, architectural, and logical. The scheme is one which will, when executed, be worthy of any city in the world.

The plan forms a square with the angle facing Trinity-square cut off, and on this

angular front is placed the principal entrance to the building. On the three outer angles of the square are entrances from which diagonal corridors lead to a central circular hall, which forms the Port Rates Office. In convenient positions off these corridors are secondary staircases. A circular public space round the Port Rates Office forms a short and convenient approach to every part of the ground floor, communicating at eight points by corridors or lobbies with every part of the ground floor. Round the outer sides of the building are placed the Dock and Warehouse Offices and the Chief Collector's and Deposit Offices. These latter are divided by columned screens with counters in convenient positions. The principal entrance, occupying the whole width of the front to Trinity-square and flanked by the two principal staircases, is finely and symmetrically planned. The Board-room occupies the Trinity-square front on the first floor, and is flanked on the two adjoining sides of the square by the Committee-rooms and members' accommodation; the two remaining sides of the square are divided into departmental offices. The lavatories on upper floors are very skilfully arranged, in the three pavilions which mark the outer angles of the square corresponding to those which contain the principal stairs on either side of the Trinity-square front; the lavatories for the ground floor are placed in the basement or adjacent to the official staircases. The basement, with its diagonal corridors, is admirably planned for purposes of easy communication, and is well lighted in every part.

The elevations are very dignified and simple in treatment, the columned front to Trinity-square giving emphasis and relief to the simpler treatment of the adjoining fronts. The pyramidal centre feature is well considered and proportioned, and forms a dignified finish to a remarkably consistent and dignified conception. The circular top-lighted Port Rates Office is a refined and interesting piece of design, and we have little doubt that in Mr. Cooper's hands the building will rank among the greatest achievements of modern architecture in this country, and will stand comparison with some of the best American and French design. (See Plates)

As will be seen from the block plan, reproduced below, the remainder of the site is well laid out for purposes of development and for the production of revenue.

Messrs. Lanchester & Rickards submit a scheme which is finely conceived and well carried out, but in which the desire to combine the departments on the ground floor into one hall has involved the authors in difficulties, which are avoided by Mr. Cooper's solution. The lay-out is fan-shaped, with the short side to Trinity-square, the radiating sides fronting on Savage-gardens, and a new street to be formed roughly parallel to Byward-street. The back part of the building forms a long and well-designed curving front.

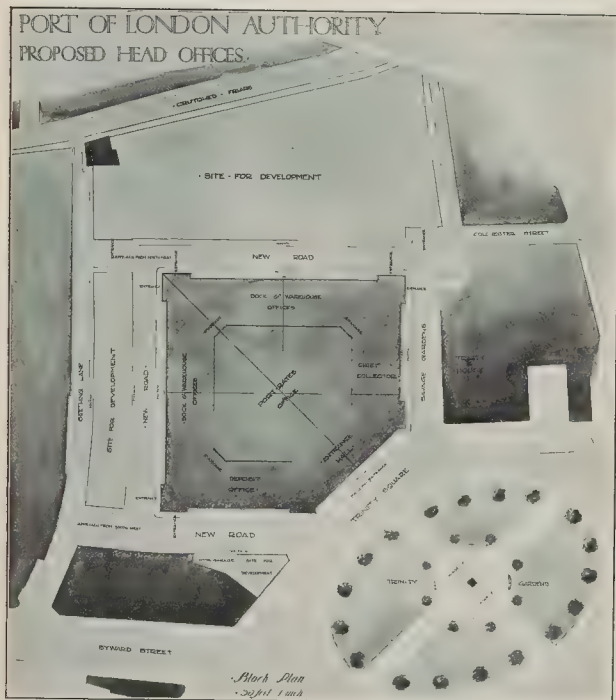
Internally a broad hall runs from back to front, broken by an elliptical feature, the centre of which intersects with a curved top-lighted hall, which forms the public space of the Port Rates, Chief

Collector's, Charges, Chief Superintendent's, Canvassing, and four smaller departments. The disadvantages of the arrangement (which is in close accordance with the suggestions made to competitors) is obvious by a comparison of this with the winning design. The Port Rates Office is, in such an arrangement only approached by two entrances, and is situated at the back of the block. The Deposit and Post Offices immediately adjoin the main entrance, and beyond the entrance hall are placed the two principal staircases. A third staircase is placed at the back entrance beyond the elliptical hall. Unfortunately, such a plan necessitates a large number of irregularly shaped rooms, which, however, may be considered of smaller importance in this than it would be in many buildings, as the requirements are largely purely utilitarian.

The treatment of the remainder of the site is skilful, a large area being left rear of the new offices, but the lay-out destroys something like one-quarter of the valuable frontage to Seething-lane. Architecturally the scheme is both simple and pleasing, free from ostentation and very sober and dignified. A range of pilasters runs round the entire block emphasising the ground and first floors, surmounted by a simple stone attica story above which is a stone balustrade and mansard roof with dormers. The central feature is worked up very happily, and its receding stages are skilfully proportioned and well designed. There is a unity and harmony about the whole design which is characteristic of the work of Messrs. Lanchester & Rickards, among whose best efforts it will rank. We could have wished that the detail drawing had been defined, as the full effect of the design can hardly be adequately estimated without them.

Messrs. Bowden & Wallis produce a striking design on very different lines, the Trinity-square frontage being squared, and the Port Offices occupying a rectangular lining up with Savage-gardens, and running through to Crutched Friars. In this design the authors have tried to carry out the suggestion of a large hall containing the departments, the central portion of which forms an immense hall 100 ft. in height, top-lighted, round which are arranged the remaining accommodation placed on four floors with an upper floor above the roof of the hall. An entrance hall at either end gives access to a wide vestibule corridor, at either end of which are placed the four main staircases, and beyond this corridor is the large hall previously mentioned. At either side of the central hall are corridors cutting into the vestibule corridor at either end, and these outer blocks and corridors repeat on each floor.

The Port Rates Office occupies a strip on either side of the hall, with a broad public space in the centre. It is the treatment of this office, divided into two portions and lighted from an immense height, which forms the doubtful feature of the design from a point of view of plan. The scheme is generally finely conceived, but the detail and features are on an immense scale, and would, we imagine, need much reconsideration to render such a treatment satisfactory. The sides of



Accepted Design : Block Plan. By Mr. T. Edwin Cooper, F.R.I.B.A.

central hall, in particular, show evidence of want of consideration and in designing. The elevations are conceived, but here again the detail is somewhat coarse and heavy, the ship surmounts the tower being something like 30 ft. high, and every part of the plan being on an equally enormous scale. But in its main proportions there is no fault to find with the design, the Trinity-square being on dignified architectural lines.

Ernest Wray has produced a plan based on a general acceptance of the present frontage to Trinity-square, the offices, unlike the winning plan, occupy a rectangular block, having somewhat awkward sites for development, terminated at three points by acute angles. This, we should imagine, apart from any question of the details of the plan itself, place it out of court. A vestibule leads to a Salle d'attente, and this again to the staircase beyond which are placed the Dock Warehouse Offices and Port Rates Office, which occupy the back part of the block, and from which access is obtained to the back entrance. The Chief Inspector's and Deposit Offices are placed at the front of the building on either side of the entrance.

The centre of each side of the block is reached by subsidiary entrances and staircases. The upper floors are well and truly laid out, and the lighting of the various rooms is everywhere good and efficient. Externally the building is treated quietly and simply, a low tower surmounting the principal staircase, and a colonnade marking the front to Trinity-square. The design shows traces of a fresh feeling, and is quiet and unostentatious, but its author has hardly risen to the occasion or shown an adequate sense of the importance of the subject.

Mr. Reginald Truelove has sent in a plan in which the offices occupy a rectangular block lining up Savage-gardens in the same manner as that of Messrs. Bowden & Wallis. The irregular frontage along Savage-gardens is, however, retained, which seems a marked defect in planning a monumental building. The departments are planned in two main halls, divided by a transverse entrance hall and staircase, while the subsidiary entrances are those facing Trinity-square and Crutched Friars. The upper floors are fairly well laid out and lighted, but there is an absence of a grand conception about the scheme, which is somewhat commonplace, nor is there an immensely lofty central tower, which defines the narrow front to Trinity-square into two portions, a happy conception.

Mr. Robert Atkinson submits a scheme for its main idea an octagonal plan, around which the chief departments are planned, which is entered from Trinity-square and from two entrances in the rear, which are diagonally placed. Like everything Mr. Atkinson does the design is characterised by great care and refinement, but we do not feel that it represents him at his best, the design of the colonnade across the main entrance being especially unhappy.

In the whole, we may congratulate

the Port Authority on obtaining some excellent designs, and we hope to reproduce the whole series in due course, but in this issue we confine ourselves to giving the winning design. While we consider it to be one of the most satisfactory solutions of a difficult problem that we have ever had to record, we hope that assessors will in the future be more careful about making suggestions, which undoubtedly influence competitors and often prevent them from finding the most satisfactory solution of a given problem.

NOTES.

Winchester Cathedral Thanksgiving.

By a happy coincidence the impressive and dignified ceremony which was performed in Winchester Cathedral on Monday last took place on St. Swithin's Day, exactly eight hundred and nineteen years after the transference of the shrine of St. Swithin into the New Minster. Their Majesties the King and Queen showed their interest in the event, and gave it a national importance by attending in person. The great Cathedral was filled with a vast congregation, among whom dignitaries in Church and State, celebrities in arts and science, and representatives of all ranks of society were numbered. All were drawn there by the irresistible call of thanksgiving that one of our most beautiful and historic buildings has been saved—at any rate, for a time—from the dangers which were undermining it. "As flowers carry dewdrops, trembling on the edges of petals and ready to fall at the first waft of wind or brush of bird, so the heart should carry its beaded words of thanksgiving." In studied words the Archbishop of Canterbury told from the pulpit the story which forms the subject of one of our articles in this issue. He bore tribute to the skill of Mr. T. G. Jackson, R.A., and Mr. (now Sir) Francis Fox, the architect and engineer respectively, upon whom the burden of the toil has fallen, no less than of that of the contractors and the workmen who have been engaged upon the actual execution of this difficult work of salvation, costing no less than 114,000*l*. That the King should have honoured not only those responsible for the methods pursued, but also the actual workers, is, we think, full of significance; and in personally congratulating the diver, Mr. W. K. Walker, upon whom so much depended, he was recognising how important a part the workman plays in undertakings of this nature. In no age prior to our own, we think, have the resources of science made it possible for substructural work to be carried out comparable to what has been achieved at Winchester.

The Public Press and Architecture.

WE should like to offer our congratulations to our contemporary the *Daily Chronicle* upon a recent notice of modern architecture, entitled "In London Streets," from the pen of Mr. Lewis Hind. In our last issue we deplored the lack of interest displayed by the public towards architectural effort, and advocated the need of intelligent outside

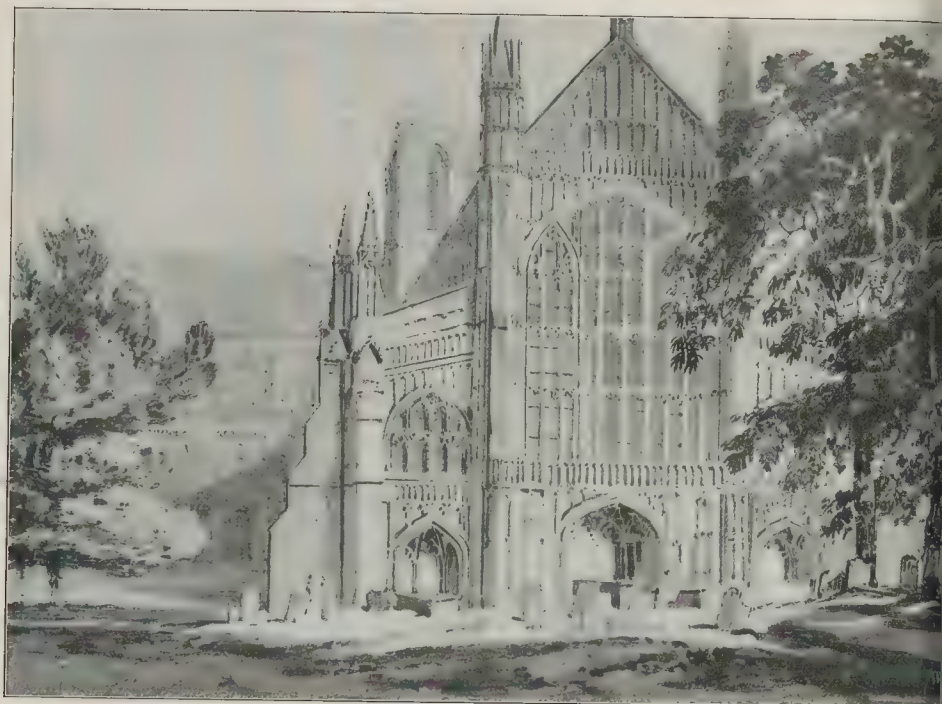
criticism. It is seldom that the daily newspaper mentions modern architecture, and when it does its opinion is entirely guided by the prestige of the architect. Thus we even permitted ourselves to say that the professional art critic was more at home in the gallery than in the street. Limited to specialists as architectural criticism now is, it revolves in an ever narrowing circle. But a little while since and Wren was the master. Then it was Michelangelo. To-day it would seem to be Pythios. Enthusiasms wane just when their developments are becoming interesting. This was eminently so in the instance of the middle period named. Now, as Mr. Hind observes, a Greek Renaissance is evident. But if Pythios was the architect of the Mausoleum, he was also one of the prominent sculptors employed. The modern designer is entering the lists with one arm tied behind him. In the arch on Constitution-hill we may now see a completed piece of classic architecture crowned by the Adrian Jones' Quadriga. It has no doubt been criticised, but, in our opinion, the instant effect is splendid.

Cromwell House, Highgate.

RUMOURS have appeared of late in the daily Press that the fine oak staircase of this historic house was likely to be transported to America. The danger proves happily not to be an immediate one. The sixty years' lease was acquired in 1869 by the Great Ormond-street Hospital for Sick Children. Much money has been spent from time to time on adapting the premises for the purposes of a convalescent home, for which they are not particularly well suited. The committee of the hospital are, therefore, not disposed to turn out without adequate compensation, though they would prefer a more modern building farther from town. They are fully aware of the historical and artistic value of the house, which they have endeavoured to preserve, and have thrown out a suggestion—in a letter to the *Times* of June 24—that an effort might with advantage be made to secure the house for some public purpose. It has been placed, it may be mentioned, on the Middlesex County Council's list of buildings that should be preserved. In spite of its present name Cromwell House was not the Protector's property, but was built for his son-in-law, General Ireton. It contains much good oak panelling of the period, as well as the remarkable staircase, which, with the architecturally treated doorways opening on to it, is of an elaborate Jacobean character. Nine of the thirteen newels are surmounted by statuettes 1 ft. 7½ in. high, representing types of Cromwellian soldiery.

The Abuse of Advertising.

VISITORS to the French Riviera and the "beauty spots" of France will welcome an announcement contained in the *Times* that the Chamber of Deputies have passed a Bill placing a tax on large signboards. Boards under six yards in length, it is stated, are to be taxed at 2*l*. a year the square yard, and the tax rises in proportion to the size of the posters. For some time past advertisements have been taxed in France by means of a stamp, but this small impost



Winchester Cathedral (1795).

(By permission of the Walpole Society. See page 72.)

From a Sketch by J. M. W. Turner, R.A.

has not served to check the abuses of advertising; the proposed tax on advertisement hoardings is intended apparently to be prohibitive, and this means of checking unsightly advertising seems preferable to the procedure by by-laws which we are so dilatorily pursuing. A Chancellor of the Exchequer searching the country for hen-roosts, and at the same time stamp collecting, might do worse than cement the *entente cordiale* by adopting this Bill now passed by our French neighbours. The revenue collected might be small, but the end to be attained would be excellent, and the tax could be collected far more easily than insurance contributions.

Our Regent's Quadrant Competition.

OUR readers will remember that Messrs. Swan & Edgar, anxious to show their interest in this competition, offered some practical appreciation to the author of a thoroughly suitable design, when obtained, for the rebuilding of their premises. From the letter we publish in another column, offering to every prizewinner in the competition a premium equal to that already awarded, we gather that a thoroughly suitable design from their point of view has not yet been produced. "As there will probably be much delay before this conclusion can be arrived at," they offer in the meanwhile this proof of their continued interest in the matter, which, we imagine, will be found acceptable by those most nearly concerned. Much delay there probably will be, as, even if any one design had been entirely satisfactory to

Messrs. Swan & Edgar, the Office of Woods and Forests has also to be satisfied, and, if the official mind is firmly convinced of the entire suitability of the Piccadilly Hotel façade, it will no doubt take time for other ideas to percolate.

WINCHESTER CATHEDRAL: PAST AND PRESENT.

THERE is a great difference between modern and older methods in the restoration of ancient buildings. The XIXth century, with its cocksure and limited vision, had no qualms about it. Almost every mediæval building of importance was restored then more or less, but never without loss of some of its time-honoured beauty, and the honourable wounds wrought by the passage of the centuries, the furrows delved in beauty's brow by time were nicely covered or smoothed out. From how many ancient buildings does one turn back with a sigh of regret? The hand of the restorer is visible everywhere, violent, iconoclastic, ruthless. But it is a pleasanter task to speak of Mr. T. G. Jackson's work at Winchester Cathedral. We hope it signalises the advent of new methods—methods at once sympathetic and scientific in the repair of mediæval structures. Now that his work is finished the difficulties are apt to be overlooked. But they were there nevertheless, and have only been overcome with patience and understanding. Mr. Jackson's account of the work of reparation reads almost like a story.* It is therefore our intention to quote largely from it, but before doing so it may be interesting to give a brief sketch of the history of the cathedral of Winchester.

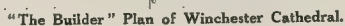
* "Winchester Cathedral." An account of the building and of the repairs now in process. Transactions of the St. Paul's Ecclesiastical Society, 1910. By T. G. Jackson, R.A.

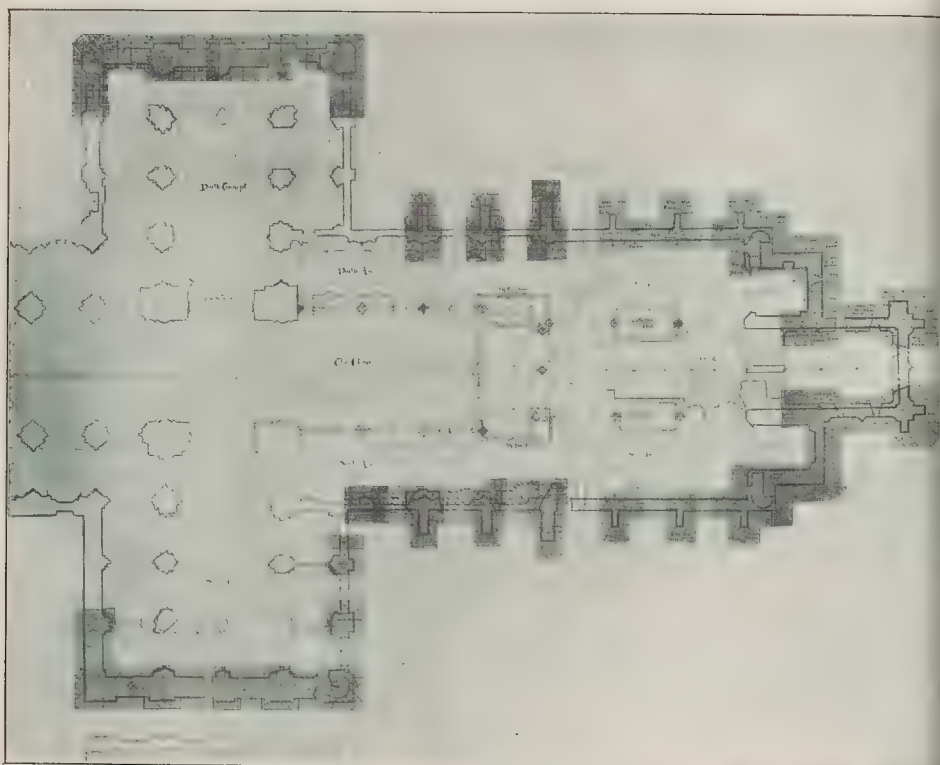
Winchester Cathedral shares with St. Albans the reputation of being the longest church in England. The former is in reality a few feet longer, for from the interior of west wall to the inner face of the east wall the Lady Chapel is 526 ft. 6 in., whilst the latter measures 521 ft. 1½ in. At Winchester, too, the proportion of the porches westward is greater. Both possess a long line of unbroken roof which, while being impressive from its very simplicity and size, has somewhat of the picturesque effect usually associated with mediæval buildings, which Winchester furnishes so abundantly in the interior. Indeed, few things in English surpass the beauty and variety of the presbytery. It is interesting to consider for a moment the methods of restoration adopted in these two fine buildings. In the case of St. Albans so much rebuilding and designing took place that the result rather a hotch-potch of XIXth-century and older Gothic which only the innate nobility of the original building could save from utter ruin as a design, whilst Winchester remains, as far as outward appearance is concerned, much as it was before, save for steel rods and bolts and a range of buttresses on the south side of the nave being the evidences of all that has been done in the last seven years. The structure has been strengthened in such a manner that it may still be considered to be the epitome of architectural development in England at a time when its reparation became necessary. Those qualities of native ingenuity which we associate with our mediæval buildings find in it noble expression. The march of centuries, that splendid pageantry of style from the calm strength and grandeur of the Norman to the last light and graceful phase of the Gothic, can nowhere be seen to better advantage. But it is not merely the fabric itself which is beautiful. It is a treasure house of all the delightful accessories

we can only conjecture faintly the form of the Saxon cathedral. "Of the greater conquest churches no example has survived, and we can only guess at their general appearance. They were subjected to two great waves of destruction. First, the Danish invasions, when churches and monasteries were destroyed and jewelled indiscriminately; and, secondly, the much more thorough destruction for the purpose of rebuilding which followed the Norman Conquest. The coming of the Normans in the exultation of their triumph were fired with the ambition of surpassing the architecture of the subject Saxon, but of eclipsing in splendour and grandeur the stately fanes which

De Lucy's building probably finished eastwards with three chapels at the ends of the

This briefly traces the history of the cathedral from its foundation in 1079 to 1528, a period of over four centuries, the length of time it took to form Winchester Cathedral as it is to-day. A long period, but certainly one worth preserving in this





Winchester Cathedral: Plan of Eastern Part Showing Extent of Underpinning.

Carried out by Mr. T. G. Jackson, R.A.

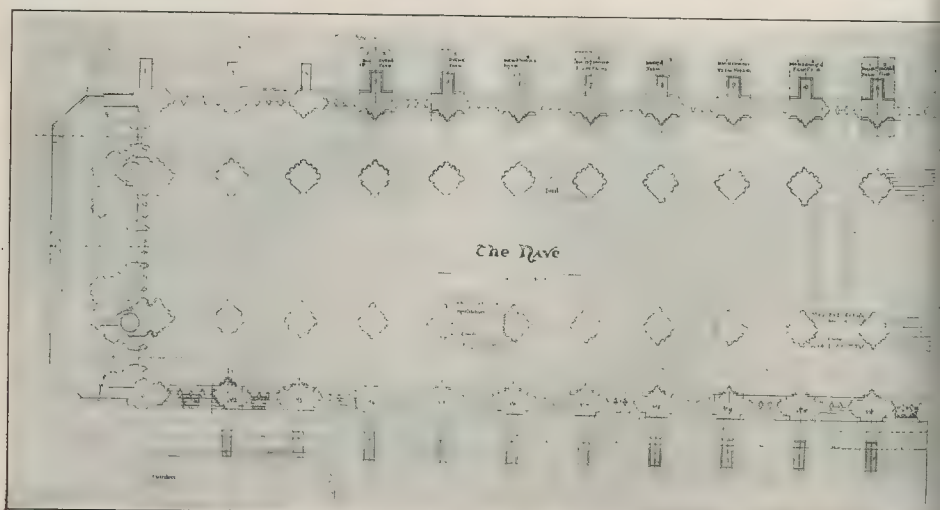
its manifold expression—that of stone and wood cut and carved by generations of men striving with their whole might to embody an aspiration of the soul.

It is necessary now to explain the various causes which prompted those in charge of

the fabric to undertake the extensive repairs which have just been completed.

"If we banish in imagination from our view the whole city of Winchester—Cathedral, Castle, College, and the town itself—and try to recover the aspect of the bare site,

we should see a marshy bottom lying between chalk hills, through which the River Itchen wound its way. Over a deposit of considerable but unknown thickness, below which is probably chalk, formed a bed of peat, varying from 3 ft



Winchester Cathedral: Plan of Nave Showing Extent of Underpinning and New Buttresses.

Carried out by Mr. T. G. Jackson, R.A.

to 7 ft. in depth, on the top of which, sometimes also below, is a deposit of silt, washed down from the surrounding hills. From the existence of peat in quantities it may be imagined that was at one time a kind of bog where a greater part of the town now stands."* yet curiously enough the Romans clung to the town in the marshy bottom when they took it from the primeval inhabitants. Saxons were equally tenacious and to the same site when they turned a *Venta* into *Wintanceaster*, building one but two great churches. The Minster was moved in the reign of King I. to higher ground without the walls. Bishop Walkelyn chose to retain the site for his new cathedral and laid the foundation of subsequent disaster. De Lucy's work pushed out towards the east in the direction of the river, and it was here that Mr. Jackson's attention was first directed when he was consulted by the Dean and Chapter in 1905. Mr. Jackson writes: "The point where De Lucy's building of the thirteenth century joined the cross wall existing in the crypt, which marked the site of Walkelyn's choir, a rupture had taken place."

The whole of De Lucy's building had sunk eastward about 5 in. if not more, and had also sunk into the soft ground, though not equally, for, the ground being the farther you go eastwards, the more it sank more than the western part, at the courses of the wall described a curved line, lower at the eastern end than at the western by more than 2 ft. This settlement naturally caused serious distortion of the vaulting. The walls, especially the south side, had bulged outwards, the inclination from the perpendicular being in part as much as 2 ft. in 44 ft., and in other places an inch in a foot. The settlement thus disturbed brought an unfair pressure on the buttresses against which the vaulting ribs converge, and the effect was seen to tear them away from the curtain wall by a fissure through the next window on the south side and to thrust them outwards. The vault thus released by the spreading of the side walls sank, the ribs lost in many places their arch construction, taking a straight line where it should have been a curve; the panels cracked and bulged, and the whole would have fallen had it not

been bolted up with iron straps to timbering in the space under the roof."



[Photo, taken in 1906. Lent by Messrs. John Thompson & Son.]

Bay, South Side, looking South-West. Ruptured Vaulting.



[Photo. by W. T. Green, Winchester.]

Winchester Cathedral: The South Transept from the East, Showing Shoring in Position.

been bolted up with iron straps to timbering in the space under the roof."

Before anything could be done it was necessary to ascertain the cause of failure, whether it was defective foundations or inefficient buttresses. A hole was therefore dug on the south side of De Lucy's building, until about 10 ft. deep the foundations were reached. They rested on a bed of fairly solid chalky marl, and were built upon a raft of beech trees. This marly stratum was 3 ft. thick. Going lower, it was not until a depth of 16 ft. was excavated that the solid gravel was found. What probably happened when De Lucy was building was this: He came upon water 10 ft. down, and being unable to cope with the water difficulty hit upon the expedient of the raft. Under this in time the soft ground yielded, causing the walls to sink and break away from the older building west of it. There were therefore two causes of mischief to be counteracted, (1) defective foundations; (2) the thrust of the vault. The work of underpinning was entrusted to Messrs. John Thompson & Son, of Peterborough, with Mr. Edwin Long (who has been constantly with Mr. Jackson since 1876) as clerk of works. After shoring up the south wall and centering the vaulting, they commenced to underpin the walls. They started from the south-east corner in sections 4 ft. wide, which went diagonally through the walls. But after the first three sections were completed a fresh complication arose. These sections had to be kept dry by means of a centrifugal pump. Pumping is attended by the danger that it may draw fine sand or gravel from the subsoil. At the fourth drift or section silt was found below the peat which pumping would be sure to disturb. It was then, on the advice of Mr. Jackson, that the Dean and Chapter consulted Mr. Francis Fox, the civil engineer, who recommended the employment of a diver, thus making it possible to proceed without pumping. The underpinning now proceeded as follows:—

The sections were opened by the builder until there remained but 18 in. of peat above the gravel. The peat being impervious sealed up the water in the gravel. Then the diver went down and took away the last obstruction, when the water immediately filled the hole to a depth of perhaps 10 ft. The sections were 4 ft. 6 in. wide by about 20 ft. long, and the diver had to lay a foundation in this tunnel without light. Bags of cement were lowered to him and laid side by side, and then cut open. The whole set in a few hours as hard as a rock and sealed the water down again. The whole was then pumped dry, and upon the foundation of sacks of cement the builder raised his wall. At first this was built

with loose cement, but it was more expedient to use large blocks of cast cement. When within about 3 ft. of the wall overhead the underpinning was taken up in brickwork, and pinned up to the old work as the men came forward.

Several of these sections were in progress at the same time at different parts of the building, and were allowed a fortnight to settle. The work has been done so well that the old walls settled scarcely at all. The cracks in the superstructure were bonded across with long pieces of York or Purbeck stone and all the interstices filled with a thin grout of Portland cement. For this purpose the Greathead grouting machine was used, which by means of compressed air forces the grout with considerable violence, which can, however, be accurately controlled, into every hole and cranny. To quote Mr. Jackson again: "The vaulting of De Lucy's building was so seriously cracked and dislocated that the whole of the south aisle vault had to be taken out and reset, and the ribs, which had sunk as much as 16 in., and lost their arch construction, were brought to the proper curve for doing their work. The vaulting of the central aisle was not so bad, but needed grouting and partial repair. That of the north



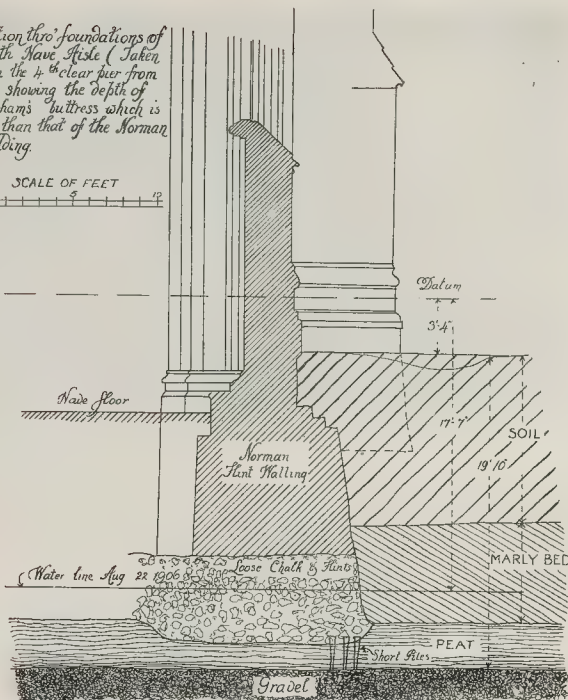
[Photo, taken in 1906. Lent by Messrs. John Thompson & Son.]

South Transept, East Side: South Window.

D

Section thro' foundations of North Nave Aisle (Taken from the 4' clear pier from W) showing the depth of Wykeham's buttress which is less than that of the Norman Building.

SCALE OF FEET
0 1 2 3 4 5 6 7 8 9 10 11 12



Section through Foundations of North Nave Aisle.

aisle was in a dangerous state, one stone having actually fallen, and though it was not all taken out like the south aisle vault, a great many of the panels were partially reset, having bulged below the proper line of arched construction. No attempt was made to restore the walls to the upright—their cracked and dislocated condition forbade it. They therefore lean as before, but they are relieved of the thrust of the vaults by the iron ties from side to side of the church, an alternative which seemed preferable to that of increasing the projection of the buttresses and so altering the design." The external walls of the Lady Chapel and De Lucy's building were thus underpinned to prevent them not only from sinking, but from sliding eastwards. Mr. Jackson thinks that it will now be impossible for the pillars to move in any direction but vertically downwards, and he assumes that the layer of peat on which the walls of the crypt—which carry the pillars—are built is sufficiently incompressible to carry the dead weight of the arcades and superstructure.

The condition of the Norman transept was even more serious than that of the Early English building. In some places daylight could be seen through the fissures in the side walls. Again it was the foundations that were in fault, for although they had been taken deeper than the later building they still did not reach the gravel. The builders dug out the marly layer and part of the peat and filled it up with loose chalk and flints until they were able to build in the dry. These imperfect foundations all gave way, and the great gables literally parted from the bulging side walls—the south gable, indeed, overhanging its base some 4 ft. 6 in. The transepts have both been well grouted and underpinned. But the misfortunes of the cathedral did not end here, for the condition of the nave aisles was found to be almost as bad as the other parts. When the nave was ingeniously changed into a Perpendicular building, Wykeham did not

trouble to take down the outer walls and rebuild them. He merely cased the north wall inside and out and the south wall only on the inside. Also the buttresses he built on the north side were hung on to the building, and instead of supporting it helped to pull it over. The foundations, as may be seen in the section given herewith, were not taken as far down as the Norman work. Both aisle walls leant outwards, and the vaulting of the aisles showed themselves to be slowly moving. This has also been underpinned and grouted, while the south nave aisle has been strengthened by the addition of ten new buttresses, seen on the view reproduced on this page. The history of the cathedral of which we have given the briefest outline would seem to have been one of disaster. It was built on a wet compressible

soil, and the settlement almost certainly commenced at once, and has been going on ever since. Never before has such a large and difficult work of underpinning been undertaken. It is now happily brought to an end for the present—the walls stand as it were, on solid rock, saved for the benefit of future generations of men.

THE WALPOLE SOCIETY

JUST over a year ago the Walpole Society was founded "for promoting the study and appreciation of British art," and we are given the opportunity to welcome the annual volume of the newly-constituted body. It may be said at once that the quarto volume before us, produced mainly by the Oxford University Press, is of a character which promises well for the future of the Society and subscribers of the guinea for members may be congratulated on the handsome addition to their libraries obtained at so little cost, and with the knowledge that their individual has made the scheme possible. The publication of this evidence of activity should bring accessions to the ranks of the Society, and the Committee, of which the Earl of Lytton is President and Sir Charles Holroyd is Chairman, consists of leaders of artistic thought, and seems certain that the annual publications add considerably and in an attractive way the existing information on every phase of British art.

The range of operations is from the Xth century onwards, and the Walpole Society plunged into the depths of history with commendable courage. Knowledge of early architecture is more complete than of painting, sculpture, and of the other arts. For this reason, perhaps, Professor Edward S. Popham takes for the subject of his essay not a purely architectural theme, but the incidental on English medieval figure sculpture. The article is illustrated by work in Chichester Cathedral, Wells Cathedral, Lincoln Cathedral, Westminster Abbey, King's College, Cambridge, and elsewhere.

Nicholas Hilliard's "Treatise Concerning the Arte of Limning" is printed for the first time from a manuscript in the library of Edinburgh University. Mr. Philip Norman, LL.D., writes an essay on the miniature painting of the period, and the whole contribution will be ready for study. Similarly the articles on "London Westminster Painters in the Middle Ages," "Professor Lethaby," and "Reynolds's Portrait of Keppel" by Mr. Leonard O'Malley and Mr. C. H. Collins Baker, are authoritative researches which add something to published facts.

Lastly, the Hon. Secretary of the Society, Mr. A. J. Finberg, describes, with the help of some very interesting illustrations, the Isle of Wight Sketchbook, dated 1795, one of the many Turner relics in the possession of the National Gallery, none of which are available, apparently, for general reference. Mr. Finberg's knowledge of Turner's sketches is unrivalled.



[Photo. by W. T. Green, Winchester.]

Winchester Cathedral: South View of the Nave. Some of the Ten New Buttresses.

book on the subject is a mine of information. On his way to the coast Turner was impressed by the beauties of the Cathedral and made several studies. These, reduced from the collotype plate of the Walpole Society's volume, is reproduced as an appropriate illustration to the work of Mr. T. G. Jackson, R.A., and Francis Fox in making the cathedral.

It has been written to show the breadth of the work of the Walpole Society, the progress of which we shall watch with interest.

EXHIBITIONS OF ETHIOPIAN AND EGYPTIAN ANTIQUITIES.

ETHIOPIAN archaeology proceeds apace. At the present moment there are no less than three exhibitions being held in London of the results of recent excavations. The results of civilisation of ancient Egypt and its farther afield are becoming more and more clearly fixed—their architecture, their arts and crafts, their manners and customs. It would be absurd to postulate that all has been shown at these three exhibitions of equal importance or throw fresh light on the history. The spade work of the excavator may be always interesting, but the point of view of historical research often yields very minute results. Egyptian tombs have given up their dead, mummies have been disentangled, a very small, if any, real addition to the knowledge of ancient humanity which has not previously been ascertained. With the hope, being unduly sentimental, that in some cases that these small fragments of the grave had remained undiscovered. But the excavator must proceed with his work, the thirst of the anthropologist must be sated, and we dare say that the most valuable discoveries have been made in ground which promised to yield little that was not within the compass of previous knowledge.

The exhibition at Burlington House of antiquities discovered at Meroë in the Sudan (under the auspices of the Institute of Archaeology, University of Liverpool), is doubt the most important in an architectural view of the three exhibitions. Professor Garstang the progress of excavating a Royal city whose general site was fixed a few seasons ago has been considerable, and added largely to the knowledge of the plan of the city at various eras, as well as to the disposition and form of many of its more important buildings, while many specimens of sculpture and of the craft of the highest interest. It must be said that Professor Garstang is fortunate in his site. His find last year of the bronze



Excavations at Meroë: Plan of Palatial Building with Foundations laid Bare.

head of Augustus, now in the British Museum, has added directly to the artistic treasures of the nation. The history of this Royal city is comprised within fourteen hundred years, from 700 B.C. to A.D. 700, so that for this type of excavation it may be said to be comparatively modern. To the first date belong the great buildings in stone, the walls of the city, the original portions of the Royal palace, and other buildings whose position has now been definitely located. In this age Egyptian motives in art were still predominant in Ethiopia. The next period, about the IIIrd century B.C., was distinguished by the supplanting of Egyptian ideas by Greek; the solid stone wall had given place to walls faced with red brick. To the most flourishing period of Meroë, lasting till the 1st century A.D., belong the finer specimens of painted and stamped pottery, the glass, decorated tiles, and so forth. The third period Professor Garstang distinguishes as one of decadence, as a period influenced rather by Roman than by Greek ideas in art, while the buildings were crude and lacked distinction. So brief and general a summary of the work accomplished is inadequate, but perhaps sufficient to suggest its historic interest. The Sudan Government, by a provision with which we are heartily in sympathy, bans the removal of objects whose position *in situ* have been definitely located, so that the chosen specimens on exhibition at Burlington House are not completely representative of all that has been found. The examples of

sculpture are especially remarkable. They show undoubtedly Greek and Roman influences, mostly Greek, but they also show individual qualities, a life and energy—a character, shall we say?—which it would be foolish to attribute to anything but the personal feeling of the sculptors who modelled the figures. Professor Garstang says that these specimens are the work of local artists. The figure of the local Venus is what might be called to-day post-impressionist (although we believe no title has been found for a certain phase of ultra-modern sculpture), while the great reclining figure ascribed as a king, the group of two figures (a man and woman drinking out of a cup) the torso of a draped figure, the flute player, as well as some of the reliefs of an earlier period suggest commentary on the art of plastic design beyond our present space. The specimens of pottery also possess many qualities which also perhaps may be largely attributed to local talent; it is of thin and delicate texture with impressed or coloured decoration of many types of pattern. There are also specimens of tiny glass mosaic wrought with a delicacy that suggests the effect of enamel, which were probably used, as Mr. Robert Mond, who assisted at the excavations, suggested to us, for the ornamentation of ivory boxes or toilet accessories and other examples of an art which was often eclectic, but which was none the less individual. Through the courtesy of Madame Garstang we are able to reproduce two photographs of the work in progress at Meroë. The illustration showing the Prostyle Temple also shows the working of the cable system, which facilitates the removal of the debris. The other photograph, which shows the foundations of a palatial building, also illustrates the scheme which Professor Garstang has in view for exposing the site of the whole city.

We much regret that Professor Garstang was taken seriously ill on the opening day of the exhibition at Burlington House. All students of archaeology as well as his personal friends will be glad to hear of his progress towards complete convalescence.

The antiquities exhibited at King's College (Egypt Exploration Fund) deal with an earlier phase of the world's history than those at Burlington House. The main work of the season was carried out at Abydos ("the city of the dead in which only the living dwell for the sake of the tombs") by Professor Edouard Naville, in which progress has been made in clearing a building, known as the Osireion, which is situated immediately behind the great temple of Seti. This building, which was entirely subterranean, consists of a huge passage or hall, about 100 yds. in length; leading from this is another passage which is inscribed on both walls with chapters from the Book of the Dead,



Excavations at Meroë: Working with the Cable System.

with vignettes of scenes showing the deceased King Merenptah passing the various gatekeepers of the under-world and entering the Hall of the Thirty-six Witnesses. This passage gives access to three rooms, one of which is a magnificent chamber with walls of sandstone faced on the inside with granite. The exact purpose of this chamber has not yet been elucidated, although it is recognised as the chief apartment of the Osireion. Some work was also done in the cemeteries of Abydos, and adjacent to the building of the Osireion the remains of what appears to have been a predynastic settlement were discovered. At the beginning of the season, work begun in the previous year was continued on the Ptolemaic site at Atfieh (Aphroditopolis), and the camp was shifted later on to the western desert to the south of Behnesa (Oxyrhynchus). A stretch of fifty miles was thus examined and yielded remains of the Ptolemaic and Roman civilisations. Many specimens from the field of operations as well as a model and some photographs and water-colour drawings of the Abydos temples are shown at King's College. Among the most interesting finds from the predynastic settlement is a large number of flint implements consisting of knives, saws, scrapers of various forms, and borers. The model of the kiln or furnace found on the borders of this settlement possesses some interesting constructive features. Each great jar or kiln (the group was made up of twenty-three such jars) is coated outside with clay and supported by a number of fire bricks of varying lengths. At the bottom of each of these great vases was a pottery dish into which was closely fitted, in some cases, another dish of the same shape. Each dish had a crested bird of primitive design incised on its outer surface. A wall of fire bricks encircled the rows of vases, which were also covered in above the level of the rims with a layer of clay and bricks. The purpose of this kiln is conjectured as being for the manufacture of some kind of beer. Among the objects of the Late Dynastic periods are a fine specimen of glaze scarab-wings, a blue glaze cup, and a Coptic vase with design of birds and fishes. There are also several stelai, some of them greatly damaged, of the Middle Kingdom period, with their intimate biographical and at times poetic touches in the inscriptions and the vignettes. The examples of the cartonnages of the mummies of the Ptolemaic period are well represented, and the rich design of this armour of the dead (for the pieces are fixed together very much like medieval armour) possesses much of symbolic and artistic interest.

At University College we have an exhibition of the antiquities found by Professor Flinders Petrie and his students during their recent excavations at Tarkhan, Heliopolis, and Memphis. The objects discovered include many of considerable value in view of the historic association of the sites, although their intrinsic artistic interest may be comparatively small. In the construction of some of the coffins pieces of house timber were found re-used. These fragments agree with Professor Petrie's theory with regard to the panelled or recessed decoration in buildings, as copied from timber houses, built of overlapping vertical planks. The planks have rows of tie-holes in the edges for lashing them together, so that they could slide one over the other when shrinking or swelling. Some examples were deeply weathered outside and burnt inside, showing that a house had been burnt down and the scraps used as waste for coffin-building. We have thus preserved to us, according to Professor Petrie, the examples of those wooden forms which were so generally copied in the early architectural decoration. The work of this year's excavation has been carried on between forty miles south and six miles north of Cairo. The great cemetery of Tarkhan, which continued in use until the rise of the pyramid builders, yielded much in the way of woodwork, baskets,

and clothing in an excellent state of preservation. On the eastern side of the Nile a Roman fort of peculiar type was unearthed on the site of Miniet osh Shurafa, while at Memphis the great sphinx was cleared as well as the northern gateway of the temple. Many of the smaller finds are exhibited at Gower-street, including a Roman capital with plaited stems and foliage from Shurafa. At Heliopolis the plan of the temple site was traced and half an acre of ground cleared.

UNIVERSITY OF LONDON. UNIVERSITY COLLEGE, SCHOOL OF ARCHITECTURE: EXHIBITION OF STUDENTS' WORK.

THE impression conveyed by this exhibition is that the methods followed are thorough and broad. The student's time is not frittered away, and he is not called upon to design in all or most of the historic styles, yet there is evidently considerable latitude allowed in expression.

The work is academic in the sense that the "Orders" play an important part, and correctness of proportion is evidently insisted upon, but otherwise each student has a free hand. In many cases the first-year work is well above the average in this respect, and the orders, which are apt to appear lifeless and meaningless, acquire interest and vitality when represented by studies of actual examples, in which the particular order has been employed with details to a large scale. These drawings are all shadowed and rendered in colour or monotint; the best are by Messrs. Ian Hamilton, Haro, and Villegas.

The building construction exercises are in many cases worked out in isometric projection. This method not only makes the work more interesting, and allows each student some scope in draughtsmanship, but also brings the different trades together in the same manner as they are blended in actual work. A geometrical drawing of a floor or a roof by itself is often but a dull production, but when these are drawn in conjunction with the walls and the coverings they acquire some attractiveness. In the more advanced stage the workmanlike diagrams illustrating structural steelwork, arched construction, etc., together with the records of actual tests of materials carried out in the engineering laboratories show that this important branch of the subject is also amply dealt with. Mr. Gaunt's design for a "Screen on the Street Boundary of a College Quadrangle" illustrates the thoroughness referred to above. The construction is shown throughout in well coloured and shaded drawings. Mr. Gaunt is also represented by some good measured drawings to a large scale of the cupola of University College, which show that Wilkins in constructional matters was not above borrowing an idea from Sir Christopher Wren. The designs of the second-year students are unequal; some show promise, and are well imagined, others are weak. There is nothing equal to Mr. Musmann's design of last year. This student is represented by several excellent measured drawings and sketches of Italian buildings, and also by some water-colours which are far superior to the usual efforts in this medium by architectural students.

The work of the evening students appears unfinished by comparison with that of the day men; but some of the designs submitted show a grasp of the difficulties of the problems set and also some skill in design. Mr. S. R. Miller's "Bank and Roadside Hostel" are the most complete and, on the whole, the most satisfactory. The same student sends a set of measured drawings of Great Staughton Church and some "clean" water-colour sketches.

The following is a list of the awards made:—*Donaldson Silver Medal*.—Mr. Oliver Gaunt. *The Worshipful Company of Carpenters' Travelling Studentship of 25*l.**—Mr. S. Miller. *Design Class*.—First prize, Mr. W. G. Whincop; second prize, Mr. H. S. Taylor; hon. mention, Mr. G. F. Clarkson.

Measured Drawings and Sketches.—Mr. H. S. Taylor.

Extra Prize.—Mr. G. F. Irwin.

MISSION CHURCH, BRISTOL.
A new mission church has been erected in the Parish of St. Michael, East Bristol, from the designs of Mr. C. A. Rowley, architect; the builders were Messrs. R. Wilkins & Sons, Bristol.

OUR VANISHING MONUMENTS.

THE Joint Committee of both Houses of Parliament, now sitting under the chairmanship of the Earl of Plymouth, is collecting valuable evidence with a view to strengthening the law about the preservation of ancient monuments. The subject bristles with difficulties of all kinds, and in the many-sidedness of the question lies the chief difficulty, as the reason for the disappearance of many of our notable possessions is directly due to the people who ought to be their most zealous guardians. The Town Councils are offenders in this respect. The case of Beon-Tweed, where it was proposed to demolish a part of the Edwardian walls to make room for modern dwelling-houses, is only one instance. Rochester, too, where some old houses have been destroyed to make room for an electric tram is another, and similar instances, some happily prevented by strong efforts on the part of a few enlightened people, but, unfortunately more often successfully carried through to the reader in almost any town in England. The old town halls, once the meeting places of the "guild merchants" or Town Councils, have often suffered. Sometimes because they were inadequate to the newfound importance of the town (but then surely they could have been used as museums), and often solely because they were in a position in the open market or village square rendered them particularly liable to successful attack. Market crosses, too, have been less destroyed for similar reasons, and many praying crosses that once pointed the way to the pilgrim, few even remain in the country, while many have had their heads knocked off and stand as gateposts to fields.

Our larger churches are now happily in the hands, but the "restoration" craze has obliterated many of their glories, and the smaller parish churches scarcely any more untouched by the heavy hand of the "God-restorer." Mr. Thomas Hardy the novelist tells of one case where the local contractor down the old screen, oak and resplendent with gold and colour, and put up, at his charges, a new one of varnished deal. The one was used to boil the workmen's kettles, though "a were not much at that." Bedfordshire, too, may recall a case in which a demolished chantry chapel in his chance he might be responsible for the dilapidated and instances could be multiplied indefinitely. The pious donor, too, is a source of trouble. The plate and documents have been in many cases dissipated through ignorance or cupidity. Fire, too, still claims its toll both of churches and of mansions full of priceless treasures. The craze for modern conveniences has ruined many a fine house and destroyed many in the chain of our artistic development. Of means, especially on the part of the owner, who is often unable to carry out repairs, is a serious consideration. In one case related to the writer, owing to the being in Chancery an interesting old East London mansion was allowed to literally fall to pieces.

Old bridges, again, are often a mark for "progressive"—using the word in a strictly non-political sense—party, who often desire a new bridge rather than in attempt to repair the old, as the recent case of the "Brig of the future of Richmond Bridge is a case in point.

The old almshouses, also, are apparently regarded lightly by their protectors, to judge by the rapidly with which these memorials of the kindly past are destroyed for very questionable benefits, and prehistoric remains are swept away without thought; in one case even several old barrows were destroyed to make a course.

Then, again, the power of the American purse tends greatly to the vanishing of many of our most valuable monuments. How much will never be known, for it is every case that reaches the public eye, and undignified appeals to the art-lover evoke often a feeble response; nor is this only confined to furniture and pictures—whole buildings are often being bought after, and it is not every case that ends as well as that of the Tattersall Castle fireplaces. All this only tends to increase the complexity of the problems before the Committee, and it is to be hoped that similar regulations will be the result of their labours. With regard to the question of purchasing foreigners, it may be fitly asked when we follow the lead of most European countries, notably, Italy—and prohibit the exportation of works of art and historic interest by statute, additional point is given to this side of

by the fact that the famous "Globe" from the Reindeer Inn at Banbury London with its ultimate destination appeals to the charitable among art would not be, nor are they really, necessary, for the rest, state ownership is not desirable. The first step, however, is an official survey of all fabrics, pictures, etc., followed by, let us say, a selection, backed in necessitous cases by aid on easy terms, and, in very special cases, purchase of the object in and arrangement in such event for the public. The success of the measure will entirely on a broad-minded attitude of the administration in order to hardship to individuals, and the true of the future legislation may be best in the words of Dean Church. "In earnest for improvement it concerns us our guard against the temptation of we can have the fruit or the flower and of the root. It concerns us that we wise our birthright and cast away our of gifts and of powers which we may not recover."

HOUSE IN DURBAN.

house, designed by Messrs. E. O. & W. S. Payne, is built of brick, the external facing faced with pressed bricks, except high cast on lounge piers and front bay cony. The lounge was placed cony near the kitchen to serve as an open- room in hot weather, and the front was also provided as a sleeping-place. The roof was made flat to form an open- space from which to view the Indian Durban Bay. The pitched roofs are with French tiles, and the windows have ghts.

GENERAL NEWS.

London University.

much discussion and consideration of available sites the Senate of the University of London have adopted the recommendation of the Committee appointed to report on the subject. The decision is that the Found- ional site shall be acquired.

Universities of the Empire.

ture of great interest in the recent ties Congress was the exhibition in the of the Imperial Institute of University and building. This exhibition was

unique of its kind, no such representative collection of pictures, plans, drawings, and technical data on the subject having ever been got together. Prepared by Mr. C. R. Ashbee, F.R.I.B.A., for the University of London, together with an analytical catalogue and survey, worthy of careful study, it covered the recent work in building and planning, or the greater work immediately in con- templation at forty-two English-speaking Universities. Nor was the wonderful work displayed restricted to English and Colonial Universities alone. Twelve of the more important American Universities contributed representative drawings and plans, and it is significant how in many respects the latter can teach lessons to the English University builders. Mr. Ashbee's survey was based upon a Report made by him for the Hungarian Government which, more far- sighted than we in matters educational, have decided that the building of certain new Universities is one of the needs of their modern industrial and agricultural development, and as a preliminary study to this have caused this survey to be made of work already in progress among the English-speaking peoples. The University of London was indebted to the Hungarian Government for the use of the material thus gathered together.

Designs of Government Buildings.

In the Parliamentary papers recently two questions were put by Mr. Bennett Goldney to the representative of the First Commissioner of Works relative to the design of Government offices. In the first place he asked whether, in view of the dissatisfaction both expressed and suppressed with which the designs and accom- modation of the more recently completed Government offices have been received by the public, he will arrange with the Government that the preparation of all plans for future public buildings shall be thrown open to public competition; whether, in the new buildings already contemplated, he will take steps to prevent any repetition of the mistakes which have so dim- inished the general comfort and convenience of large portions of so many of our more recent public offices; whether he will see that in any future plans the errors of internal planning, which are so palpable in the new offices of the Board of Trade and other buildings, insufficient lighting of many rooms, over- lighting of many corridors, lavish distribution space on the one hand and cramped accom- modation on the other, are not repeated; whether he will take steps to prevent the continuance of the present style of internal furnishing and so- called decoration of the interiors of our public offices; and whether he will, from this time forth, abolish the present system of only inviting designs for public buildings from a privileged panel of selected architects.

Mr. Wedgwood Benn, in reply, says all these matters are receiving, and will receive, the most careful consideration of the First Commissioner. While guarding against such defects in new buildings as the Hon. Member indicates, the First Commissioner must not be understood to admit, as a whole, his sweeping indictment of existing buildings. It is not clear to what new buildings of the Board of Trade the Hon. Member refers.

The second question was whether the First Commissioner will in future give the Members of the House an opportunity of examining all competitive schemes for the erection of new or the alteration of old Government buildings before any such schemes are finally chosen and approved, and whether he will give Members an opportunity within the House itself of seeing any schemes which may be selected for final approval before the final choice is made; whether he will inform the House as to the method of appointment of architects and others to the panel from which the designers of our more recent buildings have been selected; whether all qualified architects are eligible for a place on the panel; whether architects may appoint themselves to the panel; and, if not, will he explain why in the past certain archi- tects of merit have been left off the panel while others of less notoriety have been promoted to a place upon it.

Mr. Benn: As has already been promised, designs for all the most important building schemes will be exhibited to Parliament before final approval, but the First Commissioner is doubtful whether opportunity can be given for their inspection within the House itself, though he hopes to be able to arrange it. It was stated last year that in recent cases architects have been submitted from a panel submitted to the First Commissioner by the Royal In- stitute of British Architects. The First Com- missioner does not feel himself able to investigate the proceedings of the Institute in drawing up the panel.

Victoria and Albert Museum.

Two questions have been put by Mr. Grant in the Parliamentary papers to the President of the Board of Education relating to the above Museum, viz.:—(1) "Whether the collection at the Victoria and Albert Museum of book illustrations, engravings, drawings, etchings, and suchlike examples, as appertain to pictorial and realistic art, can now be separated definitely from designs for decorative and architectural work, and these latter be removed to those rooms in the Museum where students are allowed to study original objects of cognate materials. (2) Whether he will cause the congestion of the halls at the Victoria and Albert Museum, containing reproductions of famous historical monuments, to be relieved by removing some of the casts of the XIIIth, XIVth, and XVth century sculptured pulpits, candleabra, tombs, and the like, into the long southern court of the Museum, which is but now partially filled with corresponding original works of less artistic importance for the purposes of serious study than those so well reproduced in the casts above mentioned."

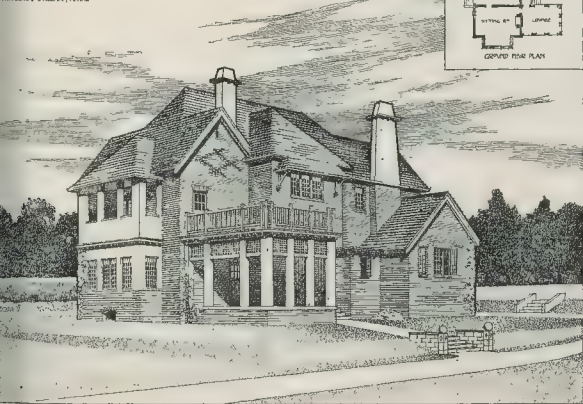
Mr. Pease replies:—(1) In many cases students do not work in the students' rooms, but in the galleries. Facilities are given to students to study designs in the departmental students' rooms, and so far as is possible arrangements are made for placing the designs for various materials in proximity to the objects of cognate material in the galleries. (2) Some of the difficulties connected with the position of the collection of casts are referred to in sect. 5 of the Report on the Museum for the years 1909-10, and the Honourable Member will find set out in that section some objections to the course he suggests. The question of the disposal of the casts is now under consideration.

Church and Steeple of St. Mary-le-Bow, Chapside.

In a "Note" of August 12, 1899, we referred to the somewhat alarming statements that were then current concerning the stability of the tower and steeple of St. Mary-le-Bow Church. We were enabled to announce, upon the authority of Mr. Charles Innes (of Messrs. Tress & Innes), architect and surveyor to the churchwardens, that the fabric was not in a dangerous condition, though fissures had in the preceding autumn become apparent in the north, south, and west walls, and in the pave- ment, from east to west, of the vestibule on the south side of the tower. Careful plumbing evinced that the top of the belfry stage, about

NEW RESIDENCE ON
DURBAN ROAD DURBAN
E. O. & W. S. PAYNE, ARCHT.

Architects, A.A.R.I.B.A.,
Durban, Natal.



A House in Durban.

Messrs. E. O. & W. S. Payne, A.A.R.I.B.A., Architects.

120 ft. above the pavement, inclined northwards 12 in. out of the perpendicular, thus breaking away from the vestibule, and the latter, in part, from the north wall of the church. About ten years previously Mr. Innes had repaired the stonework of the tower and steeple, and stripped the cement from the body of the church, so as to again expose the original walls of thin red brick. Five years ago it was stated that an examination of some plaster "tell-tales," which had been fixed over the cracks in the walls, showed the "tell-tales" to be intact. We now learn that Mr. E. Setton Underwood, F.R.I.B.A., has been recently consulted in respect of the condition of the tower, and reports that, in spite of slight decay, the stability of the tower is not impaired. Some repairs are about to be carried out, at a cost of about 400l. George Gwilt, the younger, restored, in 1818-20, the upper part of the steeple, which had become considerably tilted by the exfoliation of an iron tie worked into the masonry; he rebuilt the upper parastyle and the obelisk to a height of some 40 ft.; a few years afterwards he made an extensive reparation of the foundations.

Museum of Practical Geology.

The total number of visitors to this Museum in 1911 was 50,983—36,208 upon week-day mornings, 10,510 on Monday and Saturday evenings, and 4,265 on Sundays. In the entrance hall of the Museum a more suitable distribution of the larger exhibits has been made possible by the removal of the Ludlum store cases from the stairs to the basement. A new wall case has been added to the building stone series. A set of building stone samples has been placed on the roof to provide illustrations of weathering. The examination of samples of macadam has been continued. These are now received from the Road Board after they have been submitted to Mr. E. J. Lovegrove. The following donations, amongst others, were received at the Museum during the year: Twenty-five specimens of Finland granite; nineteen specimens of analysed rocks from Australia; two specimens of "Roman stone," presented by the Army and Navy Auxiliary Co-operative Supply, Ltd.; ninety-three specimens of Swedish rocks; twelve slabs of coloured clays, "Dorset marble," given by Lady Baker; two samples of Portland stone "Roach" from the Bath and Portland Stone Firms Company, Ltd.; specimens of Cuban asphalt and kindred productions from the British Cork and Asphalt Company, Ltd.; six dressed blocks of "reconstructed" stone from the British Stone and Marble Company, Ltd.; a cube of Dartmoor granite, from the Governor of Dartmoor Prison; two samples of bricks from the Down Mill Brick Company, Ltd.; an exceptionally fine and extensive series of British rocks and fossils, being part of the collection of the Geological Society of London; forty-seven specimens of rocks from Lundy Island; a series of fossils from the Devonian and Carboniferous of North Devon; illustrations of apparatus for the testing of building stones as employed by Professor Dr. J. Hirschwald at Charlottenburg, Berlin; four specimens of quartz (Cairngorm), the gift of the late Countess of Seafield; series of "coal apples" from Lanarkshire; a building block, from the Pentewan Brick and Development Company, Ltd.; two samples of artificial paving stone, from the St. Keverna Stone Company, Ltd.; six specimens of Irish granites, given by Mr. E. Wettren; two specimens of tourmaline granite from near Ivybridge, Devon, given by Mr. B. H. Worth; two specimens of Austrian building stones, from Messrs. Whitehead & Sons, Ltd.; specimen of Hertfordshire "pudding stone," from Mr. W. Wright; three specimens of Aberdeen granite, from Mr. H. Hutcheon; specimen of Norwegian slate, from Miss Johnston, etc.

Visit of German Town-Planners.

The Garden Cities and Town Planning Association, of 3, Gray's Inn-place, W.C., are arranging for another visit of members of German municipalities to inspect English Garden City and Housing schemes under the guidance of Mr. Culpin, the Secretary. The party, about 100 strong, will arrive in England on August 18, and the next fortnight will be spent in visits to practically every housing scheme of importance in the country. Among other places which will be seen are the Garden Villages of Hull, Earswick, Port Sunlight, Bournville, and Knebworth, the Garden Suburbs

of Wavertree (Liverpool), Harborne (Birmingham), Hampstead, Ealing, Ilford, etc., while special interest will be taken in the Garden City of Letchworth, where more nearly than any other place in this country the question has been solved of the provision of labourers' dwellings at an economic rate. Students and others who would like to join the party at any point or to meet at their social gatherings are invited to communicate with Mr. Culpin at the above address.

Marble Work at the British Museum.

Mr. Tyson Wilson asked the First Commissioner of Works whether the contractors of some marble work in connexion with the British Museum have been granted permission to sub-let part of the contract abroad; and whether other points of view besides those of the employers were taken into consideration, in view of the fact that competent workmen can be obtained in this country?—Mr. Wedgwood Benn replies that the contractors for the marble work in connexion with the British Museum have been granted permission in accordance with the custom in the trade to sub-let a part of the contract abroad. This is in conformity with the Fair Wages Resolution.

St. Bartholomew the Great, West Smithfield.

In the course of operations for the erection of premises on the site of some old houses at the south side of the church for Messrs. Israel & Oppenheimer, their architect, Mr. W. Pamphilon, has found what is believed to be the three-arched entrance from the cloister into the chapter-house, and of early XVth-century workmanship. The cleared site is that of the older chapter-house and the slype. Below the tiled floor, and in the middle of the chapter-house site, was found, too, the empty stone coffin of a Prior.

The National Trust and Open Spaces.

Miss Octavia Hill makes an appeal for an amount of about 500l. to secure the acquisition, on behalf of the National Trust, for 1,550l., of an important and lovely piece of land—Mariner's Hill, near Westerham and Limpsfield, partly copsewood and partly open meadow, and constituting a spur of the elevated ranges of the Kentish and Surrey Hills. It is stated that the legal formalities will shortly be ratified, whereby Colley Hill, Reigate, will be taken over by the Trust. The subscription list, however, is still open, and it is hoped the balance will be raised before the transfer is effected.

Finchampstead Ridges, Berks.

The committee for purchasing from the Bear Wood estate trustees and vesting in the National Trust a part of the Finchampstead Ridges have secured an option of purchase of 60 acres at a price of 3,000l. Towards that sum they have received promises for 2,400l. and a donation of 500l. from Mr. John Walter. There will thus be preserved the fine prospect, across the valley of the Blackwater River and Yateley village, extending to Eversley, Hants, Hindhead, and Highclere Beacon, nearly 30 miles distant.

British Association for the Advancement of Science.

At the annual meeting, September 4-11, under the presidency of Professor E. A. Schifer, F.R.S., Professor of Physiology in Edinburgh University, in Dundee, where the Association held their first meeting in 1867 under the presidency of the Duke of Buccleuch, the Engineering Section will be presided over by Professor A. Barr, of Glasgow. In the Section of Anthropology, of which Professor G. Elliot Smith, F.R.S., of Manchester Victoria University, is President, papers will be read by Professor G. A. Reimer, of Harvard, upon his excavations at the Giza Pyramids; Professor Bosanquet, Mr. T. E. Peet, and others, upon the archaeology and megalithic monuments of the Mediterranean; Mr. A. J. B. Wace and Mr. N. T. Thompson upon excavations conducted in Halos, North Greece, by the British School at Athens; Professor Flinders Petrie, on early dynastical discoveries in Egypt during the past season, and Mr. A. H. Gardiner on Theban tombs; also by Mr. W. Gardner, upon an exploration of the Parcy-Meirich hill-fort near Abergele, and Mr. Marett upon the palaeolithic deposits in the caves of Jersey.

Window, St. Chad's Church, Over.

In St. Chad's Church, Over, near Winsford, Cheshire, a beautiful window has been placed, representing St. Chad in cope and mitre,

preaching to the Mercians. This consists of the second of a series of "Kempe" windows illustrating the life and episcopate of St. Chad, which have been designed for Over Church. St. Chad's connexion with Cheshire is still perpetuated by many ancient church dedications.

BOOKS.

The Taxation of Land Values as it affects Landowners and Others. By JOHN ORR. (London: P. S. King & Son. 1912. 12s. 6d.)

WE cannot give a better idea of the object of this little treatise than by quoting a sentence from the last chapter, which is entitled "Practical Policy":—"With the repeal of existing rates and taxes and with the substitution of one rate and one tax directly on land values, economic rent will rise sufficiently to provide an ample surplus." Economic rent is defined as "that part of wealth which is produced by the expenditure of capital and labour in common services, as distinguished from interest and wages, those parts which have been produced by the expenditure of capital and labour." The author founds his arguments upon the opinions of statesmen and economists—Locke, Wyndham, Quesnay, Turgot, and others—who mostly lived at a time when land occupied a very different position in the industrial economy to that which it does at the present day, and upon experiments in colonies, where again land is the prime element in production. We cannot refrain from quoting one extract from a letter from Turgot, written in 1784, advocating this system:—"I do not enter into the detail of the objection about foreign trade, which I cannot regard as a very important matter in any country, in so far as it contributes to increase the revenue from lands and which, moreover, we cannot without causing it to diminish." Foreign colonial experience hardly appears to confirm this statement. Some portion of the book is addressed to the conversion of Lord Russell, who criticised the scheme in a speech delivered in the House of Commons in 1910. The author is genuinely impressed with the theory, and sees in their practical application not the millennium, at least a cure for depression, business depression, and unemployment.

Silverwork and Jewelry. By HENRY WILSON. (London: John Hogg. Second edition. 6s. 6d. net.)

THIS second edition of Mr. Henry Wilson's book has been considerably enlarged, interesting chapters dealing with interesting methods of processes having been added, and the volume now published forms a very able treatise on ancient and beautiful craft, which shows in the hands of all craftsmen working in precious and other metals.

One of the most notable features of the book is the fine letterpress and illustration, which strikes one immediately on opening the book. The illustrations, which are chiefly reproductions of very well-drawn sketches showing work in various stages, make the letterpress tolerably clear to the reader—although, of course, it must be obvious from the very nature of the work, which the author tries to explain in a good many of the processes described, can be thoroughly learned by means of practical instruction from a practical craftsman. If some of the chapters dealing with practical work will convey very little to the beginner, they abound in fine ideas and suggestions, which the craftsman will appreciate after the elementary principles of the craft have been mastered. The number of candlesticks, cups, boxes, spoons, and a variety of jewellery, etc., are fully described from the author's point of view, and although one may disagree with some of the methods of manufacture described and advocated, most of them are quite practical and workmanlike. Almost all the new chapters which have been added in this second edition, the one dealing with Japanese methods of working should be of great value to craftsmen in this country.

It is, however, the concluding chapter of Wilson's book, "On Design," which is the chapter in the book, and it seems regrettable that it was not made the first chapter, which would have been an admirable introduction and would have explained the author's point

in the following chapters. "Design and craftsmanship are indivisible"—that is the theme of this chapter, that is the keynote of the book—and the keynote of all good craftsmanship.

CORRESPONDENCE.

The Regent's Quadrant Competition.

—In connexion with the Regent's Quadrant Rebuilding Competition, on behalf of the company, please accept my thanks and the expression of my appreciation of the manner in which your important journal has attempted to follow and I hope successfully, what has hitherto been a difficult problem.

My letter published in your issue of 10 I offered, in the name of my company, a highly suitable design, when obtained, but will probably be much delayed before this design can be arrived at Messrs. Swan & Edgell, Ltd., would like to announce through your paper, that, if the offer is acceptable, they are prepared to award to each of the first, second, third, and fourth prize-winners in the recent competition a similar premium to that given by

FOR SWAN & EDGELL, LTD.,
WALTER MORFORD
(Managing Director).

* See our "Note," p. 68.—Ed.]

A Court for Building Cases.

—For many years I have endeavoured to bring forward the advantage of instituting a court for building cases. Although the idea has been favourably received by some high authorities and has met with general favour among my professional brethren, it has up to now been, for various reasons, practically impossible. At the present time, there are two vacant judgeships in the Bench Division, and the early appointment of a new judge is necessary. I venture to think the importance of elevating to the Bench of those barristers who have had special technical training, or whose practice has brought them into such contact with building cases as to make them familiar with the technicalities which sometimes appear formidable obstacles in the way of a case. A Court presided over by such a judge as I suggest would necessarily tend to do away with many cases which in the ordinary course are considered difficult and relegated to the Special Referees; and the familiarity of the judge with the subject would greatly tend to expedite the hearing of the case and to lessen costs.

Moreover, the other reasons that go to the credit of the institution of a judge to preside again, and the promotion is more to be made on political grounds than on grounds of suitability for any speciality. In that event I humbly venture to suggest that a court which seems to me to be in the air should be put into practical use in this connection. I mean the creation of paid professional jurors. A certain number of men having the necessary qualifications and technical knowledge might be called in to undertake to act as Jurymen in such cases as I have referred to, and their remuneration might be fixed at the rate of, say, three shillings per day, which would be sufficiently high to attract men of standing and experience. Such a panel of special Jurymen ought to be composed of architects, surveyors, engineers, foremen of works, and even tradesmen and mechanics, and might be of sufficiently large numbers to ensure the obtaining of a jury at any time.

This would have the effect of saving time of busy men who sometimes are called to waste time, to their sorrow, in going about in Courts and in hearing cases on which they cannot but feel that their time, and that is valuable to themselves, is thrown away. These special Jurymen would not be called at any time to serve; but, having passed their willingness to do so, might be called from the panel by agreement between solicitors on both sides, and save the time wasted in challenges in open Court. The cost of such a special jury would undoubtedly be small, but it would probably only be called upon in specially important cases where large sums are at stake; and the advantages of having a skilled in the technicalities of the case would be very marked, and would certainly tend

to avoid miscarriage of justice. I am by no means sure, but I imagine that it might be possible to reduce the number of special Jurymen if desired, and hear the case before a jury of five or six.

I venture to commend the idea, which might be applicable for other cases than those connected with the building trade; in fact, it is in reference to general cases that I have heard the idea of professional Jurymen mooted.

HENRY NORTHGROVE.

Building Act Problems.

SIR.—I have read with interest your criticism of the case recently heard at the Greenwich Police Court, in which the District Surveyor took out summonses against a builder for failing to give notice in respect of a drainage excavation.

I should be glad if any of your readers could inform me whether I am compelled to give notice in cases of excavation within 3 ft. of a building, but in which no parts of the foundations or structure are in any way interfered with.

Also, I should be glad to know whether I am liable to pay the fee of 5s. in respect of such excavation whether notice be given or not.

BUILDER PUZZLED.

The Insurance Act and an Approved Society for Architects' Assistants.

SIR.—My attention has been called to a letter from Mr. Dixon in your last issue in reference to the formation of an approved society for architects' assistants under the Insurance Act.

A small committee of the Architectural Association have for some time had this matter under consideration, and hope to make some definite announcement after the next meeting of the Association's Council.

H. AUSTEN HALL, Hon. Sec.
Architectural Association.

SIR, With reference to Mr. Dixon's letter, many architects and their assistants are probably unaware of the existence of a professional society which caters largely for architects, civil engineers, and their assistants, and which has branches in most large towns. I refer to the Scottish Clerks' Association of Glasgow. The benefits are over and above those of similar institutions, and the Association is not a trade union. Indeed, applicants of the highest character only can be admitted.

STUDENT (Society of Architects).

MAGAZINES AND REVIEWS.

THE *Burlington Magazine* continues its article upon "Early Furniture," and illustrates some beautiful XVth-century coffers.

Three types are shown, the flowing design, based on rose or vine, geometrical "chip carving," and arcaded designs derived from window tracery. The last of these, as might be expected, shows to great disadvantage. In the second group Cairene influence is evident. The same appears sometimes in XVth-century chair screens.

We have often wondered how it is that, notwithstanding the fine examples of wood-carving obtainable, Jacobean designs are preferably disseminated throughout our art schools.

"Garden Suburbs, Villages, and Homes" commences with an attack on the word "suburb," and suggests village in place of it. We do not share this dislike of the word. Hemmed in by building now or soon, "village" would not be descriptive. It is the mission of the garden suburb to redeem what is appropriate and even classical from unpleasant associations.

"Lincoln's Inn and its Treasures" are described and illustrated in *The Connoisseur*. Portraits of old benchers—Francis Hargrave and Lord Erskine, wonderful things painted by Sir Joshua, and reproductions of pewter cups and flacons of fine design.

The records of the Honourable Society go back for over six centuries. It had its origin in a group of lawyers who, between 1236 and 1310, were brought by Henry de Lacy, Earl of Lincoln, to settle near his manor-house at Holborn, then spelt, indifferently, "Holeburn" or "Oldborne." The first settlement was subsequently known as Thavies Inn, and subsequently overflowed on to property belonging to Lord Furnival, which became Furnival's Inn.

By 1422 they had again outgrown their accommodation, and established themselves where Lincoln's Inn now stands.

The gatehouse fronting Chancery-lane belongs to the year 1518, and is built of brick made from the clay quarried in the old conveyance yard, the site of the present New Square. The Old Hall dates from 1480, "the most ancient structure in the inn, but sadly modernised."

"Like the old Hall, the chapel has passed under the hand of the restorer, not once but several times," one of the several being Lord Grimthorpe.

In the *Nineteenth Century*, Mr. Robert Fowler, R.I., speaks out. "Is art a failure," he asks—the art of "Rembrandt and his fellow aristocrats of art?" He is urged to ask this, disturbed by the clatter of symbolist, cubist, and post-impressionist, and all such modern theorists who tilt against the other theory that art is an imitation of Nature—"beautiful Nature, and all that humbug." When Whistler announced in his "Ten o'Clock" that "To say to the painter that Nature may be taken as she is, is to say to the player that he may sit on the piano," he said what was not unreasonable at that particular period of Royal Academy standards.

But what, after all, does "imitation" in nature actually amount to? Mr. Fowler comes to grips with his adversaries upon this. He explains that the painter can at best—or at worst—only approach his object by means of his visual organs, which record what he sees upon his brain, already saturated with undue impressions that he cannot escape from if he will.

Psychologists are agreed that it is the brain which is the master, and one interpretation "is not what lies in the phenomenon, but what we add to it from the means at our command, not what the senses communicate to the brain, but what the brain makes the senses believe." To put it plainly, such a thing as imitation of Nature does not exist. It is a matter of personality.

As regards the "Symbolist," "it should not be forgotten that every object in nature is a symbol." "Post-impressionist" and "Symbolist" have no special claims. They will be judged according to the common law of art, that is, upon the verdicts already given upon the work of great painters.

Those who are interested in the doubtful etymology of "Cold Harbour" will find some interesting information in the *Home Counties Magazine*, relative to the important one originally situated in Dowgate.

In *La Revue Générale* we read with pleasure an appreciation of the Pre-Raphaelite painters, by M. Arnold Goffin. France has never been backward in generous praise of these and the earlier English masters, praise which a growing knowledge of those periods has added to rather than diminished.

INTERCOMMUNICATION COLUMN.

English and Foreign Rolled Steel Joists.

SIR.—Will you be good enough to let me know by inserting in your Intercommunication column how to distinguish between English and Belgian or other foreign rolled steel joists? I am given to understand that all British steel is marked every 6 ft. apart. Is this so, and does it apply to all sizes, etc.?
CORRESPONDENT.

Reply.

[**] In answer to your correspondent, it is the custom of English and Scottish makers to roll their name or that of their works upon every joist. The inscription is repeated at about 6 ft. intervals, so that if a 10-ft. length be found without the mark, it is practically certain to be foreign. "Broad flanged beams are (with the exception of one or two sections) rolled only abroad, and it is, therefore, useless to specify that these must be of English make. It may be added that some foreign makers are now rolling to the British Standard Specification in every respect, so that in some cases the mark rolled on the steel is the only means available of identifying the place of origin of an individual joist. If foreign joists are used, it is generally best to arrange for tests to be made by independent testers; this is, of course, often also done in dealing with English material, although in many cases the Mills test certificates are accepted.—ENGINEER.]

ILLUSTRATIONS.

Winchester Cathedral.



R. THOMAS R. WAY, whose lithograph of the interior of Winchester Cathedral, specially executed for the *Builder*, is published this week, has not only made a reputation for himself by his artistic work, but has achieved distinction by his association with other artists, notably Whistler, whose use of lithography called attention anew to the medium as a means of artistic expression. Both Mr. T. R. Way and his father, Mr. Thomas Way, were instrumental in promoting the revival in the art. Mr. Thomas R. Way was one of the witnesses for the plaintiff, with Whistler, Mr. (Sir) Sidney Colvin, Mr. Alfred Gilbert, Mr. Edward F. Strange, and the late Mr. Goulding, in the famous action of 1897, brought by Mr. Pennell against Mr. Frank Harris, publisher of the *Saturday Review*, and Mr. Walter Sickert, the writer of an article in which a distinction was made between a drawing done on stone and then printed, and one done on transfer paper, transferred to the stone, and then printed. The foundation of the Seneffler Club in 1910 and the experiments of Sir Hubert von Herkomer, R.A., published in the same year, caused the intricacies of the subject to be brought again before the public. At the present time many artists are using the medium.

Mr. Thomas R. Way, as a pioneer of the modern revival, is one of the best-known artist-lithographers, and he has written and illustrated many books in an interesting way. His lithograph of the interior of the nave of Winchester Cathedral is a notable example of his sympathetic treatment of an architectural subject, and we feel sure that it will be acceptable to all our readers.

Port of London Authority.

We illustrate in this week's issue the design of Mr. T. Edwin Cooper, F.R.I.B.A., which has been adopted by the Port of London Authority on the advice of the assessor, Sir Aston Webb, C.B., R.A. We deal elsewhere (p. 65) with the general features of the competition, and in future issues we hope to illustrate the designs of the other five architects who were selected to prepare drawings in the final competition.

MEETING.

THURSDAY, JULY 23, TO WEDNESDAY, JULY 31.
Royal Archaeological Institute.—Summer meeting, Northampton.

COMPETITION NEWS.

A list of current competitions is printed on page 91.

New Offices for the Port of London Authority.

The Port of London Authority having considered the final plans for their new Head Offices about to be erected in Trinity-square, E.C., sent in competition, have selected, on the advice of their assessor, Sir Aston Webb, C.B., R.A., the design submitted by Mr. T. Edwin Cooper, F.R.I.B.A., of 12, Gray's Inn-square, W.C.

The six designs submitted in the final competition will be publicly exhibited at the River Offices of the Authority, Carmelite-street, Victoria-embankment, E.C., until and including July 30 between the hours of 10 a.m. and 4 p.m. (1 p.m. on Saturdays), with the exception of Wednesday, July 17, when the designs will be on view from 2 to 4 p.m.

Mr. T. Edwin Cooper's successful design for the new offices of the Port of London Authority is illustrated in this issue, and reference is made to the competition in the article beginning on p. 65.

Hamstel Council School, Southend.

In this competition, open only to architects practising in the borough, the first premium (£25) has been awarded to Mr. Laurence T. Weaver, 132, High-street, Southend-on-Sea; the second premium (£15) to Mr. Frank R. Smees, "Thornton," Grand Parade, Leigh-on-Sea; and the third premium to Mr. Percy Brockbank, County-chambers, Weston-road, Southend-on-Sea.

The Architectural Association Essay Prize.

The Architectural Association Silver Medal with ten guineas has been awarded to Mr. W. G. Newton, M.A. Part of the essay is printed in the July issue of the *Journal*.

Elementary School, Warrington.

Messrs. Wright & Hamlyn, of Sankey-street-chambers, Warrington, have been appointed the architects of the new Oakwood-avenue Council School, Warrington, as a result of the architectural competition held.

Scottish National Memorial to King Edward VII.

The selected design by Mr. G. Washington Browne, R.S.A., for the King Edward Memorial at Holyrood, while conceived in a modern spirit, is worked out in strict accordance with the architecture of the major portion of the palace, designed by Sir William Bruce for Charles II. The memorial takes the form of two hemicycles completing the architectural enclosure of the forecourt at its northern and southern ends, which are at present open.

Their centre lines are axial with the fountain at present in the middle of the forecourt, which involves a slight change in the line of the approaching roadways. The northern hemicycle will form, as at present, the principal entrance to the palace forecourt from the City via Abbeyhill, while the southern hemicycle will form a background for the sculptured group of the late King and accessory figures, which would thus occupy a position of the greatest dignity and importance. The group, which is intended to be executed in bronze, represents King Edward seated upon a throne, crowned and attired in the robes of the Order of the Thistle, receiving from female figures emblematic of Peace and Concord the wreath and laurel in recognition of his life work of promoting amity among the nations. The group is set under an arch within an architectural framework of pedestal, columns, and entablature of the Doric Order, the dimensions, form, and detail of which would repeat those of the stately central doorway to the palace. The height of this part of the memorial is 40 ft. above ground level, and the diameter of the hemicycles is 123 ft., so that the scale of the memorial is such as cannot fail to add dignity to the forecourt and to be a not unworthy adjunct of the historic palace.

The position assigned to the memorial will not interfere with any developments which may become necessary in connexion with the use of Holyrood House as a Royal residence, as such development would naturally proceed in the reconstruction of the buildings on the west side of the forecourt.

As a subsidiary part of the design there will be a minor gateway to the forecourt at the foot of the Canongate to mark the line of division between the palace precincts and the city, but of such a character as not to obscure the view of the James IV. tower of the palace as seen when approached by the Canongate. It is suggested that the present high railing and shrubbery between the forecourt and the palace garden should be replaced by a stone balustrade, so that the palace and abbey may be seen in their proper setting, and also that the garden itself may be developed.

The cost of the memorial proper, including the bronze group, is estimated at 15,000*l*. The sculptor associated with the architect is Mr. Albert H. Hodge, of Bedford-gardens, Kensington.

NEW BUILDING, EDINBURGH.

The directors of Deansbank Institution for Girls are to have a new building erected in Canaan-lane at a cost of about 5,000*l*. The architect for the work is Mr. David McArthur, Lic.R.I.B.A., and the building will consist of two floors with outbuildings.

A NEW EXHIBITION BUILDING.

A gigantic structure will be built shortly at Earl's Court by the Exhibition authorities in conjunction with the District Railway. Mr. Leonard Martin, F.R.I.B.A., is the architect, and he hopes that the work will be completed by the end of next year. Briefly, the idea is to provide a hall of sufficient capacity to house the Goliath exhibitions which seem to be the order of the day. The Earl's Court neighbourhood is so easily accessible that the venture should be useful and popular. The floor will be free from columns, and will be 500 ft. long. The total floor area, including the galleries, will be 331,800 sq. ft.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in County Hall, Spring-gardens, S.W., Chaylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended, and it was agreed to make, loans Borough Councils as follows:—Hackney, 6.5*l* for electricity undertaking, and 2,065*l* paving and other works. Hammersmith, 3.7*l* for electricity undertaking.

School, Poplar.—Alterations are to be carried out at the George Green's School, Poplar, at estimated cost of 436*l*. 5*s*.

Theatres.—The Theatres and Music-Hall Committee reported that drawings had been approved as follows:—311, Lavender-hill, abolition of an exit and widening of another; People's Palace, Mile-end-road—alteration to the Queen's Hall; 55, St. Stephen's-row, Bow—provision of fibrous plaster decoration 268, Tottenham Court-road—alteration balcony entrance and exit doors.

Cinematograph Halls.—Drawings have been submitted for erection of new cinematograph halls as follows:—By Mr. H. C. Constantine for a hall at 2, Holloway-road and 4, High-bury-crescent; by Messrs. Norfolk & Priest, for a hall at 140, Maida-vale; and by Mr. W. G. Sprague, for a new theatre to seat 500 persons in West-street, Shaftesbury-avenue.

New County Hall.—The Chairman of Establishment Committee was asked by Mr. Smith whether any steps were being taken to secure the erection of the new County Hall within the next ten years.

The Chairman, in replying, said that tenders would be invited in January for the superstructure with a view to commencing the construction in April, and it was expected that the whole building would be completed by the summer, 1916.

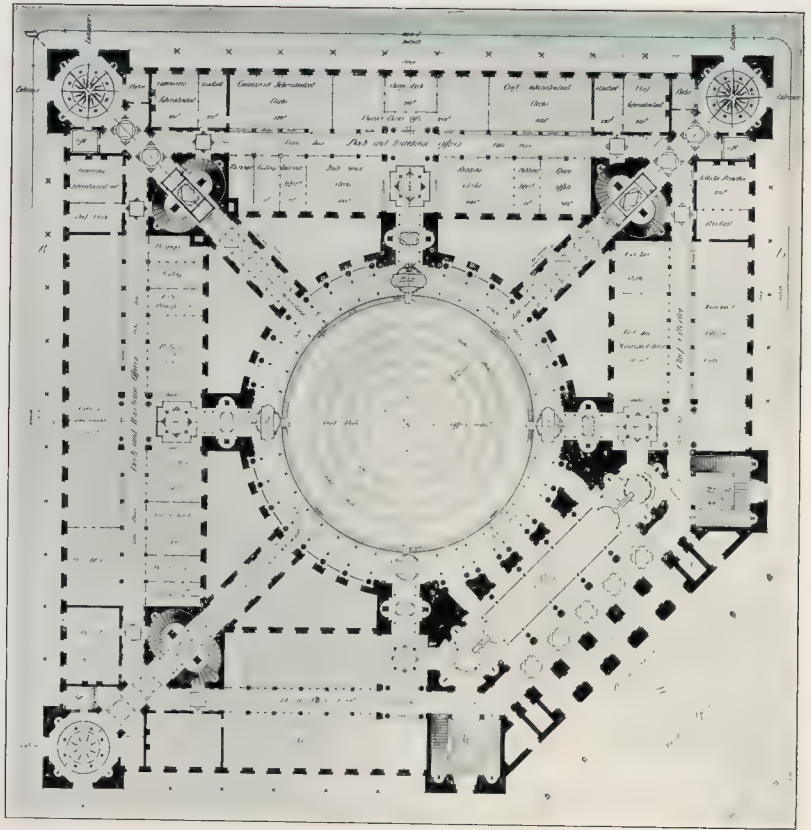
FIFTY YEARS AGO.

From the *Builder* of July 19, 1862.

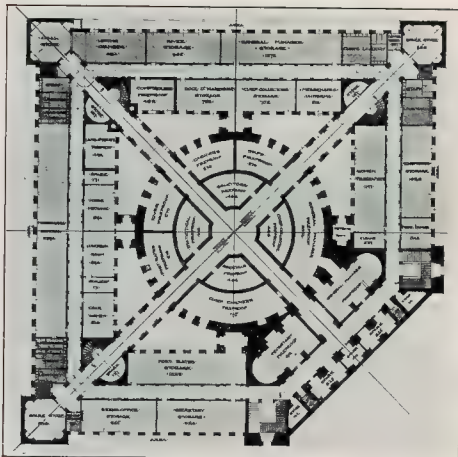
What Should be the Spirit of Modern Work.

THERE seems at this moment to be no guiding principle amongst us, and that is to be "doing the grand"; to appear richer, greater, or more influential than we are. It is about the most sneaking, vulgar trait that ever existed; it is such mean, contemptible lying. How is it possible that men who love the pleasures of modern society can ever be to noble, honest, simple characters? The love of showing off is universal; the fear of offending society is the law of life. As to man being guided by his own firm conviction of what is natural and right, there are of the few who have sufficient within themselves to do. But the majority cannot do without the world; they are not men, but nondescripts; certainly not likely to be artists ever in a right sense. Now, the great fault of modern art is its vile conceit; panders to the weakness of the age rather than teach the world a sound moral lesson. The insipid modern Italian construction polychrome, and the copyism of French detail, are our latest vanities; full of pretension, elegance, and finickiness. It is sicken architecture to our modern suburban villa—horrid sham from beginning to end. Our everyday life being in itself so miserable, vain and conceited it would be well for architects to be as severe and rigid as possible, eschewing all prettiness and elegance as things appertaining to the devil.

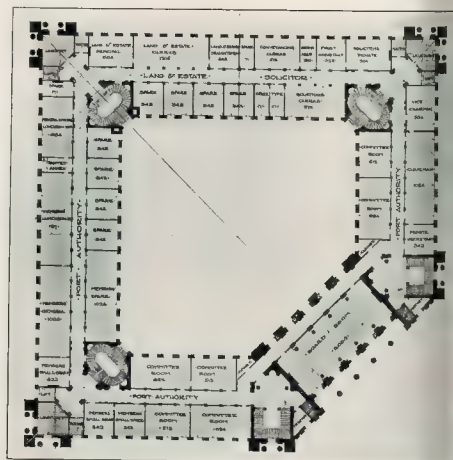
* * We have lately expressed ourselves concerning vulgarity in architectural design pointing out how, to a great extent, it traceable to a faulty sense of proportion, an overestimate or to an underestimate its component parts. It is interesting to note how this same fault—from which we as a nation, do not seem able to escape was pounded by the heavy artillery of an age which boasted Carlyle as Master-gunner.—En.



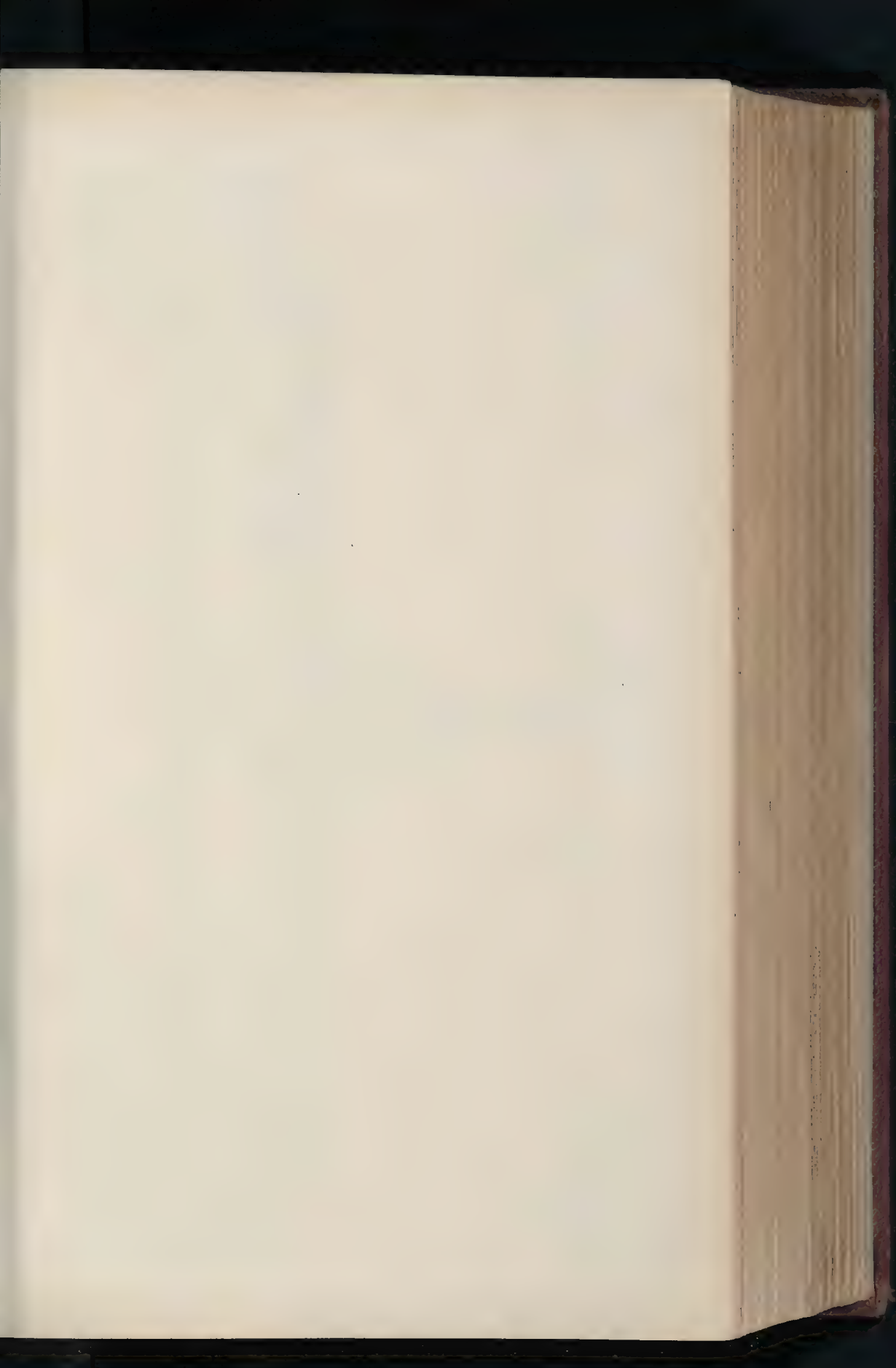
GROUND FLOOR PLAN.



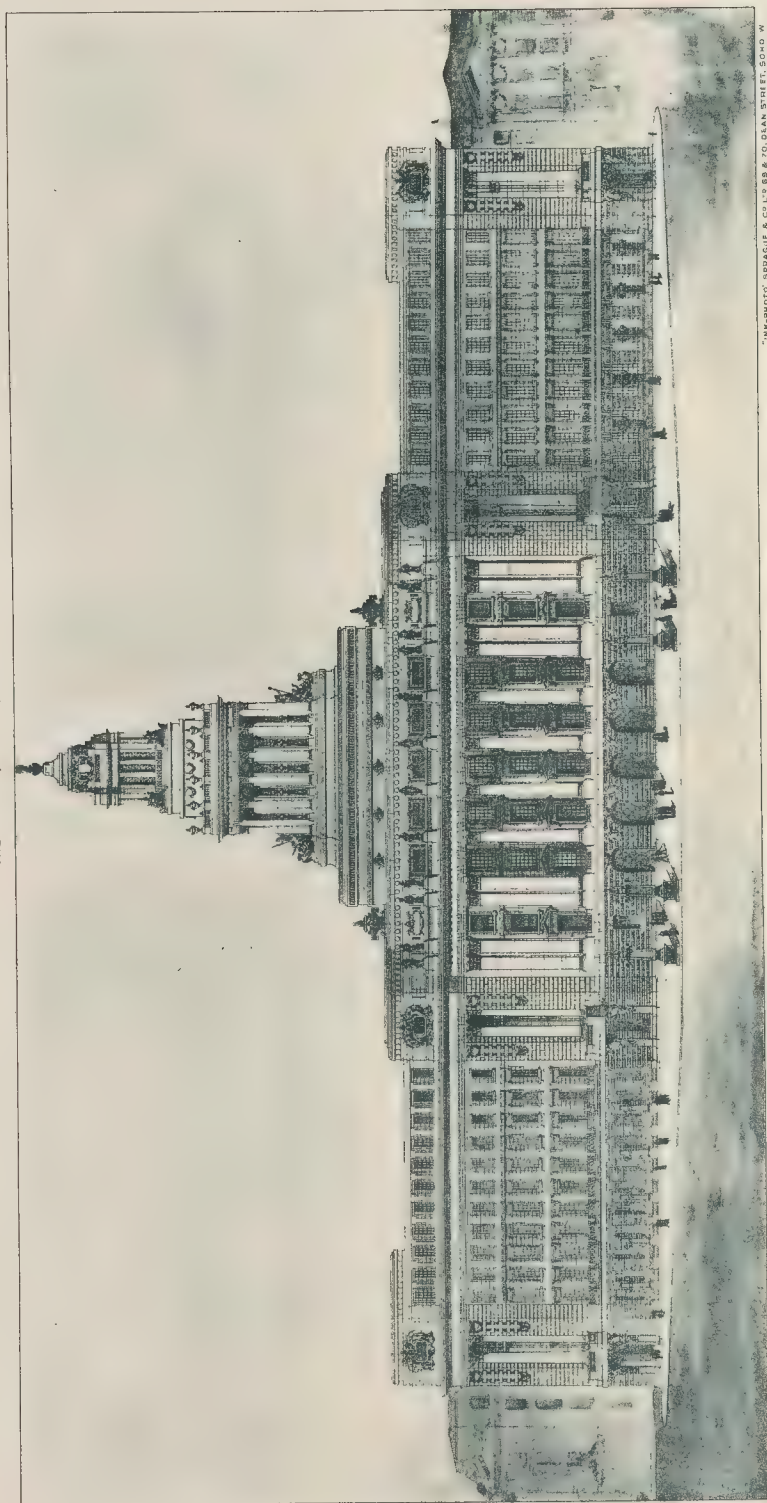
BASEMENT PLAN.



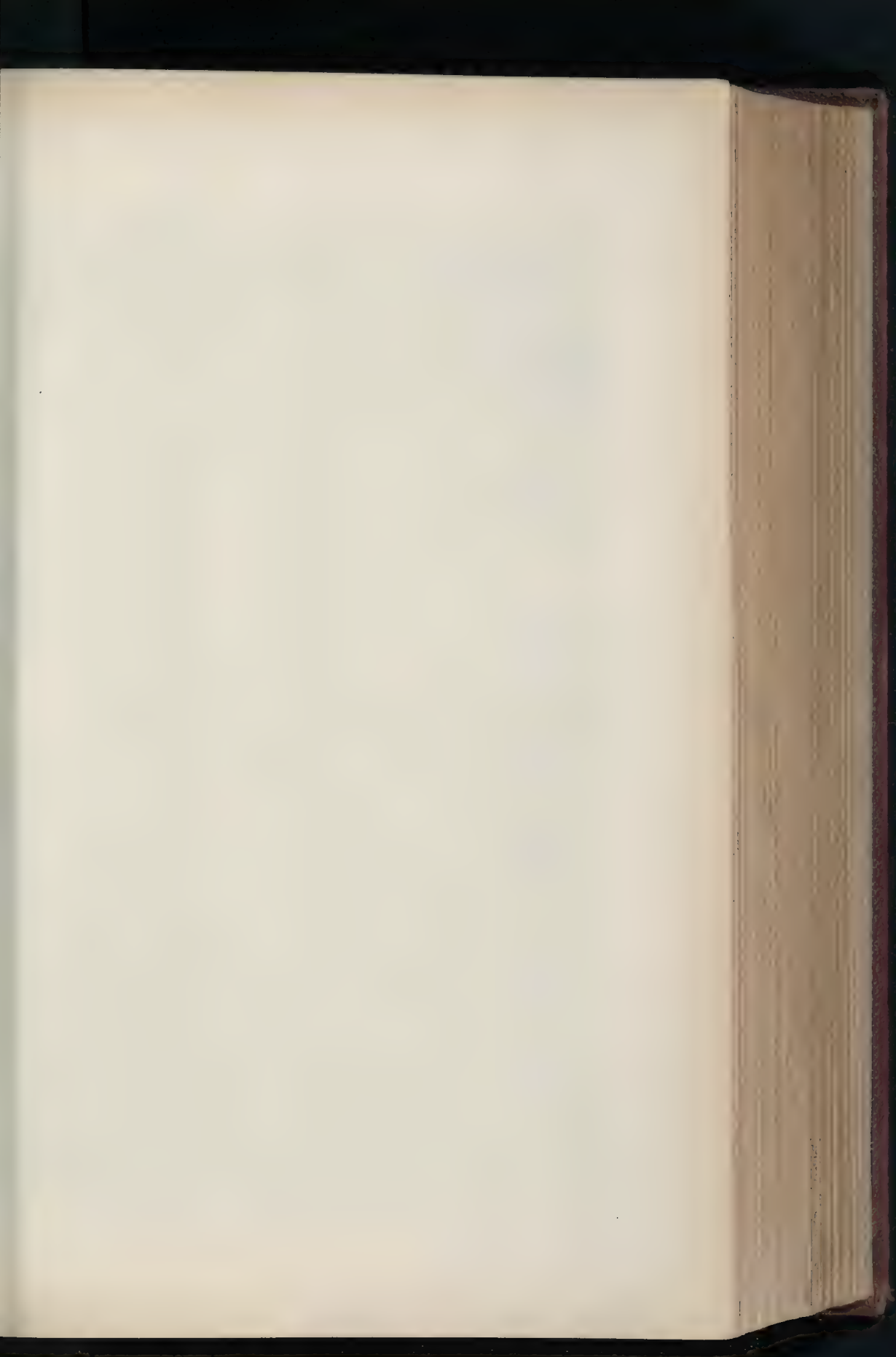
SECOND FLOOR PLAN.



THE BUILDER, JULY 19, 1912.

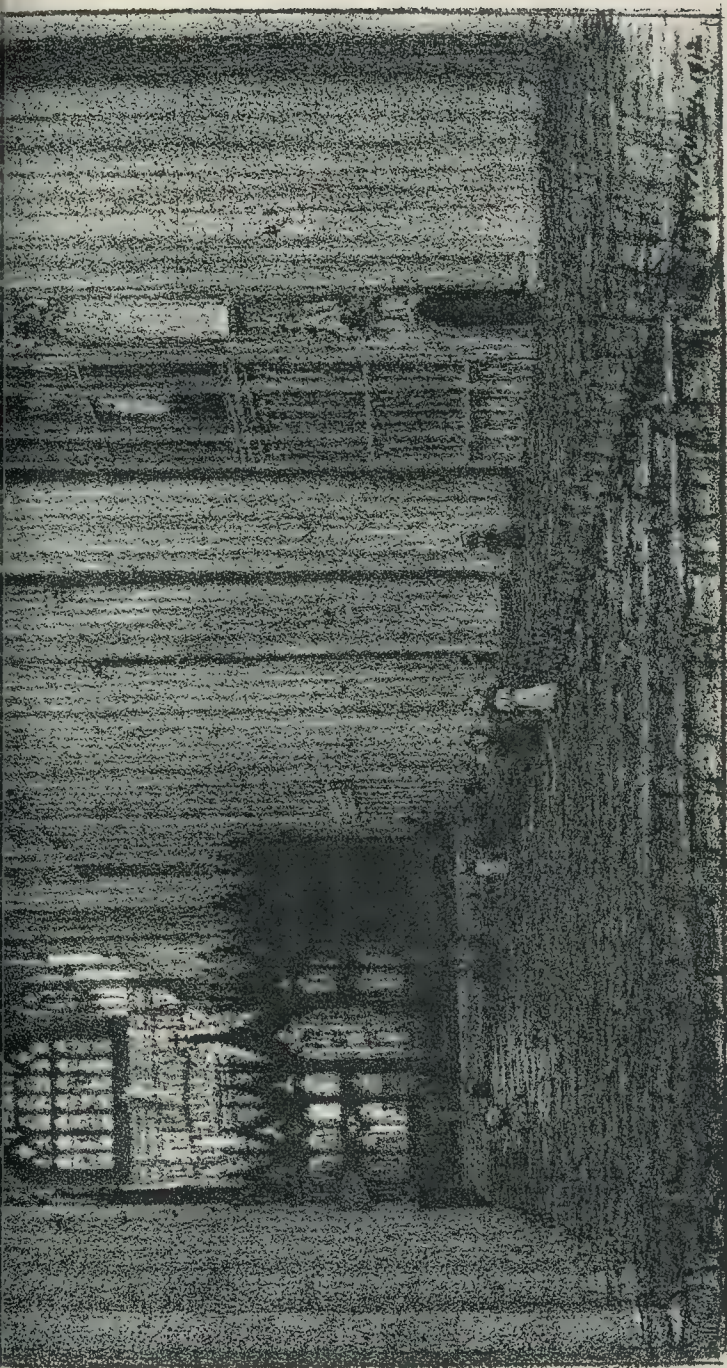


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THE BUILDER, JULY 19, 1912.





T. WAT, IMP., LONDON.

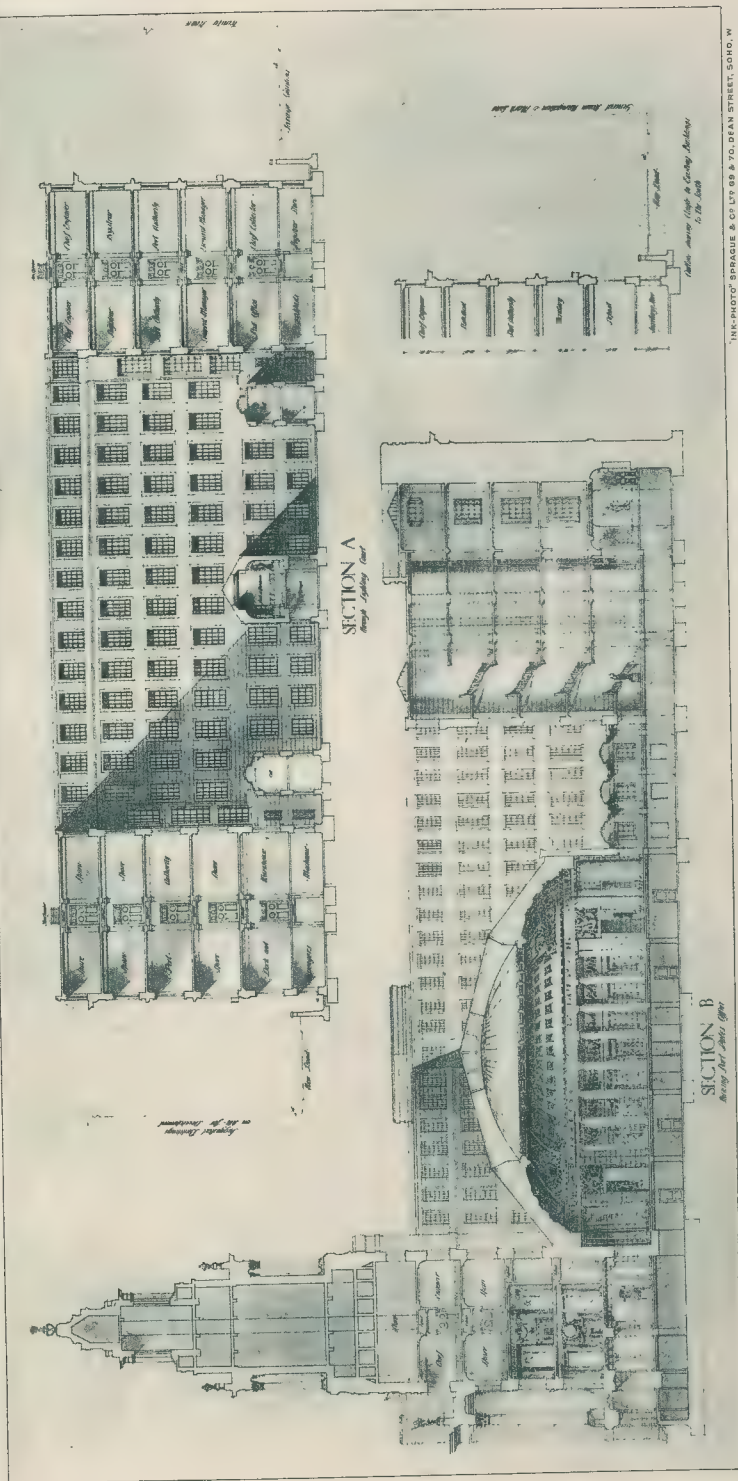
WINCHESTER CATHEDRAL. A LITHOGRAPH BY MR. THOMAS R. WAT.
View in the nave, looking East.



PORT OF LONDON AUTHORITY, NEW HE.

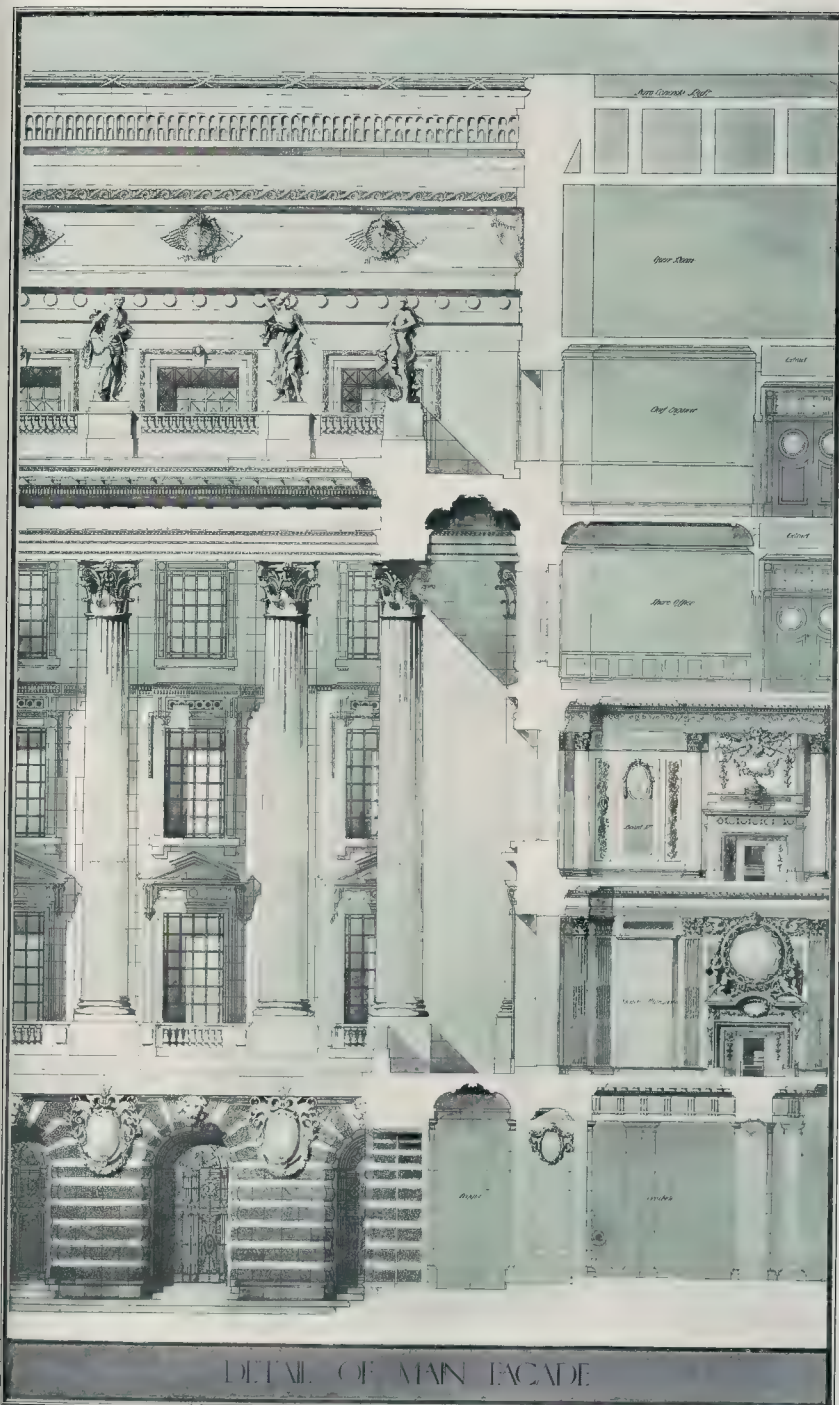


D DESIGN.—By Mr. T. EDWIN COOPER, F.R.I.B.A.



PORT OF LONDON AUTHORITY, NEW HEAD OFFICES: ACCEPTED DESIGN.—By MR. T. EDWIN COOPER, F.R.I.B.A.

1/16" PHOTO SPRAGUE & CO. LTD. 65 & 70, DEAN STREET, SOHO, W.



DETAIL OF MAIN FACADE

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OF LONDON AUTHORITY, NEW HEAD OFFICES: ACCEPTED DESIGN.—By Mr. T. EDWIN COOPER, F.R.I.B.A.

MONTHLY HISTORICAL REVIEW.

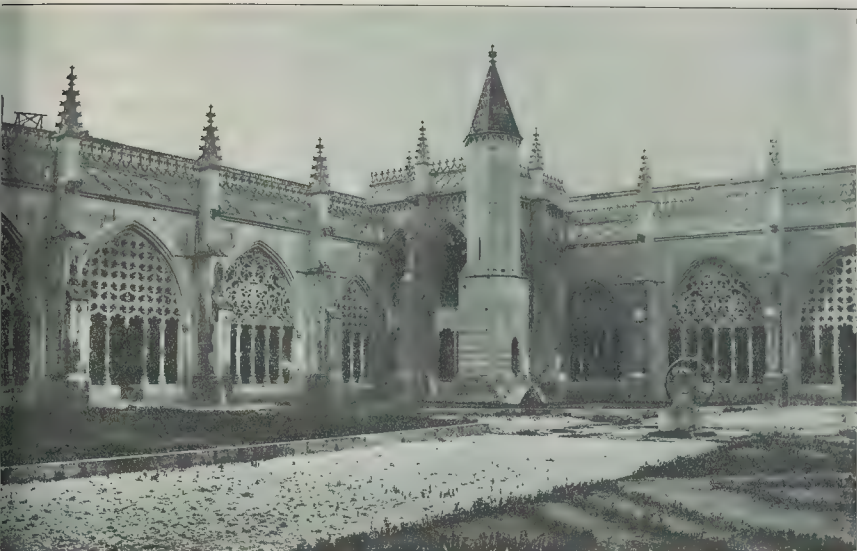


Fig. 1. The Old Cloister, Batalha.

THE ARCHITECTURE OF PORTUGAL.—V.

(Continued from page 730.)

MANOEL'S additions to Batalha are different, not merely from the earlier work there, but from most temples of the Manoelino style.

In the older cloister he filled the arches with tracery of two alternating kinds composed of branch work, one kind of regular network, the other screen of flowing pattern, strikingly certain Indian examples (Fig. 1). He took up again the interrupted work of the Capellas Imperfeitas. The hall of the apse and the apse of the church was replaced by the arch leading from this hall the octagon was replaced by another of elaboration (Fig. 3)—an example of scale (it is over 45 ft. high) of faced and interpenetrating cusped arches, which the edge of each of the planes of cusping is fringed with cusped ornament, each point foliated and, and most of the mouldings enclosing the octagon was also underlying the blocking of the small chapels; and great clustered piers carried up, treated as bundles of ornamenting with hollows filled with heraldic motives. The scheme at that, and the giant but trunks still rise like towers above the piers (Fig. 2). All this work, which, in parts, is interspersed here and there a Renaissance detail, was carried out by Fernandes, who died in 1515. He, also named Matheus, who died between that date and 1533 João de Almeida, whom we shall see at work in Belem and Coimbra, came upon the scene and him we owe a pretty piece of

filling-in taking the place of a window between two piers over the enriched arch above described, consisting of a loggia of two round arched lights, flanked by baluster shafts carrying an entablature with a dainty frieze. Other examples of Manoelino work are to be found at Batalha in the portal of the parish church and in the windows of private houses.

A curious doorway in the church at Alcobaça illustrates the extreme naturalistic tendency of this style, the framing members

consisting entirely of branches and contorted foliage of a German type; they form an ogee head under which the door opening has a pointed arch, each side of which consists of one concave and three convex curves (Fig. 4). Curiously enough, Renaissance arabesques make their appearance on the jambs of a feature whose general feeling is essentially mediæval.

The Templars, who, in Portugal, instead of being destroyed, as elsewhere, were transformed into the Order of Christ under special



Fig. 2. Batalha from South-East, showing "Capellas Imperfeitas."

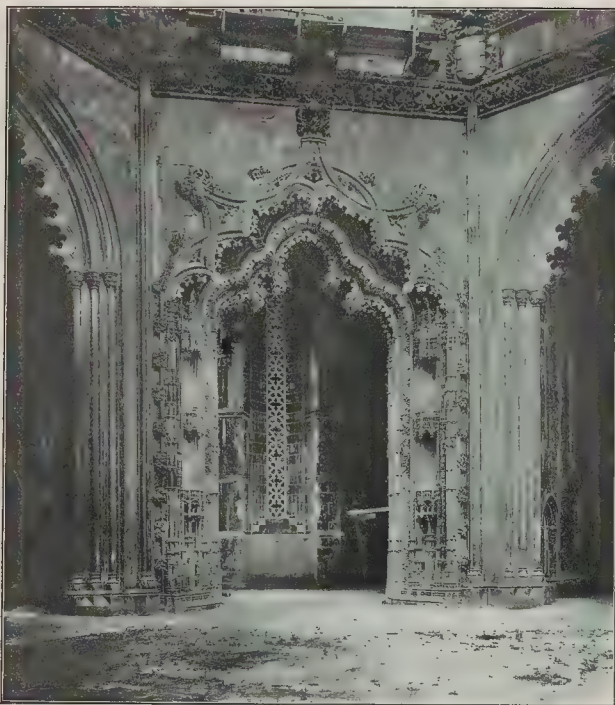


Fig. 3. Dom Manoel's Arch in the "Capellas Imperfeitas," Batalha.

Royal patronage, and were entrusted with a large share in the conquest and Christianisation of the overseas dominions. They had their seat at Thomar, a city which has amongst its many interesting buildings examples of various phases of the Manoelino style. The polygonal church was enlarged under Dom Manoel by the addition of a western, not as in the English Templar churches of an eastern, arm. The old building thus retains the sanctuary, while one of the three bays of the new ore forms a sort of nave, and the remaining two a



Fig. 4. Doorway, Choir at Alcobaça.

Chapter House on the ground floor and a singing choir on the upper in a fashion usual in the peninsula and exemplified in Sta Cruz at Coimbra. The additions were carried out by João de Castilho, said to have been a Biscayan, probably between about 1505 and 1517, when he removed to carry out works at Belem. The style of his work at Thomar, which does not include the more florid west end, presents the usual characteristics of late Gothic, such as it is seen at Sta Cruz at Coimbra—large untracied windows, pointed in this case, cusped arches, pinnacles decorated with crockets and gables of single or double concave curve, and a profusion of pierced balustrades and crestings. The principal external feature is the beautiful south portal. A richly-cusped arch carries the parapet above and casts a deep shadow on the recessed portion below, in which stands the round arched doorway, the tall spandrel above it being filled with finely-designed canopy work. The splayed jambs and soffit of the doorway are filled with Renaissance arabesques, probably carved later, that is, after 1517, the year in which Renaissance sculptors are first heard of in Portugal. A doorway of somewhat similar composition, probably also by João de Castilho, exists on the transept front of the Conçeição Velha at Lisbon. There the doorway is double, under an enclosing arch, and in the spandrel appears the feature of reversed semicircular panels over the round, arched openings, which also occurs in the tombs at Sta Cruz at Coimbra.

The west end of the new Coro at Thomar presents some features which for their extravagance and originality are scarcely to be paralleled elsewhere (Fig. 5). They are entirely different from João de Castilho's work, and are attributed to one Aynes do Quindal, who perhaps carried on the work after João's departure to Belem. The composition of the extraordinary features which he introduced is all but indescribable in

words. The window illustrated in invariably strikes the beholder at first disgust, but on closer study there is distinguished amid all its riot of brass coral and twisted leaf garlands, its and chains, its knotted ropes and foliage, not only an extraordinary execution, but a distinct decorative. These strange features are usually confined within a rectangular boundary tell in the strong Southern light and great surrounding spaces of bare wall same way as the bold heraldic pattern frequent on the gaunt mansions and churches of Spain.

The rerodos in the old cathedral of Coimbra, illustrated in Fig. 6, and unfortunately distorted by the photograph referred to in the previous article (p. 78). It is believed to be the work of Portuguese workmen executed in the first years of the XVIth century. It is both elegant and refined in workmanship, and with gilding relieved against a dark background.

THE MEDIÆVAL "INBOWER"

MEDIÆVAL woodworkers in England have been divided into the four following classes—carpenters, joiners, inbowers, and prentices. Like the joiner, the inbower very frequently mentioned in the accounts of mediæval builders, most of the work is being executed by carpenters, a certain amount by joiners, and comparatively little by inbowers. The mediæval inbower was paid at a rate of from 6d. to 9d. a day, a slightly higher rate than that allowed the carpenter or joiner.

We find the work of the inbower first alluded to in a builder's account-book of the time of Henry VIII. This book is now in the Public Record Office (Exch. Acc. 204-3). If we will take a certain number of entries describing the work done by the inbower we will find the wages paid them. "Inbowers work framing and playnyng and settinge xi pertycions . . . and more workinge, framynge of a xi inbowede dore same pertycions . . . with furnyng workinge in inbowinge and framynge and vp of iiii clere stores for the saide south of the newe vpper lodgings . . . lye workinge in makinge and in battynge and hanginge of viii dore." In another part of the book we read carpenters' labourers carrying "tymbre the sawe stages to the barne to the inbower the pertycions and dore postes for the



Fig. 5. Window in the Templar's Church at Thomar.

ns"; and elsewhere reference is made
 "Inbowers working in inbowynge,
 ge and settinge up of iiii wyndowes
 transhans" (transoms). At this part
 book the phrase "inbowinge, framynge
 tinge vp" constantly recurs. We read
 dore inbowed" and of the "workinge
 bowed wyndowe and inbowed dore," and
 on of "the carrynge of wyndows from
 oware into the keperes lodginge and in
 of an inbowed dore for a particion next
 Longsuge dynnyng chamber, as in
 e in carynge of inbowed windows and
 Wages are also paid for "inbowynge,
 g and setting vp with monyons ii leaves
 wykett." In one heading the spelling
 name is "inbowars," and under this
 we read of the inbowers making thirty
 is for inbowynge dorres" and making
 a surveyng wyndow" and an "inbowed
 re the larder." The "surveyng win-
 was, so far as we are aware, at all times
 l by the kitchen or larder. Also we
 the "framynge and inbowynge of a dore"
 "one particion with ii inbowyd dorres,"
 owers did other work, such as making
 "a dresser, wyndowes," etc.
 S. 545-29 the inbowers make munuelles
 ns) for windows and also entire windows.
 MS. we find the inbowers' wages account
 "inbowers of wyndowes and dorres."
 regard to the tools used by an
 we should, from our own knowledge
 from work at the bench, imagine that
 linary tools of a first-class workman or
 with the exception of a group of more or
 borato planes, would be sufficient for all
 red work. Such planes, which would
 y be indispensable, we find indicated



Chimneypiece at No. 53, St. Ann's-street, Salisbury.

in a XVIth-century inventory of a wood-
 worker's tools in one of the Wills published by
 the Surtees Society. The date of this will is

1570, and amongst other ordinary tools it is
 interesting to come across mention of "ii
 embowynge playnes."

A XVTH-CENTURY CHIMNEYPIECE.

SALISBURY, a town to which, except in a few
 isolated examples, such as the beautiful houses
 in the Close, the attention of the student of
 domestic architecture has not been sufficiently
 directed, is rich in remains of the architectural
 past. During alterations of old houses in-
 teresting details have often been brought to
 light; for instance, the chimney-piece which
 was found quite recently in a house at 53, St.
 Ann's-street. This street is one of the oldest
 in the city, and is full of suggestive and in-
 teresting remains, such as the timber-constructed
 Joiners' Hall and many old brick houses.

The house in question has not been well
 preserved, and was once part of a larger house.
 The chimney stands in a first-floor room,
 which ran the whole width of the front,
 but has been divided at some unknown date.
 It was discovered during the removal of a cast-
 iron register with a wood chimney-piece (the
 fixing of which fortunately has not damaged the
 stonework behind), over which the centre quatre-
 foil panel was left exposed. On clearing away
 the surrounding plaster a magnificent XVth-
 century chimney-piece was found in almost
 perfect preservation.

Built of Chilmark stone, with, as far as can
 be seen at present, no joints above the springing
 of the arch, it displays considerable skill on the
 part of the mason, and the iron bar which can
 be seen on the underside of the opening seems
 to have been inserted later, as a precaution, to
 afford additional support to the upper portion.
 The two splayed panels on the jambs are very
 interesting, and the fusion of the mouldings
 round them show the comparatively late period
 of the work.

Above the depressed arch are five panels,
 the two outside ones upright with cusped heads,
 the others quatrefoil with blank escutcheons,
 the centre one supported by an oak stem and
 leaves.

The whole is crowned with a moulded cornice
 the hollow member of which is filled in three
 places; in the centre by a fine rose enrichment
 and at the ends by ornaments, which seem to
 be composed of bay leaves, placed over the
 centre of the cusped panels below.

It may be noticed that the whole proportion
 is nearly a square of 6 ft. 10 in. each way.

The delicacy of the contours is concealed by
 much whitewash, and the owner has wisely
 allowed nothing to be done in a hurry. Mr. S.
 Hibberd, the owner and occupier, has consented
 to this illustration and description being pub-
 lished for the benefit of those interested, and
 he will be pleased to show this fine chimney-
 piece.

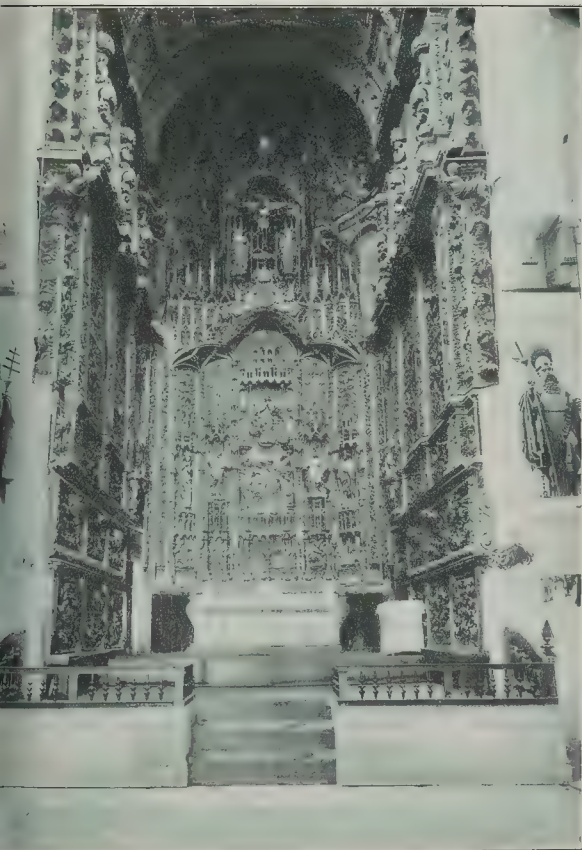


Fig. 6. Central Eastern Apse of the Old Cathedral, Coimbra.



Building the Tower of Babel. From a XVth-Century Illuminated MS.

THE TOWER OF BABEL AS DEPICTED IN MEDIEVAL MSS.

In the library of the British Museum several MSS. deal with the story of the Tower of Babel, and many illustrations of the Tower figure in their pages.

In the following few lines we may note some of the peculiarities of these pictures, and the reproduction of the best one of them will enable the reader to form some idea of the remainder.

The one picture selected for illustration is on leaf 17b of MS. 18850. A copy has been kindly supplied for our use by the courtesy of the Keeper of the MSS.

Before attempting a description of the plate it may not be wholly uninteresting to give some few particulars of the book in which the picture is painted. The book was made for the Duke of Bedford, son of Henry IV., and the Duchess, and is known as the "Bedford Missal," a name given to it many years before scholarship had discovered that not all medieval service books were missals. It is a prayer-book. The book was presented by the Duchess to Henry VI. on Christmas Eve, 1430.

This book is generally considered to be one of the most beautiful manuscripts surviving and one well worthy of its royal origin and the period, perhaps the very best for the production of magnificent volumes.

The execution of the little picture here reproduced is very fine, and the various colours used are to-day of extraordinary freshness and vividness, the neutral tint representing the colour of the stonework being particularly realistic. The picture occupies a full page of the volume in which it has been painted.

The scene of the building of the Tower, which

constitutes the main theme throws some interesting light on prevailing art in the Middle Ages. The winch for hoisting large blocks of stone is being worked by two men; the winch itself being apparently weighted by stone to ensure stability. Squared stones are seen lying about, and tools of various description are portrayed, both in use and on the ground.

The unusual system of employing a bucket to convey mortar to the upper stages is to be noticed. In one case the bucket is being filled by the heap of mortar, the heap being protected by a temporary shed. In the other example the bucket is being hoisted aloft by means of a winch worked in the upper stages.

Close to the mortar heap is the water cistern, which is represented as of wood, circular and hooped. This is of interest and value as showing the receptacle which, at any rate at times in those days, took the place of the present-day metal cistern. In the upper stages of the Tower the scene is quite different; confusion is everywhere apparent. At the top of all two angels are seen, each with a hammer, apparently knocking down the stones from the uppermost courses. Men are represented fighting with each other with sticks and struggling furiously together. One man is falling headlong to the ground.

The whole scene depicted both on the ground and on the Tower itself is full of interest.

Little need be said of other manuscripts containing representations of the building of the Tower, all being of inferior interest and beauty to the Bedford volume. Two pictures, however, from other manuscripts may be noted. In one MS., 15 D iii., p. 15b, we see an inclined gangway winding round the completed base of the Tower. Along this gangway the workmen convey the materials for building.

The other MS., Burn 3, which is of an early date, having been in the library of Augustine's Monastery at Canterbury A.D. 1245, contains on p. 10b a picture of the Tower. Here, too, we find an inclined gangway. In this picture, however, we see an unusual portrayal of the hod being carried up the gangway by two men, one bearing the end of the hod. It is possible that the hod was commonly so carried in the XIIIth century.

In the mediæval Wycliffe Bible (Forshall & Madden's edition) we read of the Tower of Babel, in Genesis, chapter xi.: "Come and make we tiel stonys, and bake we th with fier; and thei hadden tiel for stonys, and pitche for mortar; and seiden, come ye and make we to vs a citee and tour, whoo hiynes stretchis til to heuene." It must always be borne in mind that the mediæval representations of any occurrence are invariably delineated with the dresses and accompaniments, etc., of the period in which the drawing was executed, and no attempt was made to depict the architecture and costume prevalent in any particular country at the period when the event took place.

We are indebted to Messrs. Birch & Jenner, "Dictionary of Illuminations" for aid in the selection of the MSS.

AN OLD EPSOM INN.

At the top of the High-street in Epsom stands the beautiful XVth-century house, formerly the New Inn, but now called Waterloo House. It is known to many visitors, and it must surely be the wish of visitors and townspeople alike that it should be restored to its ancient glory. An opportunity seems likely to be offered shortly for restoration to be effected, and though we are not aware that any steps have been taken to achieve this end, such hope has been expressed by individual townspeople. The fine old house, by reason of its architectural merits, deserves good treatment, and it also does on account of its age and association.

Built about 1690, when Epsom was at the height of its popularity as a fashionable resort on account of its medicinal springs, the New Inn, as the place was then called, is marked by a dignity and simplicity and a fineness of proportion which is very charming. The house is built of red brick, with red-tiled roof. The central block, projecting slightly beyond the wings, surmounted by a pediment, while the quoins both of the central block and of the wings, are of stone. Round the building runs a characteristic dentilled cornice, a feature which adds so much to the picturesque appearance of many of the houses built about this time. In accordance with the then prevailing custom, the windows are set almost flush with the face of the wall, and are surrounded by bricks of a brighter hue than those used for the main walling. Right through the centre of the building there was originally a long narrow courtyard, so that coaches could be driven in at one side and out at the other. This archway has since been built up, and the appearance of the front of the storefront inn has been marred by the construction of two shop-fronts, which naturally detract from the dignity of the old house.

Perhaps, however, the chief feature of the New Inn was its ballroom, or assembly-room, considered at the time of its erection, says Mr. Gordon Home, to be one of the largest of its kind in England. Like the rest of the interior of the house this room has suffered a good deal, and has been divided into two. But when it had its panelled walls and was lighted by candles and filled with gay flocks of dancers it must have appeared very fine. Thousands of society people flocked to Epsom in the closing years of the XVIIIth century and the early years of the following century, for Epsom was at that time one of the most fashionable resorts of the country, Bath and Tunbridge Wells not having then attained the glory they achieved later. Charles II. frequently went to Epsom, and Pepps tells us that in 1667, when he (the diarist) visited the town, he found Nell Gwyn staying there. Local legend says that she used to attend the assemblies in the New Inn. One likes to think the old room may have listened to the laughter of Nell Gwyn, and if the date of its erection be only a few years earlier than that named, such may have been the case. The fascinating actress died in 1687.

It seems a pity that the house, with its dignified old-world air, should be divided up and

ly, and its stately front marred by shops. Lady remarked, the opportunity to restore something of its former state seems to be now, for one of the shops is closed and so of the other, it is understood, expires. Could not the place be acquired and then used as a library or museum some similar purpose?

HISTORICAL NOTES.

PROPOSALS are made to clear away some of the later buildings which encumber the Church of Saint-Gervais, now partly hidden behind the Hôtel de la Caserne Napoléon. This table church was finished about 1420; in de Brosse added the classic portico in 16; the beautiful Lady Chapel was added in 1845. The Chapelle Scarron has 17th-century decoration; and the walls of the church yet retain some of the glass by Pissier and Cousin; the altar, generally ascribed to Dürer, is by his Aldergraver, who died in 1562. There is a tradition that Scarron was buried in the side chapel which bears his name. It is the coat-of-arms of the family of d, of whom Jacques Bétand, President of the Cour des Comptes, was interred there.

THE following inscription is written in a privately-owned copy of Edward Cresy's "Stone Church, Kent" (1840), not included in the library of the Royal Society of British Architects. The epitaph is many years ago from Mr. Cresy's at Horton Kirby, Kent:— "memory of Edward Cresy, of this parish, who died whose quick parts and unwearied might have placed him foremost in his fellows, but if life was to him a sea, yet he found in the ardent and rested study of his profession a shield the slings and arrows of outrageous fortune failed to pierce. He ceased working on the 12, 1858, aged 66. Watch therefore, know not the hour."

association with G. Ledwall Taylor, produced several books, notably the "Antiquities of Rome," which is a standard work of reference.

THE exterior of the charming old Stiftskirche at Baden is to be restored shortly, when the figures over the doorway will be placed in the Museum. Such an act of vandalism should be avoided while there is yet time. The edifice would afford a dangerous precedent. The church contains a magnificent reredos and a beautiful, but attenuated, sacramenthouse, as well as other architectural and decorative features of great beauty.

In the case of many Gothic churches in the upper stages of the steeple are stances, and ugly and heavy at that.

ON September 29, 1600, "Roger Powke, of Ilyte Aston, in Coldfeilde County of Stafford gent and Lucy's wife of th'on partie and the other in consion of 40l. demises and leases for years at annual rent of 6s. 8d. All that the chaferie and Hamer Mill now beinge verye originallye formed part of the Castle Inn. The lordshippe of Ilyte Aston aforesaid of Stafford in a close pasturo or gronde comonlie called or known by the name myells." In these terms an old lease of the letting of a forge situated near gham, and around the site of which dices of tons of metallic iron have been often to the annoyance of farmers in ploughing. The pieces of iron so up are of the same general shape, and from about 20 lb. to 60 lb. each. When each has a round or basin-shaped lower and a level top with a projection some- like a handle. From their peculiar shape they are locally known as "ham-bones."

The metal is not of good quality, and seems to have accumulated at the bottom of a furnace employed for the manufacture of wrought-iron, the "ham-bone" being thrown away each time the furnace was stopped. Similar waste material was produced at Old Witton Forge, now part of Messrs. Kynoch's works, and including a corner of the old Roman camp at Perry Bar.

FOR the restoration of the Shoreditch parish church of St. Leonard, Parish Church, Shoreditch, an appeal is being issued. It is interesting to note that the present structure is the third church built on the site, upon which a Christian church has existed for over a thousand years. The present building dates from 1746, and was erected by Dance the elder, on the demolition of the old structure in 1736. The beautiful chancel window, the gift of Thomas Awsten in 1634, was transferred from the old building.

THIS ancient structure—a fine Felsted Church, specimen of Norman architecture and a well-known landmark in the district—having been reported as unsafe, its restoration has been decided upon. Chief among its treasures is a fine monument to the first Lord Rich, who founded a hospital and the Grammar School at Felsted. At the school were educated Dr. Isaac Barrow, Dr. John Wallis, the famous mathematician, and Richard Cromwell, a son of the great Protector. Robert Cromwell, the eldest son, was buried in the church; the register recording—"Robertus Cromwell filius honorandi viri patris Oliveris Cromwell et Robertus fuit inimicus plus juvenis, Deum timens supra multos." Alfred Wilson, the biographer of James I., also lies buried in the chancel. Among the other mural tablets and monuments is one in the north aisle, which reads:—"Robert Lukin, of Felsted, Bury. 30 years churchwarden of this parish. Born November XXVI, 1749. Died July XIV, 1838."

THE only open-air pulpit in the diocese of Chichester has been erected in the grounds of the Church of Holy Trinity, Hove. It is erected "to the Glory of God for the preaching of the Gospel by a soldier and his wife, A.D. 1912."

AS a memorial of the Coronation of King George and Queen Mary, Mr. Alfred Palmer has presented to the parish church of Horne, Surrey, a new organ, the oak case and side screen of which have been constructed from wood taken from some old 15th-century buildings, probably erected out of the ruins of the once flourishing Reading Abbey. Horne Church is a small building of very uncertain date, containing several memorials to the Hope family.

A RATHER rare type of lectern, Lectern, Caistor, has recently been placed in the Church of Caistor as a memorial of the twenty-five years' vicariate of the present Vicar, the Rev. W. F. Westbrook-Westbrooke. The reading-desk is supported by four figures standing on a finely-wrought pedestal, whereon are placed two beautifully-carved figures of St. Peter and St. Paul, the patron saints of the church. The whole of the work has been fashioned in old English oak.

THE Old Castle Inn at Kingston.

ONE of the oldest buildings at Kingston-on-Thames, dating back to the Tudor period, is now being pulled down to make way for a new building for Parr's Bank. The building originally formed part of the Castle Inn. The Castle Inn is mentioned in works of Tudor and subsequent times. In more recent times portions of the old inn were adapted for business purposes, and the grand staircase of carved oak, which is one of the finest examples of Tudor work extant, was carefully preserved. When the present owner, Mr. J. P. Waters, purchased the building many efforts were made to induce him to sell the staircase, for which as much as 900*l.* was offered, but he declined to part with it, and now he has had it carefully removed, restored, and re-erected on new premises which he has constructed on part of the old site. During the work of demolition some other interesting archaeological relics have been

uncovered, including two very fine doorways carved out of solid oak; a part of the original main wall of the Castle Inn, a fine example of the oak beam and wattle and daub style of the period, and a strip of tapestry, evidently of great age, and bearing the inscription in old English letters: "The Prodigale Son wasteth his goodes among harlates." These relics have been offered by the builder to the local municipal museum.—*The Times*.

THE ancient tower of St. Margaret's Church, Upton, which was erected in 1170, and nearly destroyed by a tempest in 1550, has at last been put into repair. The church itself was carefully restored some thirty years ago, but the completion of the work, which had included the restoration of the tower, had to be deferred owing to lack of funds. In 1602 the Archdeacon reported "the steeple raynted long since through the default and negligence of the parishners." William Wynne was buried in the south aisle of this church in 1505, and in his will said:—"And I will have a gravestone the price of 26s. 8d. to the stonage of the church, 29 marks if need be more to St. Peter's Guild 6s. 8d." The church was originally a rectory dedicated to St. Margaret, valued at 25 marks, and granted by Ralph de Glanville, Lord Chief Justice of England, to the Priory of Butley, in Suffolk. This was confirmed by John de Grey, Bishop of Norwich, William de Raleigh, Bishop, etc. On the appropriation, a vicarage was settled valued at 10 marks, the Vicar having a pension of 30s. per annum, payable by the prior.

THE Vicar and Churchwardens of this riverside church, which has been immortalised by Dickens—have issued an appeal for the repair and restoration of the tower. The present edifice is Byzantine in style, and was erected in 1752 upon the site of an older structure by Mr. Wright, some time clerk of the works at Hampton Court Palace. For a considerable time the church was an unsightly brick building of little or no architectural pretensions, but its appearance has since been greatly improved by the insertion of windows and other structural alterations, including the provision of a porch at the west end enriched with arcades at the sides and with decorative carvings, and a semicircular chancel. The edifice is, in fact, one of the cleverest transformations from a "churchwarden" structure to a Byzantine church to be seen in the country. The tower, which is a conspicuous object viewed from the river, is surmounted by a parapet and a peculiar cupola. A monument to Lady Jane, sister of Philip, Duke of Wharton, and the last of her noble family, graces the south wall of the church. The riverside churchyard is crowded with ancient tombstones, the majority of which, however, do not call for special mention.

THE Campanile of Pisa, which owes its celebrity to its leaning position, is now regarded as being in a dangerous condition from the same cause. It is 180 ft. high and more than 13 ft. out of the perpendicular, the angle of the slope increasing slowly but steadily. The Commission appointed to report upon its state by the Italian Government appears to regard its ultimate collapse as impossible to avert. Mr. D. Livingston, C.E., in an interesting letter to a contemporary, which he has communicated to us, suggests a remedy. With most modern authorities he maintains that the tower was originally built upright, in view both of the appearance of the masonry and of a relief carved in oak in the cathedral in which it is thus represented. This latter piece of evidence should bring conviction to those, if any are left, who maintain the opposite view, for it is inconceivable, if the tower had been purposely built sloping, as a curiosity, that this striking characteristic should have been ignored in a local representation.

Mr. Livingston's suggestion is that an American contractor with experience of the analogous work of moving entire blocks should be engaged to restore the tower to the perpendicular not by raising the sunk side but by pumping out the water or sand and water below the raised side, thus allowing it to sink to the lower level, while underpinning the entire structure.

THE BUILDING TRADE.

APPROVAL OF PLANS BY LOCAL AUTHORITIES.

ONE of the duties which falls to the lot of architects and builders is to see that plans of proposed buildings do not offend against local by-laws. Inasmuch as these by-laws vary in different parts of the country, it is necessary for the builder to be acquainted with the exact provisions in force in each district; but much useful information of a general nature can be derived from a study of the cases which come before the Divisional Court from time to time.

It has been decided, in the first place, that a corporation who are the guardians of highways ought not to be compelled by *mandamus* to approve of plans for new houses which, though in accordance with the by-laws, in the honest opinion of that body would interfere with an alleged highway under their charge (*Rex v. Hartlepool Corporation, Ex parte Richardson* (1902); 18 T.L.R. 1).

Failure to submit plans may have unfortunate consequences even after the lapse of a considerable time. Thus in *Fairbrass v. Mayor of Canterbury* (1903; 67 J.P. 181) the owner of an old building constructed of brick with a tiled roof removed the roof and began to build on the walls thereof and upon the surrounding ground a new building. He did this without giving notice to the local surveyor and without delivering any plans, as he was bound to do under the by-law of the Urban Sanitary Authority. Some six months after he had completed the new building he was summoned by the authority to show cause why the new building should not be pulled down, and was subsequently ordered to pull it down. It was held on appeal that, notwithstanding the fact that no plans of the new building had been deposited and that the local authority had not therefore disapproved them, the order had been rightly made. The jurisdiction of the local authority to make the order was not affected by the time that had elapsed since the completion of the building.

It frequently happens that a by-law provides that building must commence before a certain date after the deposit of the plans. In *Harrogate Corporation v. Dickinson* (1904; 1 K.B. 468) a local act provided that the deposit of the plans with the Corporation of any building should be null and void if the execution of the work specified in such plan was not commenced within a certain period. In 1894 the defendant deposited, and the plaintiffs approved, two plans showing eleven houses and two stables and coach-houses. Some of the buildings shown upon the approved plans were erected within the period specified by the Act. After the expiration of that period the plaintiff commenced to erect other buildings shown upon such plans without depositing fresh plans. It was held that the plan of every house or stable and coach-house was a separate plan, although they were all included on the two sheets deposited with the plaintiffs, and that, therefore, the deposit was null and void so far as such plans related to the buildings which were not commenced within that period specified in the Act. Fresh notices and deposits of plans were therefore necessary.

In *re Eastbourne Corporation* (1900; 64 J.P. 724) the prosecutor submitted plans of a proposed building for the approval of the Eastbourne Corporation as required by the by-laws made by them. The Corporation approved the plans as being in compliance with the by-laws, but disapproved them as regarded the building line shown thereon on the ground that the proposed building would contravene sect. 3 of the Public Health (Buildings in Streets) Act, 1888. The prosecutor obtained a rule nisi calling upon the Corporation to show cause why a writ of *mandamus* should not issue ordering them to approve the plans as regarded the building line shown on them. It was held that the Court would not order a *mandamus* to issue, inasmuch as the authority had refused to approve plans which they honestly considered showed a contravention of the provisions of an Act of Parliament.

The most recent case on the question of plans is the case of *R. v. Preston Rural District*

Council (1912; 76 J.P. 65). It there appeared that the owners of a farm submitted to the local authority plans for the erection of new buildings. These plans showed that it was proposed to erect a barn adjoining and attached to the kitchen at the back of the dwelling-house, but there was to be no door between the kitchen and the barn. The by-laws provided that a new domestic building must have an open space at the back. The definition of "domestic building" contained in the by-laws was as follows: "Domestic building" means a dwelling-house, or an office building, or other outbuilding appurtenant to a dwelling-house or an office building, or other outbuilding appurtenant to a dwelling-house, whether attached thereto or not, or a shop, or any other building not being a public building or of the warehouse class. "Building of the warehouse class" was defined as "a warehouse, factory, manufactory, brewery, or distillery." The local authority rejected the plans on the ground that they infringed the by-laws owing to the fact that it was proposed to build the barn immediately in the rear of and adjoining the dwelling-house. The owners accordingly applied to the court for an order to compel the local authority to approve the plans. It was held that as the dwelling-house and barn constituted one domestic building there was no obligation to have an open space immediately in the rear of the dwelling-house, and a *mandamus* must issue to the local authority to approve the plans.

It was held in an older case that a local authority has no right to object to plans merely because of a general objection outside the merits of the plan itself. Thus in *Rex v. Bechill Corporation* (1911; 75 J.P. 385) it appeared that a builder submitted to an urban sanitary authority a plan for a cottage on a beach site, the plan showing a proposal to construct a drain and a cesspool for the purpose of dealing with the sink water. The plan was in accordance with the by-laws. The surveyor to the sanitary authority advised them that as the whole of the drainage system was below the level of ordinary spring tides the cesspool would at such times be filled with sea-water, and the drainage system would be rendered inoperative. The sanitary authority consequently disapproved the plan on the ground that the plan would provide no effective drainage and that no satisfactory system of drainage had been submitted. It was held that the sanitary authority had no right to refuse their approval to the plan because of a general objection.

The former cases were thus summarised by the Lord Chief Justice in the course of his judgment:—"The result of the cases is that if a local authority have refused to approve plans on a ground within their jurisdiction, as, for instance, that they would constitute new streets, but that the formalities in connexion with new streets had not been complied with, then no review of that discretion can take place. I think I have said more than once that the Court will not substitute itself for the urban authority in deciding whether a plan should be approved; but if they decline to approve plans not because of any objection to the plans themselves, but because of some general objection outside the merits of the plans themselves, then I think they must be ordered to approve them."

Finally, it has been held that an action for damages will not lie against a local authority for maliciously refusing to approve building plans.

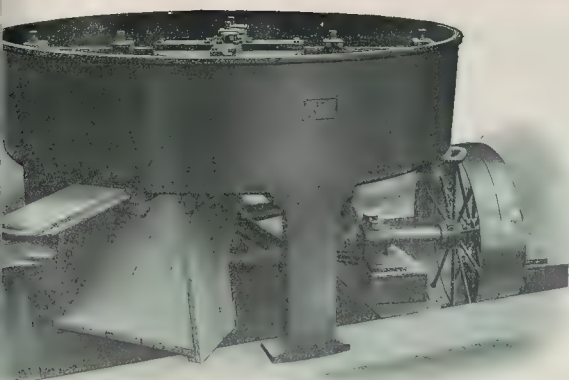
MOTOR-ENGINE FOR NORWICH.

A POWERFUL new motor fire-engine has been added to the equipment of the Norwich Fire Brigade. It is of the Merryweather patent "Hatfield" design, with reciprocating pump capable of delivering 500 gallons per minute and upwards. It also carries a detachable fire-escape to reach 50 ft., as well as 2,000 ft. of hose, and affords accommodation for a dozen firemen. It must not be overlooked that Norwich is a cathedral city, and efficient fire protection of the sacred edifice is a necessity. A powerful motor fire-engine of this kind, which can turn out instantly and travel at a speed of over 30 miles an hour on the level, is a valuable asset, and it is to be hoped that the time is not far distant when all cathedral cities will be equipped with motor fire-engines.

SCOTCH AND NORWEGIAN GRANITE.

A STRIKING illustration of the difference in behaviour, in a trying atmosphere, of Scotch and Norwegian granites may be seen at present time in Manchester. Some eighteen years ago there occurred the first instance in this town of the use of the light grey Norwegian granite, which is worked abroad imported ready for fixing. This stone is quite distinct, geologically, from the various beautifully coloured granites from Scandinavia, for many years past have been worked polished in Aberdeen. At the time the Norwegian grey granite compared unfavourably with work of a similar type for which Scotch granite was used. The Norwegian stone was of a looser texture and in appearance was as dead as concrete. Almost immediately after its use in Manchester, however, there became apparent a rustiness due to the oxidation of a mineral contained in the stone and this spread and deepened so rapidly for some years past the granite has been of a colour of old iron. Moreover, the material is weathering badly and is becoming friable. The same discolouration may be seen in progress in the Norwegian granite used in two buildings erected at a later date, of which one has not been completed more than a couple of years. In all these respects the Scotch granite shows a marked advantage and this not only when compared with contemporary work, but also if the Norwegian stone be compared with the British granite used in pedestals which were erected sixty years ago. In the latter case the marks are still sharp, and the colour of the stone remains, mellowed indeed, but with no sign of rust, and the surface, far from disintegrating, appears to have hardened and has taken a semi-polish. In Liverpool there is a building in which Scotch granite has been used for the base and Norwegian for the superstructure, and the former is a datum from which the gradual rusting of the latter may be judged.

The reason for this striking contrast may be understood when the different conditions of the Norwegian and Scotch quarries are considered. The older geologists considered all granites were primitive rocks—that is, they originated before the deposition of sedimentary rocks and formed the basis of the earth's crust. It is now recognised, however, that granite is not necessarily an athermal rock but that it may be of any age up to at least the Tertiary. The difference is that where it occurs as a surface outflow and consolidates has taken place freely there is a softer nature and an absence of the interlocking of crystals found in granites which have cooled at great depths under enormous pressures in accordance with a general rule, are in proportion to their depth from the surface. Now this particular granite occurs in Scandinavia as a surface outflow. Apparently it has never been covered by newer formations, which, indeed, are scarcely to be found in the country. It lies in horizontal beds, like sedimentary rock, and is quarried chiefly partly because there is practically no overburden. So bare is it that the stone must be affected by weather, for Professor Geikie mentions a case in which granite has weathered to a depth of 50 ft. from the surface. The most conspicuous instance is the deep pit—200 ft. or 300 ft. of a Scotch quarry reveals altogether different conditions. The granite obviously is of ages older, and signs of strain and stress everywhere. Consolidation has taken place at great depths and under incalculable pressures, and the present appearance of the rock comparatively near to the surface is due to denudation of the strata by which originally it was covered. The superior hardness and weathering qualities of British granite—understood by every user of sets—are due to the sterner conditions of its youth and to the early restraint, and not to its position at the surface, but absolutely necessary to the formation of a strong character. Wherein moralists, should any chance to read this journal, may find a new illustration of an old adage.



The "Express" Concrete-Mixer.

CONCRETE-MIXERS: THE "EXPRESS" MIXER.

Machine, manufactured by the (U.K.) Concrete Machine Company, Ltd., of London-Tyne, was designed by a civil engineer with the idea of reproducing mechanical operation of concrete mixing as done by manual labour.

The machine is of the batch type, the maximum capacity being 5 cub. ft. The materials, when put into the mixer, are first mixed dry, and then added, and the concrete is perfectly mixed in about sixty seconds.

The accompanying illustration gives a full view of the machine and shows the hopper under the pan, as well as the shaft for mixed concrete.

The machine is 6 ft. 6 in. in diameter and 1 ft. 9 in. in height. The middle is a capstan rotated by a belt beneath and carrying four arms, which are fixed plough-blade-shaped stirrers; each of these is attached an iron rake.

The materials are repeatedly turned over and over by the ploughs, the rakes breaking up the concrete turned by the ploughs and so on. By the action of the ploughs the materials are kept level in the bottom of the pan, and the material is sometimes piled in the form of ridges.

When the machine is started, and the agitators are fed dry from a hopper into the pan. Having been mixed dry for about twenty seconds, water is added by means of a spray pipe supplied by an automatic tank.

After this mixing is complete, the material is discharged by opening sliding doors at the bottom of the pan, the material falling away from the gearing by the action of the machine.

The ploughs and rakes constantly revolving in the pan within a few seconds, when the door is closed, another batch of material is shot into the pan, and the operation is resumed without the need for the action of the machine.

The "Express" mixer can be used equally well for dry and wet, its capacity is about 5 cub. ft. per hour, and the power required is only one horse-power. The machine is in the form illustrated, or mounted on a timber carriage with removable wheels.

BRISTOL BUILDING TRADE.

A discussion between the Bristol Master Builders' Association and the operatives in the building trade on the question of rates of wages has now come to a temporary ending. An increase of 3d. per hour has been granted to all branches of the trade, with the exception of general labourers, who obtained this advance in the month of the year, and various alterations have been agreed upon in the general rates.

GENERAL BUILDING NEWS.

CHURCH, EDINBURGH.

A new church is to be erected on the site of Lady Glenorchy's Parish Church, and will provide accommodation for 800 persons. The plans have been prepared by Mr. P. Macgregor Chalmers, architect, of Glasgow.

CHRIST CHURCH, ENFIELD-STREET, W.C.

The renovation of the interior and exterior of the above church is proceeding. Mr. J. Ernest Franck, A.R.I.B.A., is the architect, and Messrs. Rice & Son, of Stockwell, are the builders. Messrs. R. Anderson & Co., of Leadenhall-street, are employed as stepladders. The stonework of the spire has been brushed down with stiff wire brushes, and all surface defects have been made good with Portland cement and washed sand. Three coats of liquid preparation for preserving the stone will be applied, and the iron finial will be scraped and repainted.

NEW BUILDINGS IN LONDON.

Maternity Hospital, Lower Clapton, N.E.: Mr. F. J. Coxhead, builder, Leytonstone, N.E. Factory for Globe Furnace Company, Ltd., office and library furnishes, 44, Holborn-viaduct, E.C.: Mr. F. Dore Clapham, architect, Harley-street, Bloomsbury, W.C. Additions to Berkeley House, W.: Messrs. Wonnacott & Cook, architects, 199, Piccadilly, W. Police-station, Enfield, N.: Mr. F. Dixon Butler, architect, New Scotland-yard, S.W.: Mr. A. Monk, builder, Edmonton. Cinema theatre, near Kew Bridge, Brentford, W.: Mr. S. Spells, Somerset-road, Brentford, W. Branch Capital and Counties Bank and other buildings in Cheapside, E.C.: Messrs. George Trollope & Sons and Colls & Sons, Ltd., builders, 77, Grosvenor-road, S.W.

MESSRS. WAYGOOD & CO.'S NEW PREMISES.

On Tuesday last the Mayor of Southwark, Mr. W. C. Williams, and other municipal officials, were present at Messrs. Waygood's premises in Palmouth-street, S.E., when the Mayor performed the opening ceremony of the new works which have been erected to cope with the development of the business. The new building has a superficial area on the ground floor of 15,500 ft., and on the first and second floor galleries of 11,000 ft., respectively, and in the basement of 6,000 ft. The cubic contents of the buildings are about 750,000 cubic ft., and the total length of the building is 250 ft. Four electric motors of 50 h.p. have been installed by Messrs. Vickers, Ltd., and the space between the galleries is spanned by a large overhead electric crane, which runs the full length of the gallery, and can raise loads up to 5 tons at a quick speed. The contractors for the work were Messrs. G. Parker & Sons, and the sub-contractors were:—Steelwork—Messrs. Walter Jones & Sons; wood-paving—Messrs. W. H. Wheeler & Co. Ltd.; heating and ventilating—Messrs. Haden & Sons; roof work and glazing—Messrs. Hayward Brothers & Eckstein. Mr. M. E. Collins was the architect for the work. The new building is arranged as an extension of one of the existing shops, and forms part of the premises. The height of the building is 54 ft. from the basement to the roof, and the erection is fire resisting throughout, being built with brick walls, reinforced concrete floors and roofs. Fire-resisting staircases and hydrants are fixed throughout, and the heating and ventilation

are of the latest form. The new shop is electrically driven throughout with power obtained from the mains of the Southwark Borough Council. Electric travelling cranes have been installed, and there are also two lifts, one of which is arranged on a patented "electrolift" system, which the firm has lately introduced. In the course of his speech at the opening ceremony, the chairman, Mr. Henry C. Walker, made some interesting remarks as to the business, which was founded in 1833.

TRADE NEWS.

The Council Schools, Athey street, Macclesfield, are being supplied with Shorland's warm-air ventilating patent Manchester grates by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester. The new infirmary, Luton, is being supplied with the firm's double-fronted patent Manchester stove with descending smoke flues. The Siberts-wold Schools, near Dover, are being supplied with warm-air ventilating patent Manchester grates by the same firm.

The "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to the Baptist Church, Broadstairs.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Space at Rear.

Marylebone, East.—Erection of a building upon the site of Nos. 107 and 108, High-street, St. Marylebone (Mr. J. R. Vining).—Refused. St. George, Hanover-square.—Re-erection of buildings abutting upon Norfolk-street, Green-street, Park-street, and Wood's-mews, Mayfair (Mr. E. Wimperis for the Grosvenor Estate).—Consent.

Lines of Frontage and Projections.

Bow and Bromley.—Erection of porches in front of nine houses on the northern side of Ridgale-street, Bow (Messrs. E. Evans & Sons for Mr. M. A. Braunstein).—Consent.

Hackney, North.—Erection of porches, bay-windows, and oriels to houses on the northern side of a street leading out of the eastern side of Upper Clapton-road, Hackney (Messrs. J. Hamilton & Son for Messrs. O. & L. Chillingworth).—Consent.

Hammersmith.—Building on the southern side of Hythe-road, Hammersmith (Messrs. A. J. & C. Hocking).—Refused.

Lewisham.—One-story shops in front of Nos. 344 and 346, High-street, Lewisham (Mr. G. E. Beaumont).—Consent.

Marylebone, West.—Erection of a building upon a site abutting upon Marylebone-road, Edgware-road, and Brown's-court, St. Marylebone (Messrs. Gale, Durlacher, & Emmett for Mr. Davis).—Consent.

Paddington, South.—Iron and canvas roof over the northern end of Inverness-mews, Queen's-road, Bayswater (Messrs. Harvey & Potter).—Consent.

St. Pancras, South.—Four projecting features at University College, Gower-street, St. Pancras (Professor F. M. Simpson for the Committee of the University of London).—Consent.

Walworth.—One-story portion with a projecting clock in front of Nos. 42 and 44, Old Kent-road, Walworth (Messrs. Zeph. King & Son).—Consent.

Woolwich.—Conservatory at No. 46, West-mount-road, Eltham, abutting upon Greshiel-road (Mr. E. H. Wright for Mr. J. T. Alderton).—Consent.

Width of Way.

City of London.—Buildings abutting upon Red Lion court, Fleet-street (Messrs. Watson, Sons, & Co.).—Consent.

Hampstead.—Erection of a conservatory at No. 70, Fitzjohn's-avenue, Hampstead (Mr. S. C. Lathbridge for Mr. W. Gaisberg).—Consent.

Width of Way and Lines of Frontage.

Hammersmith.—Addition at Temple Lodge, Queen street, Hammersmith (Mr. A. H. Woolf for Mr. H. Brooks).—Consent.

Kennington.—Erection of buildings on the north-western side of Upper Kennington-lane, Kennington, between Nos. 36, Upper Kennington-lane and Courtenay-street (Mr. G. Bartlett for the Duchy of Cornwall).—Consent.

Strand.—Showcase at No. 224, Regent-street (Messrs. T. & J. Perry).—Consent.

Lines of Frontage and Construction.

Bow and Bromley.—Iron and concrete timber drying stage at Tredegar Works, on the south-

FINCHLEY UNITARIAN CHURCH, GRANVILLE-ROAD.

The building, completed last November, is the first part of a scheme for a new church with church hall, classrooms, and other accommodation necessary for Sunday-school or institutional work. Owing to the shape of the site, with frontages on Granville and Montrose roads, a plan was adopted on radial lines, the point of approach from the main road being Golder's Green and Tallyho.

The exterior is carried out in roughcast, brown brick facings and green West-slates.

The internal woodwork is in deal, stained and unvarnished, and the floors are of pine wood block, American oak being used in the hall. This room is at present reserved for services, and will seat over 200. A balcony over the entrance-door for a lantern, and the door from the hall is fitted as a serving hatch for refresh-

ments. Rooms are heated by radiators from a boiler under the kitchen.

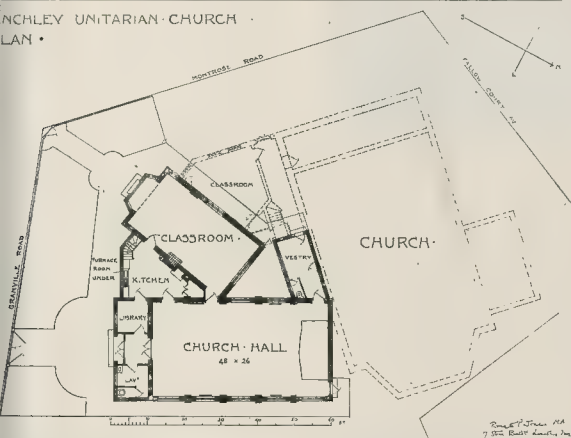
The architect was Mr. Ronald P. Jones, of Stone-buildings, Lincoln's Inn, and the contractor Mr. J. A. Hunt, Hoddesdon. The building was erected by Messrs. Messenger & Co., and lighting by Messrs. Francis Reade.



Unitarian Church Hall, Finchley: Interior.

Mr. Ronald P. Jones, M.A., Architect.

FINCHLEY UNITARIAN CHURCH PLAN.



Tenders.—The following tenders were accepted:—Construction of engine and pump-house, formation of roads, etc., at Fortis Green—Messrs. J. Chessum & Sons, 5,684*l.* 14*s.* 11*d.*; erection of engine-house and new works at Cricklewood—Messrs. J. Chessum & Sons, 5,075*l.* 1*s.* 4*d.*; laying of conduits, etc., in the Waltham Abbey and Chingford district—Messrs. Airds, Ltd., 854*l.* 7*s.* 7*d.*; repairs to the Board's cottages at Surbiton—Messrs. Gaze & Son, 425*l.*

METROPOLITAN ASYLUMS BOARD.

The following, amongst other matters, were dealt with at the fortnightly sitting of the Board on Saturday last week:—

Works.—Tenders for works were accepted as follows:—Repairs to paving at Darenth Industrial Colony—Messrs. Holman, South Bermondsey, 239*l.*; repairs to terrazzo paving at Joyce Green Hospital—Messrs. Diespeker & Co., Holborn-viaduct, 140*l.*; road and paving repairs at Western Hospital—Messrs. W. Griffith & Co., Ltd., 393*l.*; road and other repairs at the Down's School—Messrs. Bristow & Co., 540*l.* 0*s.* 5*d.*; cleaning and painting works at the Bridge Industrial Home—Messrs. A. F. Lewis & Sons, Witham, 195*l.*

Darenth Asylum.—A plan was approved for the provision of office accommodation for the steward and clerks at the above Asylum.

METROPOLITAN WATER BOARD.

At the monthly meeting of this Board on last week, the following matters were dealt with:—

Surveyors.—The Works Committee, as to the present unsatisfactory position in regard to the employment of surveyors, owing to the variations in the quantities quoted by the selected firms; and made the following recommendations:—That the Board be referred to the Works and Stores Committee to prepare a list of the prices which should be paid to quantity surveyors for taking out quantities in connection with the estimated cost of which exceeds 10,000*l.*; to invite quantity surveyors in London to state whether they are prepared to take out quantities on the Board at such prices and on the conditions contained in the model contract now submitted; that the Board be referred to the Works and Stores Committee to select firms to take out quantities in rotation in respect of such quantities in the case of all future works the cost of which exceeds 10,000*l.* tenders to be received in such case (where necessary) for taking out of quantities on the terms and conditions contained in the before-mentioned model contract; that the Works and Stores Committee be authorised to accept, from time to time, such of the tenders received as appear to be most favourable to the interests of the Board, and that the seal of the Board be affixed to all documents in the matter of the same.—Agreed.



Unitarian Church Hall, Finchley: Exterior from the South.

Mr. Ronald P. Jones, M.A., Architect.



Chiselborough Church, Somerset: Present Appearance, with Norman Arch Exposed.

THE PARISH CHURCH, CHISELBOROUGH.

UNDER the superintendence of Mr. F. Bligh Bond, F.R.I.B.A. (Hon. Diocesan Architect for Bath and Wells), and his partner, Mr. W. E. Ellery-Anderson, the parish church of Chiselborough, Somerset, has been restored. The illustrations given on this page show the past and present appearance of the interior, and in connexion with the work some curious facts may be recorded. A scheme had been prepared to render the church more commodious, and the work had been started by the contractor, Mr. Bartlett, of Yeovil. On careful examination of the east wall of the nave, preparatory to repair, there came to light the remains of a fine Norman arch of much larger dimensions than the XIIIth-century one which had been built inside it. The character of the work was bold, and indicated a date not much later than A.D. 1100. The whole of the north jamb, with its moulded abacus and the springers of the arch over, was intact, as well as the base and cap of a small shaft which stood in the nook of the recessed jamb. The shaft was missing, but on the south side, where the old jambs were found standing for half their height, a portion of the nook-shaft was still extant. The old stonework still retained distinct traces of its original smooth limewash, on which stone joints were picked out in lines of dark red according to the early fashion. The discovery of this arch altered the whole complexion of affairs, and it speedily appeared that if an effective restoration could be made and the intrusive inner arch safely removed, then the tower would be so opened up as to obviate all future trouble in the use of the chancel. The architect decided that this was feasible, if sufficient measures were first taken to underpin the tower foundations and to build a solid encasement of blue brick in cement all around the office is the thickness of the tower wall. This was done, and the restoration proceeded in a most conservative manner, many stones of the original series being recovered from the walling around, in which they had been roughly embedded. Certain features, including a shaft for the north jamb and a cap for that on the south, had to be supplied anew by the architect, but

for the rest the old Norman choir arch is now seen once more as it stood before being covered in in the XIIIth century. The Early English arch is preserved, the stones being marked for position, and it is hoped that at some future date it may yet be possible to incorporate it again in the fabric of the church.

LEGAL COLUMN.

The Insurance Act.

In our fourth article on the Insurance Act, July 5, we referred to sect. 91 and Rule 36 made thereunder, which relate to persons employed in an insured trade for the purposes of the business of any person, but not actually employed by him, the person for the purposes of whose business they are employed being termed the "substantial employer," who, in the absence of direction from the Board of Trade, is liable to perform the duties and pay the contributions required by the Act instead of the actual or "immediate employer." We may, therefore, draw the attention of our readers to a direction made by the Board of Trade by Order dated July 2, which came into force with the Act on July 15, by which it is directed that "in the case of workmen employed in building and construction of works where the 'substantial employer' has not an exclusive right to the services of the 'immediate employer,' the substantial employer shall not be treated as the employer for the purposes of Part II. of the Act, but the immediate employer shall be treated as the employer for the purposes of the Act."

The immediate employer to come within the rule must be a person who works himself wholly or mainly by way of manual labour in the business being carried on by the substantial employer. The direction now issued may give rise to some difficulty in determining what is an exclusive right to the services of the immediate employer.

For the purposes of this part of the Act employment for less than a week, but for more than two days, involves the payment of a full week's contributions. During what period must exclusive right be shown to the services of a contractor with men under him? He may be exclusively employed one day and not on another. This sub-sect. (f) of sect. 91, and the rules made under it, appear to make

confusion worse confounded, and, in our opinion, are entirely unnecessary. It surely suffices to make the actual employer liable for the contributions, and a tax collector for Government, without introducing refinements such as are involved by this sub-section of the rules.

Water Board Charges.

The case of Metropolitan Water Board v. Phillips (noted the *Builder*, December 29) has been carried to the Court of Appeal, sect. 8 of the Metropolitan Water Board (Charges) Act, 1907, the water rate is not to exceed 5 per cent. on the "rateable value" of the premises, and by sect. 13, sub-sect. (f), "rateable value" "shall be determined by the valuation list in force at the commencement of the quarter for which the water accrues, or, if there is no such list in force, the last rate made for the relief of the rate or other rate, in which such last-mentioned rate is included."

The Waterworks Clauses Act, 1847, incorporated in the Charges Act, and so makes water rates payable in advance of ordinary quarter days, but sect. 15 of the Charges Act makes the quarterly day of payment April 1, July 1, October 1, and January 1. The Water Board in this action were assessed at two quarters' rates, viz., October 1 to December 31, 1910, and January 1 to March 31, and the question to be determined was what was the rateable value of the premises in respect of these two quarters.

In 1903 the valuation had been altered, supplemental list, and the rateable value of the premises was fixed at 4000. On July 1, 1910, the overseers had put forward a revisional list, in which the premises were assessed at 3992, but on objection the Assessment Committee had reduced the valuation to 2342, and this valuation was signed and returned to the overseers, October 3. The Board claimed on the higher valuation for the first of the two quarters, whereas defendants contended that both quarters should be assessed on the valuation of 2342. The Court below decided in favour of the Board. The Master of the Rolls agreed with the majority in the Court of Appeal held that the "rateable value" settled from time to time by the local authority as duly constituted, "was the provision assessment which, though settled on October 3, was in force on October 1, and related back, and was in force on October 1, and the case is not without difficulty, and represents a dilemma. If, as has now been held, the assessment is retrospective, the Water Board, which is entitled to claim a quarter in advance, has no certain basis for assessing the charge, and, as the Master of the Rolls pointed out, there is no provision in the Act for refunding charges overpaid. On the other hand, and as the Lords have observed, the Water Board, by being put in advance, ought not to retain a larger sum than that due to them. In the case of consideration, for instance, had the assessment of the Board been upheld they would have been paid the quarter on an assessment from any point of view ceased to be in force on October 3, three days after the commencement of the quarter. The Water Board claim



Chiselborough Church, Somerset: Present Appearance, with Norman Arch Exposed.

of fifteen workmen's dwellings in Sydney-road at an estimated cost of 3,150*l.*, and application is to be made to the Local Government Board for sanction to borrow such amount. The question is to be considered as to what the needs are in regard to secondary education. The Surveyor has been instructed to continue the work of laying the kerb and channel in Friern-lane; also to prepare plans and estimates for stone-paving the paths in Oakleigh-road South, The Avenue, and Portion of Friern Barnet-road. Plans submitted by Mr. A. Fairchild have been conditionally approved for six houses in Ashurst-road.

Fulham.—Plans have been lodged with the London County Council by Mr. H. E. Kinton, 42, Cloncurry-street, for sanction to the formation of streets in continuation of Peterborough-road, Carnwath-road, and Hugon-road, the formation of a street out of Broomhouse-road, and the widening of Daisy-lane and Broomhouse-lane, all on the Sullivan Estate.

Hackney.—It has been decided subject to the usual sanction, to pave, with old granite setts, portions of the channels of four roads, which are not at present paved, at an estimated cost of 310*l.*; also to carry out repairs to the remaining areas of the carriageways before mentioned at an estimated total cost of 1,450*l.*

Hammermith.—Electricity mains are to be extended at an estimated cost of 255*l.* Tenders are to be invited for providing additional lavatory accommodation at the Electric Works at an estimated cost of 140*l.* Tenders are also to be invited for paving Stanbury-road as a new street. Plans have been lodged with the London County Council by Messrs. A. J. & C. Hocking, and D. Watney, for the erection of a building in Hythe-road and a music school, etc. in Rowan-road, respectively.

Lambeth.—Tenders are to be invited by the Borough Council, subject to the usual sanction, for the taking out of quantities for buildings proposed to be erected on the Council's Rommarn-road Depot site. A dust destructor is also to be erected on the site, but is not included in the foregoing work. Plans have been approved for Mr. A. H. Williams, enabling him to drain six houses he proposes to erect in Rosendale-road.

Levensham.—The footpaths in thirteen roads are to be repaired at an estimated cost of 99*l.* Plans have been passed for Messrs. J. W. Heath & Sons for the erection of five houses in Arthurdon-street.

Marylebone.—The application of Mr. R. A. Hinds, Wood Nook, Wimbledon-hill, S.W., to construct vaults in Devonshire-street has been granted; as has also an application from Mr. Claude W. Ferrier, 11, Waterloo-place, Pall Mall, S.W., to reconstruct and construct new vaults in Lissosgrove and Bendall-street.

Romford.—Tenders are to be invited by the Rural District Council for relaying the whole length of about 113 yds. of the sewer in Willow-road, Chadwell Heath.

Shoreditch.—The tender of Messrs. Higgs & Hill Ltd., Crown Works, South Lambeth-road, S.E., has been accepted at 1,989*l.* for the construction in ferro-concrete of a bridge over the Regent's Canal, New North-road. The tender of Messrs. J. Grover & Son, Wilton Works, New North-road, N., has also been accepted, at 881*l.* for building a retaining wall along Regent's Canal.

Southwark.—The Borough Council have circulated the other London municipal authorities, asking them to support a resolution passed by their Council, viz.:—"That the attention of the London County Council be drawn to the excessive fees District Surveyors are allowed to charge under the scale fixed by the London Building Act, 1894, for minor alterations in large buildings, and that they be asked to promote the necessary legislation with a view to the amendment of the Act in this direction." Plans have been lodged with the London County Council by Messrs. Buckland & Sarrard, 8, Frederick's-place, Old Jewry, for the erection of buildings on the west side of Walworth-road.

Stoke Newington.—It has been decided, subject to the usual sanction, to pave portions of Brownwood-road with wood at an estimated cost of 2,250*l.*, and to invite tenders for carrying out the work. For renewing the wood-paving in portions of Manor-road and Church-street, the tenders of Messrs. William Griffiths & Co., Ltd., and the Improved Wood Pavement Company, Ltd., respectively, have been accepted for carrying out the work. The estimated costs are put at 2,760*l.* and 1,770*l.* An electricity cable is to be laid in Queen's-road at an estimated cost of 120*l.*

Tottenham.—The tenders of Messrs. G. W. Rowley and E. T. Bloomfield have been accepted at 231*l.* 10*s.* 10*d.* and 366*l.* 2*s.* 8*d.* for making up portions of Bromley road and Craven Park-road, respectively. The Engineer has been instructed to prepare plans and estimates for making up portion of Keston-road.

Twickenham.—The Council have decided to make application to the Local Government Board for authority to prepare a town-

planning scheme on land situated partly in Twickenham, Heston and Isleworth, and Ham. Plans have been passed for Messrs. Novell Parr, & Kates, to enable them to carry out alterations and additions to "The Nelson Inn," Hampton-road. Mr. H. G. Alway has lodged plans for the erection of four houses in Whittow-road.

Wandsworth.—The Engineer has been instructed to proceed with the work of forming a footpath, with granite kerb, on Streatham Common at an estimated cost of 255*l.* The tenders of Messrs. E. Parry & Co. have been accepted for carrying out the following works at the prices mentioned:—Paving works in connexion with the widening of part of Beechcroft-road, Balham, 208*l.*; paving Gatwick-road, Southfield (footpaths with Victoria interlarded), 679*l.*; paving part of Beechcroft-road, Balham (footpaths with Aberdeen adamant), 1,198*l.* The tender of Mr. Thomas Adams has also been accepted, at 195*l.*, for paving part of Seeley-road, Tooting. In this case footpaths are to be paved with Aberdeen adamant. Tenders are to be invited for flagging the footways of Grove-road, Balham, also for constructing a sewer in a part of Wimbledon Park-road, Southfield. The following plans have been passed:—Mr. J. Uglov, motor garage, South-road, Springfield Mr. F. E. Caine, fourteen houses, Kirkstall-road, Streatham; Mr. D. Whitecher, thirty-four houses, Badminton road and Nightingale lane, Balham.

Willesden.—Plans by the Engineer have been approved for making up Victoria-mews, Kilburn. Tenders are to be invited for making up Wotton-road, and application is to be made to the Local Government Board for sanction to the borrowing of 243*l.*, the estimated cost of the work. The Electrical Engineer reports that the Duplex and General Bearing Company propose to erect large works near Oxgate-lane. Plans have been passed for Mr. F. J. Potter, for the Dairy Supply Company, for the erection of new factory in Chiswick-avenue, Park Royal, also for Mr. G. A. Sexton for the erection of eleven blocks of flats in Rutland Park, Willesden Green. Messrs. G. & J. E. Ball have lodged plans for the erection of eleven houses in All Souls'-avenue.

OBITUARY.

Mr. R. W. B. Browning.

Mr. Robert Wiedmann Barrett Browning, who died on July 8 at Asolo, aged sixty-three years, was the son of the poet. On quitting Christ Church, Oxford, he went as an art student to Paris, and became an exhibitor of both sculpture and paintings in the Royal Academy, Grosvenor Gallery, and the Salon. He was the sculptor of the bust of his father in the Browning Settlement, Walsworth. Soon after his marriage, in 1897, to Miss F. Codrington, of New York, he bought the Palazzo Rezzonico on the Grand Canal, Venice, where he died in 1899. He subsequently purchased the "Pippa's Tower" at Asolo, where the funeral took place on July 10.

Mr. A. O. Maskell.

Mr. Alfred Ogle Maskell, F.S.A., died at Downside, Bath, on June 27, aged sixty-seven years. Upon his return to England from New Zealand in 1874, he became unofficially attached to the Art Library, South Kensington Museum, for two years; he represented the department at the Munich International Exhibition, 1876, and at Brussels in 1880; in the latter year the now Board of Education appointed him to proceed to Russia as representative of the department, and of the South Kensington Museum in the collection of objects illustrative of Russian art. Mr. Maskell was Superintendent of the Musical Section, Inventions Exhibition, 1885, and of the Pictures Section, Colonial Exhibition, 1887. In 1906 he was Cantor Lecturer, Royal Society of Arts; he was for a long period librarian and curator of their museum and collections, to Lord and Lady Brassey, for whom he superintended the erection and arrangement of their Indian Room and Museum, Park-lane. He wrote many articles and papers upon art and kindred topics; he was the author of *Russian Art and Art Objects in Russia, 1884*; *A Catalogue Raisonné of the Engraved Works of Raphael Morghen* (privately printed, Chiswick Press), 1879; *Ivories, 1905*; *Wood Sculpture, 1911*; and with Mr. Robert Demachy, *Photo-Aquatint, 1897*.

Mr. T. Binnie.

The death, on July 11, at his residence in Park-gate, Glasgow, is announced of Mr. Thomas Binnie, aged eighty years. Mr. Binnie succeeded to his father's business, and stood in the foremost rank of valuers and surveyors in Scotland. He was Past-Chairman of the Scottish Committee of the Surveyors' Institu-

tion, and a member of the Commission Enquiry into the house-building system in Glasgow. His services were employed in purchase or sale of many large landed properties, and in several important assessments and compensation cases and arbitrations.

FOREIGN AND COLONIAL.

Industrial Academy, Austria-Hungary.

According to the *Zentral Anzeiger für öffentliche Lieferungsverwesen*, the municipal authorities of Pilsen have approved the plan and estimate for the erection of an Industrial Academy at a cost of 765,000 kronen (about 32,000*l.*). A college building will also be erected this year at Pilsen at a cost of 1,870,000 kronen (about 78,000*l.*).

Trade Conditions in Winnipeg.

The Imperial Trade Correspondent, Winnipeg (Mr. J. Appleton) reports extraordinary activity in building has increased the demand for supplies used in construction, a demand to which no United States firms give special attention, the result that their business has very largely increased, except in the case of terra-cotta. In the selection of interior fittings, built hardware, and the general equipment of buildings, the opinion of the architects employed usually prevails, and they determine the character of the purchases. It is of the utmost importance, therefore, that the firms engaged in the manufacture of building equipment of any kind should keep architects well informed as to the merits of the products they offer, and the market is desired. In this respect the representatives of United States firms are particularly active. Supply firms catering for wants of builders do not as a rule keep stocks, but act as agents for the procuring of the supplies specified by architects. The proximity of the United States to Canada is often the deciding factor in securing building supplies from there, because of greater certainty in getting delivery at a specified time. As the population of Western Canadian Provinces is rapidly increasing, it follows that trade opportunities will increase correspondingly. Winnipeg the chief trade centre for the provinces of Manitoba, Saskatchewan, and Alberta, its trade has very largely increased during the past year. In consequence of this increase is apparent from the fact that much capital expenditure in the territory which that spreads is already arranged. In the case of the railway companies, appropriations are ready set aside for employment of men in the three prairie provinces to the aggregate 50,000,000 dollars (about 10,278,000*l.*) to be expended in constructing and equipping new railways. Incident to this expansion local trade opportunities arise for the supply of building materials for the towns that spring up on the newly built lines, and also the supply of the necessities for the new population. Local conditions determine the character of these equipments, and so far either Canadian or United States industry has successfully them. The demands this year, however, are very much greater than usual, because of the large, general immigration, the purchase power of the immigrants being increased by the large number of settlers with money coming from the United States. This factor in trade stimulation in the Canadian West this year will be, in the opinion of the Trade Correspondent, the unusually large capital expenditure in building and in reconstruction. Although for some years it is probable that these expenditures will be factors in the upbuilding of a very large promising territory, it would not be reasonable to assume that in proportion to population much money will, after a lapse of some years, be invested annually in the two enterprises referred to. Present conditions afford a warrant unusual expenditures, but they can be regarded as permanent factors in determining trade conditions, so much as reconstruction and so much structural building in new towns and cities being an aboriginal condition. Following the extension of the ways into unsettled parts of the West, and the villages with spring up, and the inhabitants, and those of the districts adjacent to them, become settled, they will have wants than those of shelter and implement husbandry. Attention is drawn to the part of shipping agents in the United Kingdom, marking packages with the words "made in Canada," by which the consignee is expected to identify them when they reach their destination. This practice has led to much confusion in Winnipeg. Consignees prefer to have full names and addresses on each package, this greatly facilitates handling.

List of Competitions, Contracts, etc.

Contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are used in this number:** Competitions, iv.; Contracts, iv. vi. vii. x.; Public Appointments, xvi.; Auction Sales, xxi. conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

Cardiff.—**FIRE-STATION.**—The traction invite designs and estimates for a new station in Westgate-street. Mr. Mackenzie, assessor. Particulars in Mr. Clerk, City Hall, Cardiff.

Saxon Spill Prize.—Fifty medals, offered for essay on "The History of the Saxon Spill." Particulars from Mr. H. H. Jones, 10, Buckingham Palace.

1. Goole.—**MUNICIPAL OFFICES.**—1. and 161. Particulars from Mr. Council Offices, Goole.

2. Chorley.—**SCHOOL.**—The Chorley Committee invite designs for a school for about 600 children. See tender in issue of July 12. Premiums £100. Deposit, 21/2s.

30. Dublin.—**UNIVERSITY COLLEGE.**—Designs—Limited to architects in Ireland. Mr. H. T. Hare, F.R.I.B.A.

Ottawa.—**MOVEMENT TO KING.**—Sketch models in plaster to be submitted to the National Art Gallery, Ottawa.

4. Glasgow.—**DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.**—The Glasgow Municipal Architects invite designs for the extension of the Municipal Buildings. Five will be submitted complete drawings in final stage. See advertisement in issue of June 22.

5. Huddersfield.—**TOWN PLANNING.**—The Huddersfield Corporation invite designs for laying-out of certain areas within borough and part of an adjacent area. See advertisement in issue of June 22.

Jordanhill, Glasgow.—**PROPOSED** extension of the Municipal Buildings. See advertisement in issue of June 22.

6. Motherwell.—**HIGH SCHOOL.**—Dr. Burnet, assessor. Deposit, 11/2s.

7. Glasgow.—**MUNICIPAL BUILDINGS.**—The Glasgow Municipal Architects invite designs for the new Municipal Buildings. Five will be submitted complete drawings in final stage. See advertisement in issue of June 22.

Contracts.

BUILDING.

1. Bradford.—**DWELLINGS.**—Erection of dwellings (Blocks Nos. 6 and 7). Particulars from the City Architect, Bradford.

2. Edinburgh.—**LAVATORIES.**—Reconstruction of the lavatories at the General Hospital, Edinburgh. Drawings, specifications of the conditions and form of the contract seen, and quantities of the work. See advertisement in issue of June 22.

3. Leicester.—**CULVERT.**—For the erection of a culvert and approaches at the Leicester and Leicester Road. See advertisement in issue of June 22.

4. Leicester.—**DEPOT.**—For the erection of a depot and approaches at the Leicester and Leicester Road. See advertisement in issue of June 22.

5. London.—**WALLING.**—Erection of walling and iron railings at the Home Office, Elder-road, West Norwood, S.E. See advertisement in issue of June 22.

6. London.—**WALLING.**—Erection of walling and iron railings at the Home Office, Elder-road, West Norwood, S.E. See advertisement in issue of June 22.

7. London.—**WALLING.**—Erection of walling and iron railings at the Home Office, Elder-road, West Norwood, S.E. See advertisement in issue of June 22.

8. London.—**WALLING.**—Erection of walling and iron railings at the Home Office, Elder-road, West Norwood, S.E. See advertisement in issue of June 22.

July 23.—Manchester.—**CONVENIENCES, ETC.**—For conveniences and waiting-room, Clowes-street, West Gorton; shelter at Stevenson-square; conveniences and waiting-room, Moston-lane; alterations to Brooks's Bar Tram Office. Drawings seen, and specification and quantities from the City Architect, Town Hall, on deposit of 10s. 6d.

July 23.—West Hartlepool.—**EXTENSION.**—For extension to the existing battery-room at the Electricity Works, Burn-road, West Hartlepool. Plans, specification, and quantities from Mr. H. E. Friederichs, M.Inst.C.E., Borough Electrical Engineer, Corporation Electricity Works, Burn-road, West Hartlepool. Deposit of 11. 1s.

July 24.—Manchester.—**SPRINGS.**—For laying out and forming a covered, yard for motor ambulances, etc., at Workhouse in New Bridge-street, Manchester. Plans seen, and quantities from Mr. A. J. Murtagh, architect, 93, Strutt-street, Manchester, on deposit of 10s. 6d.

July 25.—Stourbridge.—**RESERVOIR.**—Construction of a covered service reservoir at Doctor's-hill, Oldswinford, near Stourbridge. Drawings seen, and specifications and quantities from the Consulting Engineer to the Board, Mr. William Fiddian, F.S.I., Stourbridge, on deposit of 31. 3s.

*** July 26.—Brighton.**—**ALTERATIONS, ADDITIONS, ETC.**—The Asylum Visiting Committee invite tenders for carrying out alterations and additions to ward No. 6, and for fencing shelter walls and other work to airing court. See advertisement in this issue for further particulars.

*** July 26.—Coventry.**—**ADDITIONS TO CHURCH.**—Tenders are invited for additions to St. Nicholas Church, Radford, Coventry. See advertisement in this issue for further particulars.

July 26.—Surbiton.—**HOUSE, ETC.**—Construction of the power station, destructor house, and other incidental work at the Sewage Disposal Works, Lower Marsh-lane, Surbiton. Specification, forms of tender, and quantities from the Engineer, Mr. H. T. Mather, at the District Council Offices, Ewell-road, Surbiton. Deposit of 11. 5s.

July 27.—Cheadle.—**SCHOOL.**—The Staffordshire Education Committee invite builders wishing to tender for erection of a school for 320 children to send in their names. See advertisement in this issue for further particulars.

July 27.—Chesterfield.—**BUILDING.**—For the taking down of the wood and iron building as a workmen's mess-room by Messrs. the Bryan Donkin Company, Ltd., and the erection of the building on an adjoining site. Plans, specifications, and forms of tender from Mr. Vincent Smith, Borough Surveyor, Borough Surveyor's Office, Chesterfield.

*** July 27.—Gillingham.**—**ALTERATIONS AND REPAIRS.**—The Kent Education Committee invite tenders for carrying out certain alterations and repairs to the Technical Institute. See advertisement in this issue for further particulars.

July 29.—Merton.—**HOUSES.**—Erection and completion of two workmen's houses at North Dalkon Pumping Station, near Merton. Plans and specifications seen, and quantities and information from Mr. Alfred B. E. Blackburn, A.M.Inst.C.E., the Company's Engineer, 29, John-street, Sunderland. Deposit of 21. 2s.

July 29.—Treharris.—**HOUSES.**—For taking down the Treharris Brewery Buildings and erecting on the site thereof ten or more houses for Messrs. the Model Building Company. Plans and specification with Mr. William Dowdeswell, M.S.A., architect, Treharris.

July 30.—Birmingham.—**DEPOT.**—Erection of a tramway depot in Highgate-road, Sparkbrook, Birmingham. Forms of tender and quantities from the Quantity Surveyor, Mr. Christopher Silk, 33, Newhall-street, Birmingham. Deposit of 31. 8s. Drawings with the architects, Messrs. Harrison & Cox, Council-chambers, 109, Colmore-row, Birmingham.

July 30.—Bradford.—**WORKHOUSE.**—Erection of a test workhouse at Daisy-hill, Bradford. Quantities from Mr. Fred Holland, Architect to the Board, 22, Manor-row, Bradford. Deposit of 11. 1s.

July 30.—Somerset.—**HALL.**—Erection of a drill hall, sergeant-instructor's cottage, and miniature rifle range at Castle Cary, Somerset. Plans and specification with the architect, Mr. J. F. Forster, A.I.B.A., Bruton. Deposit of 11. 1s. for quantities.

July 31.—Blackhall.—**HOUSES.**—Erection of engine-house and lean-to at Blackhall Colliery, for the Horden Collieries, Ltd. Plans, specification, and quantities with Mr. James Hamilton, architect and surveyor, the Horden Collieries, Ltd., Castle Eden.

July 31.—London.—**CONVENIENCES, ETC.**—For the construction of sanitary conveniences and urinals, etc., at the Electricity Works, Fulham Palace-road. Plans, general conditions, form of tender, and specification from Mr. H. Mair, Borough Surveyor, Town Hall, Hammersmith.

August 7.—Penrhiwceiber.—**REBUILDING.**—For the rebuilding of business premises in Rheola-street, Penrhiwceiber, for the Penrhiwceiber Co-operative Society, Ltd. Plans and specification seen, and quantities from Mr. Philip J. Jones, architect, Church-street, Pontypridd, on deposit of 21. 2s.

August 8.—Aberystwyth.—**DWELLINGS.**—For conversion of the Barracks, Aberystwyth, into workmen's dwellings. Plans and specifications from the architect, Mr. J. Lewis Evans, 21, Great Darkgate-street.

August 9.—Sliden.—**SCHOOL.**—For erection of Sliden new school. Plans seen, and specifications with quantities from the Education Architect, County Hall, Wakefield. Deposit of 11. 1s.

*** August 17.—Southend-on-Sea.**—**LODGE AND REFRESHMENT-ROOMS.**—The Southend-on-Sea Corporation invite tenders for the erection of a lodge and refreshment-rooms at Southchurch Hall Park. See advertisement in this issue for further particulars.

*** August 26.—Birmingham.**—**EXTENSION OF COUNCIL HOUSES.**—The Birmingham Corporation invite tenders for erection of buildings in extension of the Council House. See advertisement in this issue for further particulars.

No DATE.—Burgh-by-Sands.—**RANGES.**—For constructing and laying-out two ranges with shelters, etc., at Burgh-by-Sands. Mr. J. W. Benwell, 38, Lowther-street, Carlisle.

No DATE.—Kingston-on-Thames.—**REPAIRS.**—For repairs to chimney-stacks and roofs, also external repairs and painting at the Workhouse, Kingston-on-Thames, Surrey. Specification, quantities, and form of tender from Mr. Chase W. Dash, Clerk to the Guardians, Union Offices, Kingston-on-Thames.

No DATE.—Northampton.—**SCHOOL.**—Erection of a secondary school for girls in St. George's avenue, Northampton. Names and addresses to Mr. Stewart Beattie, Secretary, Borough Education Offices, 4, St. Giles-street, Northampton.

No DATE.—Southall.—**BAKERY, ETC.**—For the erection of bakery and stables at Southall, for the West London Co-operative Society, Ltd. Names to the Architect's Department, Co-operative Society, Ltd., 1, Balloon-street, Manchester. Deposit of 21. 2s.

ENGINEERING, IRON, AND STEEL.

July 31.—Easebourne.—**WELL.**—For the sinking and construction of a well in Easebourne, Sussex. Drawing and specification seen, and quantities, etc., from the engineers, Messrs. James Mansergh & Sons, 5, Victoria-street, Westminster, on deposit of 51.

August 15.—Raipur.—**RESERVOIR.**—For constructing Maramelli Reservoir, Raipur District, Central Provinces, India, sixteen miles from the Dhanbari Station, Bengal-Nagpur Railway. Particulars from Mr. P. Davies, Executive Engineer, Mahanadi Headworks Division, Raipur.

FURNITURE, PAINTING, MATERIALS

etc.

July 23.—Birmingham.—**PAINTING.**—For painting the interior of the school buildings at the Children's Homes, Marston Green, and also for painting the exterior of the Homes and other buildings. Specifications seen, and forms of tender from Messrs. C. Whitwell & Son, architects, 3, Newhall-street.

July 23.—London.—**PAINTING.**—For exterior cleaning, painting, etc., at school, Upper Edmon-ton, near Silver-street station (G.E.R.). Specification and form of tender from the Guardians' Architect, Mr. A. K. Kewick, 12, Norfolk-street, Strand, W.C. Deposit of 21. 2s.

July 23.—Rhonda.—**PAINTING, ETC.**—For repainting, painting, etc., to be done at the New Inn Hotel, Ton Pentre, Rhonda, for Messrs. Dr. John & Co., Ltd. Specification with Mr. W. D. Morgan, M.S.A., architect and surveyor Pentre.

July 24.—Manchester.—**PAINTING.**—For painting the Art Gallery, Mosley-street, and plastering and painting warehouse in George-street. Specifications from the City Architect, Town Hall, on deposit of 10s. 6d.

FURNITURE, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* JULY 24.—**Nunhead.**—PAINTING, ETC.—The Camberwell Guardians invite tenders for painting and cleansing work at the Relief Station, 221, Albert-road. See advertisement in this issue for further particulars.

* JULY 24.—**Swanley Junction.**—PAINTING, CLEANING, ETC.—The Metropolitan Asylums Board invite tenders for cleaning and painting at White Oak School. See advertisement in this issue for further particulars.

* JULY 29.—**Bromley, Kent.**—ROAD MATERIALS.—The Bromley (Kent) B.C. invite tenders for supply of about 4,000 cubic yds. of broken stone of various kinds. See advertisement in this issue for further particulars.

* JULY 30.—**Bromley.**—PAINTING.—For external painting at the Municipal Buildings, Twenty-road, Bromley. Specification from the Borough Engineer, Bromley.

* JULY 30.—**Southgate.**—IRON FENCING.—The Southgate U.D.C. invite tenders for construction and erection of open rail fencing. See advertisement in this issue for further particulars.

* JULY 31.—**Homerton.**—PAINTING.—The Hackney Guardians invite tenders for painting work at the Homerton Workhouse. See advertisement in this issue for further particulars.

* JULY 31.—**London.**—GLAZING.—The Commissioners of H.M. Works and Public Buildings invite tenders for reglazing part of the Albert and Victoria Museum. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

* JULY 20.—**Farnham.**—DRAINAGE.—For the drainage work at the school, Specifications and plans, the Committee's Architect, Mr. Wilfrid H. Robinson, of Caxton House, Westminster; Swanley Junction, Kent; or at the offices of the Committee.

* JULY 22.—**London.**—SEWER.—For constructing a sewer in that part of Wimbledon Park-road, Southfield, which lies between Nos. 319 and 365 (both inclusive), Wimbledon Park-road. Specification and drawings sent, and forms of tender from the Borough Engineer, Mr. T. Dodd, M Inst.C.E., New Street Department, No. 55, East-hill, Wandsworth, S.W. Deposit of 5*l.* 5*s.*

* JULY 27.—**Wakefield.**—ROADS.—For works of kerbing, channelling, pitching, surface-water drainage, and walling on the Kriestall, Otley,

and Shipley main road. Plans sent, quantities, etc., on deposit of Mr. F. G. Carpenter, West Riding County Hall, Wakefield.

* JULY 29.—**Goole.**—DRAINAGE.—For construction of a main drainage scheme, specifications by Messrs. J. Taylor, Santo Crimp, civil engineers, Caxton, Westminster, S.W. Deposit of 5*l.* 5*s.* to the Goole U.D.C.

* JULY 31.—**Hammersmith.**—SEWER.—Hammersmith B.C. invite tenders for construction of sanitary conveniences and advertisement in this issue for further particulars.

* JULY 31.—**Hammersmith.**—REPAIR.—Hammersmith B.C. invite tenders for part of Uxbridge-road with crescent at Westminister, S.W. Deposit of 5*l.* 5*s.* to the Hammersmith B.C.

* AUGUST 8.—**Bungay.**—GRANITE.—For Mountsorrel or Osenast granite, 1, Sprake, Clerk, Bungay.

* AUGUST 23.—**Chichester.**—ROAD.—For up, with granite macadam, of about 10, yds. of the London-Portsmouth road. Plans sent, and form of tender from Engineer and Surveyor, Mr. Frank A.M. Inst.C.E., the Council House, Chichester.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.
*QUANTITY SURVEYOR.	Hendon U.D.C.	Not stated
*CHIEF ENGINEER & COUNTY SURVEYOR	L.C.C.	2,000 <i>l.</i> per annum

Auction Sales.

Nature and Place of Sale.	By whom Offered.
*BUILDER'S, CONTRACTOR'S, GRAMOPHONE DEALER'S STOCK—80, Banner-st., E.C.	Fryett, White, & Co.
*FREEHOLD ESTATE, HITHER GREEN—At the Mart	Dyer, Son, & Hilton
*BUILDING MATERIALS & FITTINGS—On the Site	L. S. Rogers
*MACHINERY, PLANT, FREEHOLD HOUSE—Wareham Cement Works, Wareham	J. Baker, Oocko, & Standen
*FREEHOLD BUILDING LAND, POTTER'S BAR—At the Mart	Elliot, Son, & Boyton
*MOTOR CHASSIS—At Mill Lane Depot, West Hampstead, N.W.	Stuart A. Curzon
*DEALS, BATTENS, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C.	Sturtevant & Sim
*FREEHOLD BUSINESS PREMISES, LANDS, ETC.—Northampton	Peirce & Thorpe

TERMS OF SUBSCRIPTION.

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Remittances payable to J. MORRIS should be addressed to The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

PATENTS.

APPLICATIONS PUBLISHED.*

14,517 of 1911.—Herbert William Longdin: Stone blocks for the paving of streets, roads, or the like.

18,117 of 1911.—Herbert Kohn: Machines for the erection of brick walls and the like.

18,283 of 1911.—George Frederick Ferns and William George Jackson: Roof gutting support.

19,534 of 1911.—Hubert Wagner: Process for the manufacture of artificial lithographic stones.

19,932 of 1911.—Henry May: Sifting and grading apparatus.

20,075 of 1911.—Thomas Luke: Sliding ladders and tracks therefor.

21,007 of 1911.—William Hartell: Fencing.

21,510 of 1911.—Charles Leslie Newland: Device for automatically opening and closing window valves and the like.

23,743 of 1911.—Franz Kandler: Roofing tiles.

1,961 of 1912.—Société Generale Des Nitrures: Refractory blocks and bricks.

4,183 of 1912.—Anton Kleber: Adjustable casings for the construction of walls by means of plastic materials.

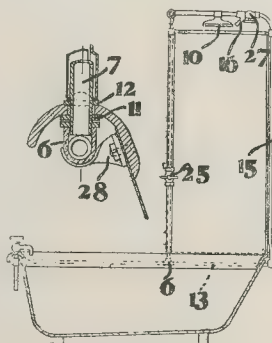
* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

5,456 of 1912.—Friedrich Schwarz and Wilhelm Holthausen: Paving machines.

SELECTED PATENTS.

2,893 of 1911.—Charles Martin Burrell: Baths.

This relates to a screen and shower fittings for fixed baths. The supply-pipes 13 are supported under the roll by brackets 28. A douche 16 is supplied by a pipe 15 and tap 27 separate from those of the shower 10, namely,

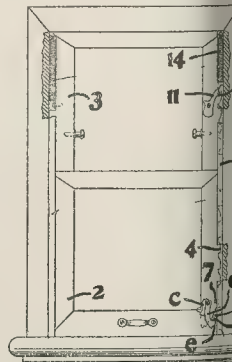


2,898 of 1911.

the pipe 7 and tap 25. The pipe 7 is fixed to the roll by nuts 11, 12, and connected to the horizontal pipe 13 by a tee-piece 6.

4,239 of 1911.—Frederick Joseph W. Window-sash holders.

This relates to windows wherein a sash 2 carries a pivoted catch 9, the which engages a rack 4 on the window frame. The catch may be turned back, where



4,239 of 1911.

thickened part e sliding over the frame it is inoperative, until tripped by the sash while the hooked part b of the catch the tooth 8 to lock the window open. A similar catch 11 is pivoted to the upper sash which is normally closed by spiral springs.

SALES OF PROPERTY:

ATE EXCHANGE REPORT.

By S. & G. KINGSTON.

Lincs.—Two farms, 483 a. 3 r.

£20,440

B. HILLIARD & SON.

Lincoln—Lucas's Farm, 17 a. 2 r.

300

IRON, KNOWLES, & CO.

Glos.—Remaining portions on Estate, 212 acres, f.

11,656

M. W. & C. SPELMAN.

York.—Farm, 38 a. 3 r. 15 p.

1,020

York.—North Farm, 19 a. 0 r.

675

York.—Norfolk—Breck and Wood-

2,810

York.—West Parade, Garden

300

York.—Trinity-st., f.

385

York.—Cambridge-st., f.

400

By JONES, LANG, & CO.

York.—Ferry-rd., f.g. rents 31l, rever-

1,170

By JOHN KING.

York.—Nedging Mill Estate, f.

1,102

By JOHN BURT & SONS.

York.—Ferry-rd., u. t. 75 yrs., f.

530

By HILL & WEAVER.

Holland Park-av., Castle p.h.

7,300

Colwyn-st. (s.), f., p.

325

By HAMPTON & SONS.

Queens'-rd., Parkholme, f.g. 11l.

500

By J. MATTHEWS & GOODMAN.

York.—Ferry-rd., f.g. 23l. 8s.

3,000

32 to 44 (even), Acaia-rd., u. t.

575

134, w.r. 18l. 18s.

360

10l., e.r. 90l.

2,390

WOODS & SNEELING.

rent Cambridge-st., f.g. rents

2,120

By JAMES EILEY.

ve, Lincs.—Araable and pasture,

5,110

By WINCK & SONS.

the-Marsh, Kent.—Haffenden

3,500

By ELICK & SONS.

olk.—Park Farm, 313 acres, f.

3,562

ARLEN HAWKINS & SON.

York.—Church Farm, etc.,

16,750

PERRY & PHILLIPS.

York.—Agricultural estate, 918 acres,

3,900

By H. N. ABRAHAM.

York.—Mitre Inn, f., y.r. and

409

BOWDITCH & GRANT.

Queen's-rd., f.g.r. 16l, reversion

515

By QUINTELL, SON, & STANLEY.

times-rd., f.g. rents 13l, reversion

300

By DOUGLAS YOUNG & CO.

and 30, Chester-rd., u. t. 8l yrs.,

120

By JAMES EILEY.

York.—Lincs.—Farm, 101 acres, f.

3,875

By MARK NEWMAN & BLUNT.

York.—Home and Gilberts Farms,

3,590

By DANIEL WATNEY & SONS.

York.—Gt.-rd.—52, 54, and 56, Goodge-

7,424

By J. JOHNSON WALKER & SON.

York.—Clayworth, Notts.—Hope Farm, etc., 88 acres,

3,860

By J. KNIGHT, FRANK, & RUTLEY.

York.—Darsham, Suffolk.—Darsham Hall Estate, 1,819

295

By JULY 8.—By DUNSTAN & BALLS.

York.—Brixton, 137 to 137 (odd), Lyham-rd., u. t.

960

By GABRIEL WHITE & POLAND.

York.—Paddington.—Delaware-rd., Maida Vale

840

By DANIEL SMITH, SON, & OAKLEY.

York.—Ivychurch, Kent.—Marsh land, 124 a. 1 r. 4 p.

4,200

By JULY 10.—By REYNOLDS & EASON.

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4,375

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200

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120

40l. 6s.

92, Blundell-st., u. t. 30 yrs., g.r. 5l. e.r. 30l.

165

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Horton.—83, Gosspall-st., u. t. 24 yrs., g.r.

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Peckham.—173 and 175, Rye-la. (s.), u. t. 52

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2,725

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5,665

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Chagford, Devon.—Hole, East and West

6,055

By WINCK & SONS.

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Old Ford.—105 and 108, Lefevre-rd., u. t. 53 yrs.,

285

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Clapton.—86, 88, 92, and 94, Clifton-rd., f.

1,280

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400

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Peckham.—37, Nunhead-green, f., w.r. 32l. 10s.

190

Beckenham.—3, Birkbeck-rd., f., w.r. 26l.

120

Balls Pond.—3, King Henry's-walk and f.g.

100

By 67l. 12s.

365

Holloway.—13, 17, and 18, Clifton-rd., u. t. 30

305

Islington.—66 and 72, Baxter-rd., u. t. 47 yrs.,

290

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380

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1,060

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Lambeth.—2 and 3, Gray-st., f., w.r. 70l. 4s.

330

Battersea.—23 to 31 (odd), Bognor-st., u. t. 48

275

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THE BUILDER

A JOURNAL FOR THE ARCHITECT

AND FOR ALL INTERESTED IN THE

CONSTRUCTIVE & DECORATIVE ARTS

1913.—No. 3625.

JULY 26, 1912.

ILLUSTRATIONS.

LONDON AUTHORITY: COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES. "THE BUILDER" REGENT'S QUADRANT COMPETITION: DESIGN AWARDED TEN GUINEAS BY MESSRS. TAIT & WHITELAW.

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ARCHITECTS AND THE INSURANCE ACT.

VIEW of the heavy responsibilities which fall upon architects at all times, we feel that it is most desirable to give our readers some indication of the additional that are now placed upon the on, and to deal with some of the points that are likely to be met w that the Insurance Act is in on. The scope of the Act is y familiar to everyone by this

"Explanatory Memorandum," and immediately after the Insurance l passed through the House of ns, the Government set forth a their view, was the object of the In this official document we d that the Act "is intended to wide an insurance as possible of industrial population against sick- and breakdown." We have no to attempt a definition of the on "industrial population," but tly it does not include persons ay become employed during the of qualification for a profession.

Architects, surveyors, engineers, solicitors, and possibly doctors, may, and in many cases do, both before and after actual qualification and practice, become employed in such a way as to bring themselves and their employers within the provisions of the Act. Employment under any contract of service or apprenticeship, subject to certain limitations and exceptions, is sufficient to render anyone compulsorily insurable under the Act. A contract of service clearly exists wherever the person employed is required to carry out the work personally and in obedience to the orders or directions of the employer. If the employee has the right to employ someone else to do the work, or if he is at liberty to do it in any way he thinks best, there is no contract of service. Obviously, therefore, the assistants of many professional men will come within the scope of the Act, and, in the case of architects, at any rate, such assistants will consist almost wholly of men who are waiting and gaining experience for the practice that may or may not come. Such persons, as we have already said, form

no part of the "industrial population," and in so far as they are in fact included in the scheme, they appear to have been blown in by a side wind. Indeed, there is every indication that their inclusion is not only incidental but accidental, and contrary to the expressed intention of the Government, who apparently never contemplated anything of the sort.

Be that as it may, architects and their assistants have to consider their position under the Act; and it is impossible to read the Act itself without coming to the conclusion, quite apart from official declarations, that no effort has been made to make any provision in respect of the rather peculiar conditions of employment existing in the profession. Whatever may be the merits or demerits of the Act in relation to those whose conditions of employment may be said to justify its place on the Statute Book, we fear that to most architects and their assistants it will bring little besides annoyance and inconvenience.

What, then, is the position under the Act of those who work in various

capacities in an architect's office? In the first place, articulated pupils are not within the Act; they receive no wages, and are, therefore, within the exception in the first schedule relieving unpaid apprentices and learners from the obligation to insure. Improvers who remain without salary in the office after their articles have been completed are in the same position. But the position of a paid assistant is very different. He is no longer a "learner" in the sense in which the term is used in the Act. He enters into the service of an architect because he lacks the experience or the opportunity to practise on his own account. To obtain professional work of his own is, of course, his one object and ambition. When he is beginning to get occasional work of his own—when he is on the borderland of practice—he may cease to be continuously employed as assistant, and become intermittently employed in the same or different offices, or he may be able, while still retaining his position as paid assistant, to carry out such work as he may get on his own account, until the opportunity occurs for starting an office of his own. Under these various conditions the Act may very well produce not only annoyance, but problems not easy to solve.

The Act provides, as we have said, that all persons employed under a contract of service or apprenticeship must be insured except those who (amongst certain other excepted persons) are employed "otherwise than by way of manual labour and at a rate of remuneration exceeding in value 160*l.* a year." This exception, of course, covers the case of an architect's assistant if his salary is above the prescribed limit. It must be carefully borne in mind, however, that the test as to whether an assistant is or is not within the Act is not the total income he obtains from his employment, but the *rate* of his remuneration. From several "explanations" of the Act, both official and unofficial, which we have seen, it might be, and in many cases has been, supposed that anyone who can satisfy the Commissioners that his earnings during the year amount to more than 160*l.* may be excepted from the Act. As the Act stands this is not so; and, apart from any regulations that may be made as to average of pay over a period, if an assistant is employed, say, for six months in the year by an architect at a salary of 3*l.* 1*s.* 6*d.* a week (i.e., at the rate of 160*l.* a year) or less, he must be insured, even though during the rest of the year he may earn enough to raise his total earnings to more than 160*l.* for the year. On the other hand, if the assistant is paid a salary at the rate of three guineas a week, or 14*l.* a month or over during any part of the year, he need not be insured for that period, even though his total earnings for the year be less than 160*l.* If it were otherwise, it would be necessary to wait until the end of the year before he or his employer could say whether he was required to be insured or not.

Difficulties may, however, very well arise where an assistant is employed successively at different rates of pay by different employers. It happens not infrequently that a young architect, in order to gain different kinds of experience,

passes from one office to another and from one rate of pay to a higher or lower rate. The result may be that he is compulsorily insured for part of the time only, or alternately insured and uninsured. For instance, A., a young architect, may work as draughtsman for X. from January to March at 3*l.* a week. He must for that period be insured, and A. and X. must pay their contributions of 4*d.* and 3*d.* respectively. But if A. then leaves X. and from March works as Y.'s assistant for a year at 4*l.* a week, he ceases to be insured, or rather his insurance is suspended for that period, because his rate of remuneration has risen above 160*l.* a year. He cannot, even if he wishes, for that period become a voluntary contributor, because he is still employed, and, in addition, his income from all sources exceeds 160*l.*, which in itself disqualifies him from voluntary insurance under the Act. If he obtains further employment at, say, 3*l.* a week after he leaves Y., he must be insured again; but there appears to be no provision in the Act capable of solving the problem of A.'s position in such a case. He will probably be considered to be a whole year in arrears, but it will hardly be worth his while to make up these arrears, since he may by that time be on the point of entering into practice on his own account.

This is only one out of many conundrums that may well arise, and that can only be solved, if at all, by reference to meticulous details in the provisions of the Act itself, by application to the Commissioners, or by regulations the latter may make. Such problems may indeed be regarded as a spontaneous by-product of the failure to exclude from the Act persons who are merely incidentally employed during the process of fitting themselves for practice as architects. They will undoubtedly cause difficulties and annoyance, but it is probable that most architects will follow the line of least resistance and pay up when required to do so, leaving the problems to look after themselves.

We do not, however, wish to place too much emphasis upon the difficulties that may in practice occur in respect of the insurance of assistants. Many assistants may be in a position to claim the exemption under sect. 2 (1), and in that way escape, so far as they are concerned, the obligations of insurance. Under that section any employed person will be given a certificate of exemption who can prove to his Commissioners' satisfaction that he has an independent unearned income of 26*l.* a year, or that he is mainly relying for his livelihood upon the support of some other person.

The certificate of exemption must be claimed in accordance with the regulations made by the Commissioners on May 22, 1912; that is to say, on the official form which the Commissioners will supply on application. A certificate is only temporary, and may be granted for a year or less. It will be renewed on a further application to the Commissioners within a month before its expiration. It is probable that many of those assistants who were originally articulated will be in a position to obtain this exemption on one or other of the necessary grounds.

The employer is, however, not exempted from his contributions. He must, as his exempted assistant is, pay a rate of 3*l.* 1*s.* 6*d.* a week or less, and stamp an insurance card in his way, and he is not allowed to deduct the 3*d.* so paid from his assistant's salary. The card in this case is sent periodically to the Insurance Commissioners. The amounts accounted in this way will be carried to a separate account, and may subsequently (Commissioners regulate) be applied to the benefit of the assistant in the event of the latter subsequently losing exemption. But it is most probable that a young architect who is on the ground of independent means will never again become an employer's assistant. The architect-employer's contributions will, therefore, find their way ultimately into the National Insurance Fund and will there vanish so far as his assistant is concerned.

It is unlikely that many architects will be concerned in any way with the compulsory insurance under the Act. An architect becomes a "voluntary contributor" if he is engaged in some regular occupation on his own account, and is not mainly dependent for his livelihood on his earnings from that occupation. He may not become a "voluntary contributor" if his total income from all sources is over 160*l.* The voluntary contributor merely insures himself through the machinery provided by the State scheme. Having no compulsory insurance, he pays 7*d.* a week, and obtains the usual benefits provided by the compulsory scheme, that is to say, 1*s.* a week for twenty-six weeks for which he prevents him from following his occupation, and 5*s.* a week for which he is unable to resume his occupation, and medical benefit, which (if a settled case arrived at with the doctors) will be free medical attendance, and (if the sum in money will, we understand) paid to his approved society, or to make their own arrangements for a sanatorium and maternity benefit. The case of a young architect in the practice who is mainly dependent on the proceeds of his practice, but whose income from all sources does not exceed 160*l.* a year, is, we think, a very rare one, and the interest of the professional voluntary scheme of insurance is in such a case small.

Architects and their assistants in one sense, be said to be engaged in the building trade; but they do not fall within the unemployment provisions of the Act (Part II.), since that relates to those who are "workmen" or "workmen" are defined as persons sixteen or upwards who are employed mainly by way of manual labour under a contract of service with an employer.

The main difficulty, therefore, which affects architects is the question of intermittent employment. The alternative of salaried employment as assistant, with occasional periods of practice on his own, rises to practical difficulties that are impossible at present to anticipate. It is open to the employer, whenever he is undecided whether he is obliged to employ a particular employee, to take him on three courses. He may treat the employee as a person whom he must insure

3d., and deduct his employee's salary whenever it is paid. In case the insurance card must be paid with a 7d. stamp in the ordinary manner the salary is paid. In the place the employer may settle his by writing to the Insurance Commissioners, stating the facts, and he must abide by their decision, or his employee desire to appeal to County Court. The third course of him is to do nothing at all. If he does nothing and to assume particular employee need not be he, of course, runs the risk of a fine for each offence, and also to the employer to recover the of any benefit the latter has lost on account of the employer's failure to him. On the whole, the better to obtain the decision of the Commissioners. But in most cases an will be able to decide for himself he must insure a particular at or not since the test of the rate remuneration, to which we have referred, is the main thing for him. In some cases, perhaps, his may raise the salary of an to so as to exceed the rate of 160l. Finally, we may add that an architect nor any employer should doubt himself about the total of any employee; the rate of pay he need consider for this purpose. As, of course, may arise as to a particular assistant is under contract of service, but whenever any doubt on this point he should obtain the decision of the Commissioners. We may say in conclusion that the should be administered through the Societies, and that those who are insured to be insured can only obtain the benefits which the Act provides for one of these Societies before the 15th of this year. Architects, of course, should endeavour to persuade their assistants to be compulsorily insured to one of these Societies at once. In another column a correspondent has made the suggestion that the Royal Society should consider whether it is to form a special approved for the purpose of administering in the interests of architects and assistants. We feel that, however, it might be to take this course the number of insured assistants were to be, the actual number of assistants insured will be too small to be successful. The exceptions and reasons which we have dealt with will, we believe, be so numerous that the number of the insured assistants will be comparatively few. But we do not wish to express any final opinion on the subject.

LECTURES ON ART.

On Monday asked the Secretary of the National Galleries, and whether, in view of the great interest attending the lectures at the Royal Edinburgh, he can see his way to give a series of popular lectures at the Picture Gallery during the summer months, or on Saturday afternoons, with a view to increasing the public knowledge of and interest in art. Mr. McKinnon Wood replied in communication with the Board of Directors of the National Galleries for their consideration with reference to the suggestion.

THE FOUNDLING HOSPITAL AND THE LONDON UNIVERSITY.

THE announcement that the site for the new home of the London University has apparently been chosen at last rivets attention upon the Foundling Hospital, a building well known to every Londoner for its associations rather than for its architectural qualities. The site, comprising somewhat over nine acres, is a fine one, and, situated as it is in the midst of Bloomsbury, with Brunswick-square on the west, Mecklenburgh-square on the east, and St. George's-gardens on the north, it is bounded by open spaces of considerable extent; and, with the British Museum within a stone's-throw, the *mise en scène* is probably as suitable for a great University as could be found within the London area. It must not be forgotten, however, that a large proportion of the site is already covered with buildings which, though not possessing any particular claims to the consideration of the architect, are nevertheless unobtrusive, while the block, as a whole, is a well-known landmark. We do not know to what extent it may be intended to remove these buildings, but we feel that it would be more than regrettable if the new home of the University, which must, above all, be monumental in conception and worthy of its purpose in execution, should be sacrificed to the temptation to remodel existing buildings which were set up for a very different object. In any case, the transference could not be effected in less than two or three years' time, and it will therefore be possible to develop the estate, form new approaches, erect new buildings, or remodel existing ones without any undue haste. At the moment we feel that our congratulations are due to the authorities on the selection of a site which has much in its favour, though it might have been more advantageous as regards the development of this part of London had one been selected which is now covered with insignificant dwellings and which could be cleared for its new purpose. There would then have been two large areas to develop on fine lines instead of one, and the chances of sacrificing an interesting XVIIIth-century group to the demands of progress would have been lessened.

On the north side of the site is Guilford-street, which forms part of the south-eastern boundary of the parish of St. Pancras; this forms the approach to the Hospital, but it does not follow that eventually it will be the main approach to the University.

Every Londoner is familiar with the statue of Thomas Coram, master mariner, which stands between the entrance gates facing Lamb's Conduit-street. Coram it was who founded the institution, which was established by Royal Charter in 1739 "for the reception, maintenance, and education of exposed and deserted young children." He was actuated by the same charitable interest that inspired the erection of similar institutions on the Continent, notably in Paris and Amsterdam. Actual building operations do not seem to have been begun for several years after the granting of the Charter, for the Governors first opened a house for

"foundlings" in Hatton-garden. Eventually Theodore Jacobsen was entrusted with the work, and the first influx of children into the existing buildings took place in 1745, and ever since that date they may be said to have been occupied to their full capacity. It cannot be claimed for Jacobsen that he made the most of his opportunity, for he produced the dull brick and stone building which, in spite of its dimensions, its setting, and its date, has never excited the enthusiasm of even the least captious critic. That such an important scheme should have been placed in the hands of a man who was a merchant, carrying on business in his earlier days in the Steelyard, is one of those remarkable instances of the amateur architect coming to the front, of which history possibly records too many. "He latterly resided in Basinghall-street, and practised architecture. Besides other buildings he designed the Haslar Royal Hospital for Sick Soldiers at Gosport and the Foundling Hospital, of which he became a Governor. He was a Fellow of the Royal Society, of the Society of Arts, and an original Fellow of the Society of Antiquaries after the granting of its Charter."*

The building consists of a central block with deep projecting wings, symmetrically planned with a large open space in front, where the children may be seen exercising any day, and extensive gardens at the back. The wings originally were connected with the main block on the ground floor only by means of an arcaded gallery; this has been altered, and extensive additions have been made from time to time on the east side and in the rear of the main building. But if the structure has no special interest for the architect, some of the treasures housed there undoubtedly have. William Hogarth was numbered among the earliest Governors; he gave liberally of his money and talent, and the Hospital to this day boasts the possession of three works from his brush, two of which, the portrait of Captain Coram, 1740, and "The March of the Guards to Finchley," 1750, are notable specimens of his work. In the Court Room is a remarkable series of painted medallions depicting the London hospitals—one by Gainsborough—and all forming part of the scheme of the decoration of the room, the plaster festoons and wreaths around the medallions being modelled in harmony with the rich decoration of the plaster ceiling. In the Chapel, which was enlarged in 1872, is an altar-piece painted by Benjamin West, and an organ, which was presented by Handel, though little of the original instrument is left. Handel often presided at performances of his oratorio, "The Messiah," and the proceeds of these most popular musical gatherings substantially filled the coffers of the institution. Whatever may be the ultimate fate of the Hospital building, we may be sure that the heirlooms it now contains will be carefully guarded, and we shall watch the development of the site and its surroundings with great interest and expectation.

* "Notes on the Later History of the Steelyard in London." Communicated to the Society of Antiquaries by Philip Norman, Esq., LL.D., 19 0, and reprinted from "Archæologia," Vol. LXL, with a portrait of Jacobsen, after the fine painting in the Hospital, as frontispiece.

NOTES.

The Old
Globe Room.

IN a recent "Note" we referred to the exhibition in London of the Old Globe Room from the Reindeer Inn at Banbury. Sir Laurence Gomme, in a letter to the *Times*, has also expressed his opinion of this sort of transplanting in much stronger terms than we cared to use. The Old Globe Room has, it appears, after all, been "saved for this country," according to the views of a certain section of the Press. But saved by whom and for what purpose? To be replaced in its natural position or to decorate the mansion of a wealthy Englishman instead of a wealthy American? The air of mystery which has surrounded the whole transaction still remains. First we have the somewhat dramatic removal of the room, followed by a little flutter of agitation in the Press, "Cannot this national treasure be saved?" and so on—the sort of music, in fact, that usually precedes the entry of the American millionaire into negotiations of this kind. The American millionaire duly appears. We do not know whether this gentleman repents of his bargain or not; but with rare magnanimity he wishes to protect this country, as it were, against itself by parting with his bargain at the price he paid for it. This estimable and anonymous American has apparently greater regard for our historical records than we have ourselves. More orchestration in the Press. Then enters the hero of the whole affair, the scion of a noble race, it is whispered (for he is also anonymous), who relieves the American of the room—and a national treasure and British honour are saved, although we are still left a little in the dark as to the ultimate destination of the room. But in its larger aspect this is only the beginning of the drama. There will be a "boom" in the parlours of ancient inns which possess nice examples of Elizabethan, or even older woodwork. Scattered about the country there are many such specimens, which would not, we imagine, be scheduled under any Government Act for the protection of ancient monuments. If we are to enter into competition with America for the possession of these records of the past, it will prove a costly game, and probably will provide a rich harvest for those concerned in their commercial exploitation.

French
Textiles at
Kensington.

THE French *Mobilier National*, the modern department of the Ministry of Fine Arts, which has inherited the treasures entrusted to the *Mobilier de la Couronne* in the days of the Louis, has courteously lent to the Victoria and Albert Museum a very fine collection of Gobelins tapestries, Savonnerie carpets, and silken fabrics, all of which are on view until October in the North Court of the Museum. The tapestries—seven in all—have never before been exhibited outside France. They are reproductions of Raphael's famous frescoes in the *Stanza* at the Vatican, and belong to an early and good period of Gobelins manufacture, having been

executed between 1682 and 1714. The most interesting example is that depicting the Expulsion of Heliodorus from the Temple at Jerusalem, which is lower in tone than the others, owing to the introduction of a metallic thread in the weaving. This is a peculiarly satisfactory piece of tapestry of its period, and shows the Gobelins work at its best. It is worth noting how, in the picture of Apollo and the Muses which was originally painted round an arched window space, the void left by the window has been characteristically filled by the French adapter with a landscape foreground of a stream and swans; while the corresponding space in the *Miracle of Bolsena* is occupied by a relief of our Lord's charge to S. Peter, founded on the Raphael cartoon now at S. Kensington. The four large Savonnerie carpets, part of a set made for Louis XIV., are wonderful examples of early French pile carpet manufacture, though they suffer from the lack of appropriate surroundings. They simply cry out for the salons of Versailles and the furniture of the period. Their design, of course, is not such as appeals to modern English taste—it is too overloaded, too florid, and too restless, but none the less it is of its own type really masterly, vigorously drawn, and, for all its apparent confusion, carefully planned. The silk fabrics—velvets, brocades, damasks, and lampas—belong roughly to the period of the First Empire and the Bourbon Restoration, and are very characteristic specimens of the work turned out by the Lyons weavers. As to the designs, they are of their day and generation, but the colour of some of the lampas, the texture of the velvets, and the fine technique generally will appeal to all lovers of beautiful stuffs. There are many who will be grateful for the opportunity so generously afforded them by the French Government, of seeing some of the most perfect of the national manufactures of their country.

The New
Gallery.

THE vicissitudes of the New Gallery, Regent-street, are becoming difficult to chronicle. The site was once occupied by Newman's livery stables, which were converted into a co-operative meat market. Then, after the secession of the artists from the Grosvenor Gallery in 1887, the New Gallery came into existence on the site, Burne-Jones being the life and soul of the undertaking. Erected by Messrs. Peto Bros. from the designs of Mr. E. R. Robson, who was recommended to the Committee by Mr. Philip Webb, the new building was the scene of the Tudor, Stuart, Guelph, Victorian, and other exhibitions, including many devoted to modern art. The one organised by the Arts and Crafts Society in 1910 was the final one held in the Gallery. Mr. F. T. Verity then made the alterations which transformed the building into a restaurant and Weiner Café. Last week a sale was held of the equipment, and in October, it is understood, the New Gallery Cinematograph de Luxe and Tea-rooms will be opened. "You will enter in Regent-street," wrote Burne-Jones, in reference to the original scheme, "and at once, in five paces, be in a marvellous place reminding you of

Cairo and Damascus, and in a minute, without going up one step, will be gazing on pictures—such happen to be." After about a century this prophecy seems to be as applicable as ever. The same vital æsthetic principles which predominate the present enterprise

Credit to
Whom it is
Due.

A LETTER from Mr. Jackson, R.A., was published in the *Times* of 20th inst., in which tribute was paid to the contributors who have been at work during the past few years in underpinning the foundations of Winchester Cathedral. As a rule, it is the architect who suffers from want of recognition for his professional etiquette, rarely does he prevent him from drawing attention to his work by notice-boards placed on buildings in progress, or by the means open to the general public. Such information, if it should be sought for and obtained, should be public Press when a building is described. The *Times* itself was of a lapse a few days before the publication of the letter mentioned. Referring to the celebrations at Wick School, Yorkshire, and "wonderful chapel finished in the smallest detail that art and wealth suggest," the writer further described the building as "one of the most perfect it is certainly the most striking, modern school buildings of England." Yet the name of the architect, T. G. Jackson, R.A., was left out of the eulogy was robbed of much of its value. When the excellent presiding buildings becomes common, there will be less excuse for such omissions than there is at present.

PICTURE EXHIBITION.

WHISTLER once said to a friend, "What has an artist to do with sentiment? Sentiment is a word for maids," or words to that effect. He was nothing in his conversational writings if not brilliant or paradoxical, verbal fireworks answered the purpose of the moment, and often sounded like a thought, but time has shown that he was only fireworks after all. In his painting, in his etchings, Whistler's most sincere expression of himself was his occasional lapses into argument, literature, and while we are looking at his pictures or his etchings we can discover the meaning of his phraseology and the milkmaid. He was certainly free from the kind of sentiment which dominated the art of British painting at the time when Whistler, in the life and at the height of his talent, denied serious hearing both by his painters and the public. The emotional, the merely pretty effect, which was much in vogue, was certainly the part of his life, and he was influenced by the thought of the early sixties, which began to find expression in the painting, and which sought to in the aspect of life and things, curious as the commonplace aspect of life which were rejected by the Academy. We cannot say that these social conditions were establishing a new of beauty or any new dogma in art, but recall the work of earlier painters

utch, and Spanish schools; but even—the early impressionists, for were experimenting in new theories. Lord Morley, who never himself to a loose statement, said at "history never repeats itself"; only Manet, Degas, and the rest, indebted to certain masters of were not repeating history while in a tradition which at intervals itself in the art of painting. The others carried perhaps the spirit of and warfare, engendered by misunderstanding, and neglect, to Whistler encountered the same, but we can find no expression in of a temper pushed to violence or on. Assertive and in some, less as his personality was, his expression never carried emphasis certain point of suavity and in his insistence upon his own outlook, in his arrogant independence, frank, almost impertinent we recall the picture of a dancing with impatience on the of Paris and flinging insults and to a duel to the Irish critic who led him—all these characteristic of the man never, we think, with the equilibrium of the artist execution of his work. We cannot that Whistler ever approached etching-plate save in a spirit conscious and sincere humility, in of an earnest searcher after the of subtle shades of beauty. We at his position as a painter has yet to shed; as an etcher he surely ranks on and Seymour Haden. With a man much in the public eye as Whistler, personality was so assertive, whose himself was apparently so abundant, let it be said, suffered from so much icule and official antagonism, it is little difficult to dissociate the man from circumstances from his work. The leaves controversy has also certainly the difficulties of arriving at a just of the value of Whistler's actual ment. But apart from these cons, his delicate appreciation for ings in colour was, after all, the a self-conscious and small master, of a great master; he had not the powers, the rich outpouring, of the eters in which self-consciousness is He was a sensitive child of his brought into the art of painting of the neurotic quality which the et-poets of the type of Arthur and Gerard de Nerval—brought into a later epoch. Perhaps he strove, curious and investigating mind, to nances which are beyond either the of words or colour; and which, indeed, are expressed, would not perhaps very far. We have, we fear, in our brief led a little astray from its main which was to call our readers' to the fact that an exhibition of work was opened last week at the Gallery of British Art (the Tate). We are grateful to the Director of try for the enterprise which he has for the choice of his recent special as of work by deceased artists. First the work of Alfred Stevens, then that of onse Legros, and now we have The last exhibition is probably the quietly representative of the three. no etchings; and Whistler's master-portraiture, the portraits of of Sarasate and Carlyle, are probably ibly absent. But these are so well that the gaps may be filled in the of the spectator. We have, on the ad, his famous "Little White Girl," Alexander," "At the Piano," and "little Cardinal," as well as his also, various "Nocturnes" and onies," some of his small more or and figures in pastel, a few studies sky and sea, and two Venetian

pictures, which are sufficient to indicate the breadth of the artist's interest and his care for style.

The London Salon is holding its fifth exhibition at the Albert Hall, and would now seem to have taken a permanent place among our annual picture shows. Architecture is only represented by one set of drawings; greater advantage might be taken by architects of the opportunity which the ample space at the Albert Hall provides for elevations and plans to a large scale which could not find accommodation in the small gallery devoted to architecture at the Academy. Architects are possibly a little afraid of the character of the exhibition as a whole, which corresponds to that of the Independents in Paris, both in the democratic character of its constitution and, as it happens, in the type of work exhibited. London apparently has its *fauves* as well as Paris, although in the latter case they are less fierce, less romantically savage. The value of an exhibition of this kind is that it shows influences, tendencies which are coming into being and which, rightly enough, are not permitted expression on more academic walls. The present exhibition reveals, for instance, an under-world of effort in directions that would otherwise have remained unsuspected. Professor Selwyn Image said the other day at Birmingham that "the basis of art is not cosmopolitan, but national"; we wonder what he would say to this whiff of the Quartier Latin which has blown across the Channel, to these brilliant palettes which were first devised by painters prompted rather by the spirit of scientific investigation concerned with the translation of the laws of illumination and light into terms of paint, than by ideas which more properly belong to the realm which we call art. There are many imitators of this type of work at the Albert Hall, as well as disciples of most of the later wilder movements. Gauguin even finds followers among artists who are probably as great strangers as ourselves to the semi-barbaric life of Tahiti which influenced so largely the character of the French artist's expression.

THE ARCHITECTURAL ASSOCIATION:

SCHOOL OF ARCHITECTURE.

THE usual exhibition which marks the close of the School year was opened by the President, Mr. Gerald C. Horsley, on Friday last, July 19, at 18, Tufton-street, Westminster, S.W., and was attended by a large number of parents and friends of the students, besides many members of the architectural profession.

Mr. Horsley, before announcing the awards for the year, remarked that he need hardly apologise for the fact that merely a small selection of the past year's School work was shown, because he felt convinced that the departure they had made from the usual practice, by exhibiting work executed by past students since leaving the School, was completely justified by the result. From the cursory inspection he had already made of the drawings by the students at present in the School, he was satisfied that the quality was quite up to the standard of excellence to which previous exhibitions had accustomed them. He congratulated Mr. Maule upon the happy inspiration which had induced him, with such success, to bring together so varied a collection of work executed by students who had received their training in the School, and who had since gone out into the world. He was convinced that friends of the Association would view the exhibition with extreme interest, illustrating, as it did, in a most practical way the actual result of the School's system of instruction.

The School in its present form had been in existence eleven years; its curriculum embraced a two-year course in the Day School, followed by a two-year course in the Evening School, the latter being attended by students after leaving the Day School and entering an architect's office. Students who passed satisfactorily through the complete four-year course received a certificate exempting them from

the R.I.B.A. Intermediate Examination. He now wished to announce that a third-year course in the Day School was being instituted, and that the R.I.B.A. had consented to accept this extra year in the Day School as an equivalent to two years in the Evening School, and to grant a certificate of exemption accordingly. In addition to this he was pleased to be able to state that, as a result of negotiations with the Royal Academy authorities, an arrangement had been arrived at whereby students who had completed their three years' training in the Association's Day School would be admitted to the Academy Schools without being compelled to pass the usual preliminary examination in subjects other than design. It would be the policy of the Association to encourage their students to pass on to the Academy Schools, as the advantage to them in being brought into contact with those engaged in the arts of painting and sculpture would indeed be great.

Now that these opportunities were offered he sincerely hoped that the students would make full use of them.

Professor Beresford Pite spoke of the pleasure he had derived from his intimate connexion with the School during the past year in the temporary capacity of Director of Education, and commented upon the enthusiasm which induced the students in the Evening School to apply their energies so admirably to their work in the evenings, after a strenuous day in a busy office.

Mr. H. P. G. Maule, the headmaster, urged the necessity of hard work on the part of the students, and in calling attention to the most notable of the exhibits sent in by past students remarked that these were the work of men who at the commencement of their training in the Association's Schools showed no greater ability than the average student, and counselled the present students to take courage from this fact, and to realise that success would only come through persistent work.

He welcomed the new third-year course because he had always felt that the time spent in training an architectural student was inadequate, and he pointed out that, in comparison with other professions, the usual period for study was extremely short. He hoped that before many years it would be considerably extended, and indeed this would be essential if we were to keep pace with other nations.

List of Awards and Prizes.

The awards announced by the President were as follows:—

DAY SCHOOL.

First Year.

Book Prize for first place in History Text paper and general excellence in this subject—*M. T. Waterhouse.*

Book Prize for first place in Construction Text paper and general excellence in this subject—*A. S. Furner.*

Architectural Association Sketch Book for first place in Freehand Drawing—*A. S. Furner.*

The Studio Prize: Best portfolio of drawings made during Session—*A. S. Furner, M. T. Waterhouse (equal).*

Hon. mention and authors of drawings selected for School portfolio—*M. H. C. Doll, C. J. Brooks, W. A. Forbes, H. F. Goslings, J. Burford.*

Second Year.

Travelling Studentship 15*l.*, for studio and lecture work during Session, 1911-12, and general progress—*H. J. H. Dicksee.*

Specially commended, and Special Prize given by Headmaster—*H. G. Satchell.*

Hon. mention for general progress during Session—*R. S. Wallace, E. C. Davies, J. S. Hodges, W. W. Locke.*

End of Session Test.

Subject: "A Study for a Market Hall." Award and Prize given by Mr. Gerald C. Horsley, President Architectural Association. Study placed first, *E. C. Davies*; study placed second, *R. S. Wallace*; study placed third, *H. J. H. Dicksee.*

Drawings selected for presentation to School portfolio—*H. J. H. Dicksee, E. C. Davies, H. G. Satchell, R. S. Wallace, W. W. Locke.*

Students recommended for the Association Two Years' Course Certificate—*E. C. Davies, H. J. H. Dicksee, J. S. Hodges, H. G. Satchell, H. G. Tebbutt, R. S. Wallace, W. W. Locke.*

EVENING SCHOOL.

First Year.—Book Prize, value 2l. 2s. H. A. N. Medd; Second Prize, value 1l. 6d. F. W. Mackenzie; hon. mention, H. S. Davis.

Second Year.—Scholarship, free pass to Third Year, value 15l. 15s., J. B. M. Walsh; Book Prize, value 2l. 2s., E. K. Smith; hon. mention, A. J. Thompson.

Third Year.—First Prize, Scholarship value 15l. 15s. divided between D. J. Gordon, T. W. Dowsett; hon. mention, H. F. Prynn, H. D. Archer.

Fourth Year.—Travelling Studentship, value 15l., A. T. Hardman; Book Prize, value 2l. 2s., T. F. Ford; hon. mention, T. F. H. White, F. P. Spooner, D. W. Stuart.

EXHIBITION OF DRAWINGS BY PAST AND PRESENT STUDENTS.

It was a happy idea of the Association to combine drawings by past students in its annual exhibition of the work done in its schools. The critic has the opportunity of a lucid review of the general tendencies of the teaching; on the first floor he may see with large what is in embryo on the top floor. This at least in theory; in practice the exhibition suffers both from want of space and a certain lack of generosity in the arrangement. Want of space drives the work of the first-year students up to the attics, where perhaps few save fond parents will adventure—to find the drawings of some half-dozen representative students pinned a little casually round the walls. More might have been done to make this work tell, by giving each student's work a large strainer to itself, by labelling it definitely, by adding a short printed explanation of the methods of teaching in the first year, which would give the critic an opportunity of seeing what the student was at—whether the measured studies are from actual buildings or from plates, what liberty is allowed in the choice of what he will measure and sketch. In studies of village club and almshouse, of woodwork from South Kensington, of the Orders, of working drawings for a small house, there is a pleasant, if somewhat timid, earnestness. Both for future use and for the immediate development of scholarly precision all studies from museums or from plates should be annotated in the fullest possible way by the student, with date and catalogue number, and everything else which makes for clearness. This is particularly the case with the Orders. The novice is brought up abruptly here against something which has for him at once the unreality of a diagram and the inevitability of the Athanasian creed. He should be encouraged to work out for himself the pedigree of the Orders, whose proportions were in his own day disregarded, and fathered for the modern world by the architects of the Renaissance who were unblushingly inaccurate when it suited their purposes. This should lead him to investigate for himself, in museums or in the archeological drawings of Prie de Rome students, the many modifications of Greek and of Roman Orders; and if he annotates his sketches and notes freely and fully he may at last come to feel them as something interesting and perhaps alive. Those whose chief impression of the Architectural Association is of a building, sombrely apparelled in casts would expect to find among the work of the first year more fine freehand drawings of ornament in charcoal, pencil, or pen.

The work of the second-year students and of

the evening school is shown to better advantage round the walls of the upper gallery. In the second year are pleasant designs for stone almshouses, for village churches, half-timber work, gateways to Greek maritime towns, and a thorough measured study of S. Kenelm, Minster Lovell. There is a lack of freehand work. Much of it is pleasing, none of it arresting. The charm of homeliness is the last quality of an experienced master. Ought not the student in his second year to be given rein a little more, to have some big colour-scheme to do a great bridge, a cathedral tower? "Shades of the prison-house begin to close": the sound of the telephone is already in his ear. Before the office claims his day there is the opportunity to exercise his imagination in big design.

For it is perhaps this same quality of imagination that seems a little lacking in the well-drawn and thorough work of the evening school, in the designs for a school chapel, a Georgian house, a garden tea-pavilion. A tea-pavilion may reasonably be fanciful—Italian, delicately Greek, even Egyptian; it depends on the character of the garden. But to make it monumental is to lack fitness; to make it face the four winds of Heaven is impractical. A school chapel, again, the centre of an intense, if shifting, life, the focus of many aspirations, a sudden memory in Canadian wheatfield or Rhodesian scrub, is capable of highly imaginative treatment. There is a little want of spaciousness and joy about the designs. Some are cramped at the east end, many have a middle passage only 6 ft. wide; these have met the material needs, accommodation and cheapness, rather than the spiritual, the creation of a building that shall worthily be the centre of the vivid life of a public school. Many of the drawings are interesting and good, and the combination of working-drawing and stress-diagram is one of the strongest features of the advanced work at the Association. The introduction of an usher in cap and gown, and presumably 6 ft. high, on a drawing cannot be held to do away altogether with the need for a scale. This is, indeed, a noticeable want in many cases.

It is not altogether clear upon what lines the drawings of past students have been arranged. The exhibition is, it may be, characteristic of the versatility of the Association teaching. In any case, it is well worth going to see. There are Royal Institute of British Architects' prize drawings and photographs of cottages at Olden Park, working drawings of camp buildings and mausoleums from Paris, water-colours, and pencil sketches and competition designs from Marblebone and the Port of London. In an exhibition of the kind more might have been made of the chance of combining working drawings with photographs of finished work. As it is, it is all a little haphazard. Many of the best drawings have been seen before. Mr. Maxwell gives us a valuable summary of the facts rather than the charm of Compton Wynnyates. Mr. Robinson's preliminary studies for the Soane Gateway are worth seeing. His finished design is perhaps overburdened with the multiplicity of earlier ideas. There is much else in the way of excellent drawing and design by those who have lately left the Architectural Association. The complete stress-diagrams of Mr. Hepworth's frontier custom-house would have been a valuable complement to his effective water-colour. A key sketch or a picture-postcard is wanted as a guide to the elaborate, perhaps harsh, set of drawings of the Queen Mary block

at Greenwich. There are many ways to see in the lecture-room. On the exhibition is of considerable wealth; a little invertebrate.

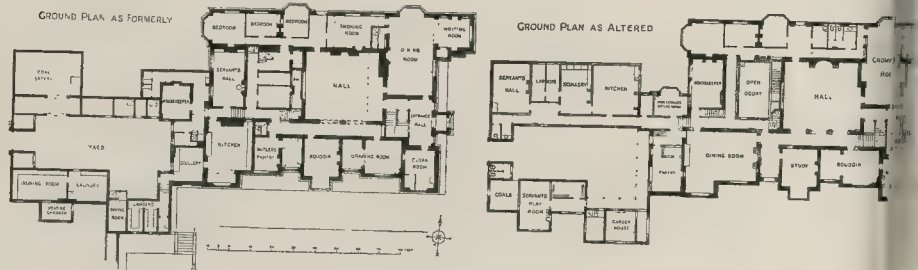
The exhibition will remain open Tuesday, the 30th inst.

THE ARCHITECTURAL ASSOCIATION.

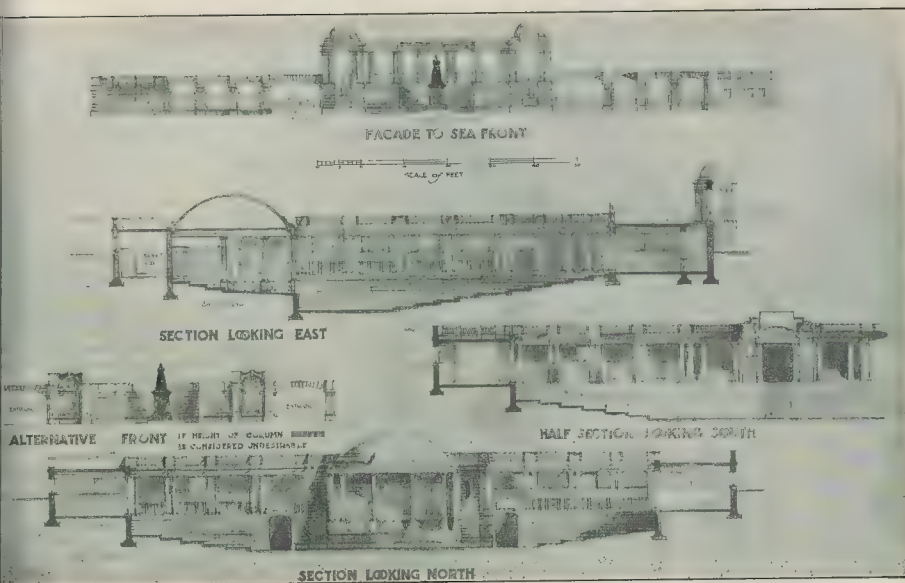
CHEQUERS COURT, Buckinghamshire, the objective of the last summer Session on July 20, and was reached from Princes Risborough Station, halting en route for a brief inspection of the borough Church, finely placed on top of a hill.

Chequers Court, a fine brick and stone of the style of Moyns Park, has a most interesting history of remarkable both historical and architectural. Lee, M.P., who most kindly re-entertained the party, fully appreciated the quality of the house, and obvious the fascinating task in which he is that of winning back something of form and spirit. The earliest part of structure dates from about 1490, but the house belongs to the second XVIIth century, for about 1665 William remodelled it, leaving the house with the open side facing south; he characteristic bays, and entirely in it. About 1630 the courtyard in by a new range of buildings to and subsequently considerable damage culminating when the splendid brick stuccoed over, and sham battlements wholesale.* All trace of form and gardens had been obliterated early century. Mr. Lee, acting on the Mr. Reginald Blomfield, A.R.A., we are indebted for the plans herewith, has changed all this. has been replanned, the windows new plaster ceilings modelled examples from contemporary have been formed, panelling has been doorways opened out, the fine stables from obscuring additions, and in the house has been restored to condition. Considerable alterations interior have been made, and an office wing built from Mr. Blomfield. The house lacked an adequate entrance porch with bay above has been added east front. An area has been enlarged internal court, and the whole of the house has been reconstructed from the Blomfield. The kitchen and its outbuildings inconveniently occupied an obtrusive on the south front, have been removed one-story wing at the south-west, present the north front is the only satisfying as regards its setting. The so of lofty wall, topped by five parallel simply divided into three stories, string courses level with the windows its two stories of simple four-transomed windows alternating with below the range of smaller windows, all this rising from a level stretch of with flag-paved pathway, gives a pleasurable impression of structural naturalness and its resultant beauty.

* The stucco was removed on the Reginald Blomfield, A.R.A., some fifteen



Chequers Court, Buckinghamshire: Plans.



Proposed Bandstand, St. Leonards-on-Sea: First Premiated Design. By Mr. Philip Tree, F.R.I.B.A.

BANDSTAND, ST. LEONARDS-ON-SEA.

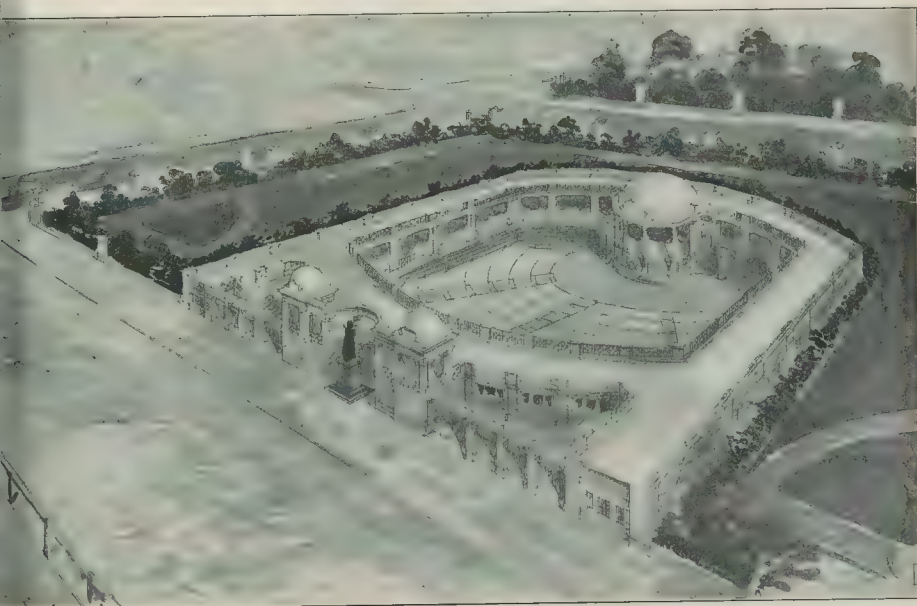
competition for a sunk arena and band-stand at the lower Warrior-square Gardens, St. Leonards-on-Sea, was decided in June, 1911, Mr. W. Wills, A.R.I.B.A., of London, being successful. The first premium, as already mentioned, was awarded to Mr. Philip Tree, A.R.I.B.A., of St. Leonards-on-Sea, and 63,

Queen Victoria-street, and the second to Mr. C. G. Boucher, A.R.I.B.A. Both designs are illustrated in this issue.

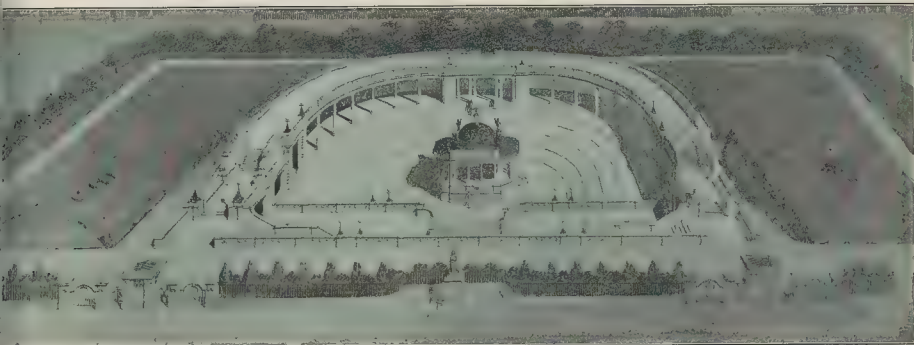
Twenty-three designs were sent in, and Mr. Wills considered that Mr. Tree's design submitted under the *nom de plume* of "Practical," was "a very carefully-thought-out scheme of considerable architectural merit, and the nearest approach to a solution of the problem."

Mr. Tree writes:—"The general lay-out provides for the adequate accommodation of a

large body of people, completely sheltered from the prevailing south-west winds and inclement weather, with the seating of the arena so arranged that the audience shall not face the sun. The bandstand, it should be noted, is placed on the northern side, and not in the centre, as is so often the case. The levels have been managed by a series of slopes, so that there are no steps to descend to the shelter, colonnades, or enclosure. This renders it easily accessible to invalid chairs. Provision is made for the



Proposed Bandstand, St. Leonards-on-Sea: First Premiated Design. By Mr. Philip Tree, F.R.I.B.A.



Proposed Bandstand, St. Leonards-on-Sea: Second Premiated Design. By Mr. C. G. Boutcher, A.R.I.B.A.

rs, Messrs. Palgrave & Co. Including
t has cost nearly 100,000. From these
ters the Government will operate the
plying to the whole of the United

Gallery of British Art, Millbank.
rently with the exhibition, opened on
of paintings by J. M. Whistler, there
n placed in the Stevens Gallery the
lar plaster panel designed by Alfred
for the top of the mantelpiece of the
at Dorchester House—a gift by the
Art Collections Fund, and five small
cast from plaster models made by
for the decoration of the dome of St.
Cathedral—presented by Sir Charles

Edward Memorial, Huddersfield.
P. Bryan Baker, of Chelsea, is the
of the bronze figure of King Edward
uch has been erected in the Royal
y gardens. The figure, 8 ft. 6 in. high,
a granite pedestal, upon which are
blematical of Sympathy, Industry,
ce. His Majesty is presented in the
ith insignia, of the Garter, holding the
n his right hand, and in his left the orb
ted with a figure of Fame.

Sir Francis Fox, M.Inst.C.E.
Francis Fox, M.Inst.C.E., upon whom
g has just conferred the honour of
ood, is a son of the late Sir Charles
E., and a member of the firm of Sir
Fox & Partners. Upon the nomina-
our Government he was appointed by
leral Government of Switzerland as
a committee of three experts upon
ng for the construction of the Simplon
He is Chairman of the British Radium
tion, and member of the Engineering
ds Committee, and has brought out
upon the Mersey and Simplon Tunnels,
Cape and Cairo Railway. As a consult-
ner he was associated with his elder
lato Charles Beresford Fox on some
dertakings, and was connected with the
on to London of the Great Central
r, the Great Northern and City and
Cross and Hampstead Tube Railways,
electrical equipment for power supply
mines of Johannesburg and the
ersrand.

Monumental Tablet to Florence Nightingale.
s are being sought for the placing of a
al tablet to Florence Nightingale, in the
of Wellow, near Romsey, Hants, where
s born and buried. Wellow Church is
country structure, its chief claim to
consisting of some fine wall-paintings
uting the Saviour with the twelve
s. These were only discovered a few
ago beneath the whitewash, during the
t cleaning.

Victoria and Albert Museum.
e Parliamentary papers Mr. Grant asks
estions of the President of the Board of
ion, viz.—(1) Whether, besides placing
signs for various materials in proximity
objects of cognate material in the
s of the Victoria and Albert Museum, he
ow cause the remaining portion not so
o be transferred to the departmental
rooms; and (2) whether, in considering
posal of the casts in the Victoria and

Albert Museum, the desirability of placing a
selection of them in the South Court of the
Museum amongst corresponding original works
will be kept in view.

Mr. J. Pease answers the first question in the
negative, and with regard to the second says
that the South Court of the Museum is devoted
to the collections of the department of metal-
work; and, in the consideration of the questions
regarding the disposal of casts, to which
reference was made in the answer given to Mr.

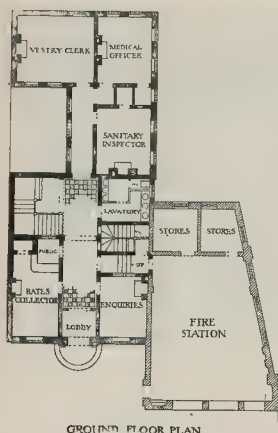
Grant on July 5, no alteration in the arrange-
ment of those collections is at present involved.

Gillingham (Dorset) Post-Office.

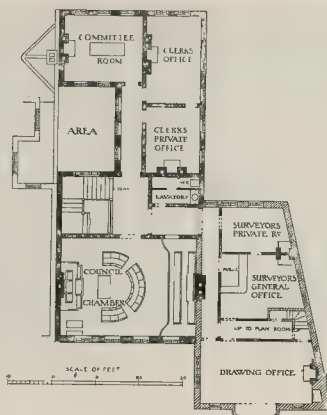
In Friday's Parliamentary papers Sir R.
Baker calls attention to the delay in the building
of the new post-office at Gillingham, Dorset, the
plans for which, he says, have been approved of
for twelve months and the tenders accepted by
the owner of the site for nearly six months.
The Postmaster-General, in reply, admits the



Proposed Additional Public Offices, Harrow-on-the-Hill: First Premiated Design. By Mr. H. Prince, A.R.I.B.A.



GROUND FLOOR PLAN



FIRST FLOOR PLAN

Proposed Additional Public Offices, Harrow-on-the-Hill: First Premiated Design.
By Mr. H. Prince, A.R.I.B.A.

delay, which he says is due to difficulties in connexion with the site, the high cost of the building, and modifications of the terms required by the lessor. It is hoped that building operations will be put in hand at an early date.

Warmington Church.

In memory of the fifth Earl of Carysfort, who restored the church in 1870, a new bell has been dedicated in Warmington Church, Northants, by the Countess of Carysfort. The structure, which is dedicated to St. Mary, is both beautiful and interesting. Throughout, the architecture is Early English, with the original nave roof groined in wood. The western tower is fine, but the chief feature is the nave of five bays, with its wooden groining starting from stone springers. The ribs of the nave spring from small shafts terminating in beautiful capitals of foliage, supported on corbels and representing priests and bishops. The adoption of the wooden groining instead of stone was probably brought about by the seeming weakness of the walls. From before the Conquest Warmington belonged to the "abbott and convent" of Peterborough, and so it continued until the dissolution by Henry VIII.

COMPETITION NEWS.

A list of current Competitions is printed on page 125.

New Baths for King's Heath.

The Baths Committee of the Birmingham Corporation met on the 19th inst. at the Council House. The award of the Assessor, Mr. A. N. Bromley, of Nottingham, in regard to the plans for the projected baths at King's Heath was received. His decision places Messrs. Crouch, Buller, & Savage, of Newhall-street, Birmingham, first, and the premiums go to Messrs. S. N. Cooke & W. N. Twist, Colmore-row, and Messrs. Round & Weaver, Newhall-street.

The Alhambra Theatre, London.

After a limited competition, Mr. Bertie Crewe has been appointed to carry out extensive alterations and additions to the Alhambra Theatre, Leicester-square. Part of the work will consist in cutting out the pit and carrying back the stalls on a suitable slope. At the back will be a parterre on the Continental system.

Huddersfield, Town Planning Scheme.

Liberal premiums are offered by the Huddersfield Corporation for designs showing how certain areas in the borough could be laid out advantageously. So far as we know, however, no architect has been appointed as assessor, and if this point is not settled competitors of experience will not enter. An announcement on the subject from the Corporation will be welcome.

New Municipal Building, Rangoon.

The conditions of this competition contain no mention of the appointment of a professional architect to advise in the selection of the best design. This is unfortunate, and the Committee

of the Municipality should take steps at once to remedy the omission. It is curious that this point should have been overlooked, for Clause 5 stipulates that if the successful competitor appoints a local architect to supervise the execution of the work such a representative shall be a member of the Royal Institute of British Architects. Only six architects connected with the Royal Institute seem to have offices in Rangoon, viz.—Mr. Ballardie, Mr. T. S. Gregson, Mr. Morris, Mr. E. J. Pullar, Mr. de Souza, Mr. Swales. Questions must be sent before September 21 to Mr. Launcelot P. Marshall, M.Inst.C.E., Chief Engineer, Rangoon Municipality, and designs must reach Rangoon by January 1, 1913. The selected design and the two premiated ones will be retained by the Committee, but all others will be returned to their authors, carriage paid. It is considered desirable that no tower or domes should be included in the design.

Public Offices, Harrow-on-the-Hill.

The accompanying design, by Mr. H. Prince, A.R.I.B.A., was placed first in the recent competition at Harrow. The existing offices and fire-station are to be incorporated in the new buildings and the existing rooms adapted to suit new requirements.

A Council-chamber is included in the new scheme (31 by 22), and other rooms are to be provided for rates, sanitary and medical officers, Committee, clerk, vestry clerk, and surveyor. Caretaker's quarters are also included.

The external walls are to be faced with 2-in. grey facing bricks, the jambs and arches to window-openings to be constructed with red-facing bricks. The roofs are to be covered with tiles.

The cornice is to be in Portland stone, as also the jambs and entrances on main front.

The floors throughout to be of reinforced concrete. It is intended to panel the walls of Council-chamber and Committee-room with English oak. The building is to cost 4,700.

Mr. William Flockhart, F.R.I.B.A., was the assessor in the competition.

Australian Capital City.

In addition to the awards to Mr. W. B. Griffin, of Chicago, and to the other competitors, Honourable Mention was made in regard to the design of Messrs. Schaufelberg, Rees, & W. H. Gummer, A.R.I.B.A.

BOOKS RECEIVED.

IRON AND STEEL CONSTRUCTIONAL WORK. By Karl Schindler. (London: Scott Greenwood. 3s. 6d. net.)

MEMORIALS OF OLD NOTTINGHAMSHIRE. Edited by E. L. Guilford, M.A. (London: G. Allen & Co. 15s. net.)

THE LAND UNION'S HANDBOOK ON PROVISIONAL VALUATIONS. (London: The Land Union. 3s. net.)

BUTTERWORTH'S WORKMEN'S COMPENSATION CASES. Part II. Vol. V. (London: Butterworth & Co.)

CORRESPONDENCE.

The R.I.B.A. and the National Insurance Act.—I have read with great interest E. J. Dixon's letter in your issue of inst., in reference to the above, and hope that the Royal Institute will consider the proposal and endeavour to administer the Act and safe interests of those architects and their who will be affected by the working of the Act. It is a very welcome addition to the Statute which has been forced upon us so late.

CYRIL E.

CEREMONIAL KEY.

THE silver-gilt and steel ceremonial key reproduced herewith was presented to architects, Messrs. Ashley & Winton Neave, on the occasion of the opening of the new extension of the Birmingham Art Gallery and Museum.

The key represents the Birmingham arms, and on the reverse side is the name of Mrs. Feeney in silver, richly chased. The shaft is in bright steel. The key was designed and made for the architect, Birmingham Guild, Ltd., 45, Great Street, Birmingham.



Ceremonial Key used in Opening of Birmingham Art Gallery.

ILLUSTRATIONS.

Port of London Offices.

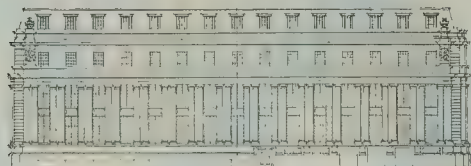
Week we referred at length to the important competition which culminated in the award of the first place to Mr. T. Edwin Cooper, F.R.I.B.A., and we have illustrated Messrs. Lanchester & Rickards have given us the

opportunity to reproduce their design, one of the six in the final competition, and we cannot do better than to quote from our article on the subject last week:—

"Messrs. Lanchester & Rickards submit a scheme which is finely conceived and well carried out. The lay-out is fan-shaped, with the short side to Trinity-square, the radiating sides fronting on Savage-gardens, and a new street to be formed roughly parallel to Byward-

street. The back part of the building forms a long and well-designed curving front.

Internally a broad hall runs from back to front, broken by an elliptical feature, the centre of which intersects with a curved top-lighted hall, which forms the public space of the Port Rates, Chief Collector's, Charges, Chief Superintendent's, Canvassing, and four smaller departments. Unfortunately, such a plan necessitates a large number of irregularly-shaped



Elevation to "St. Catherine's Court"



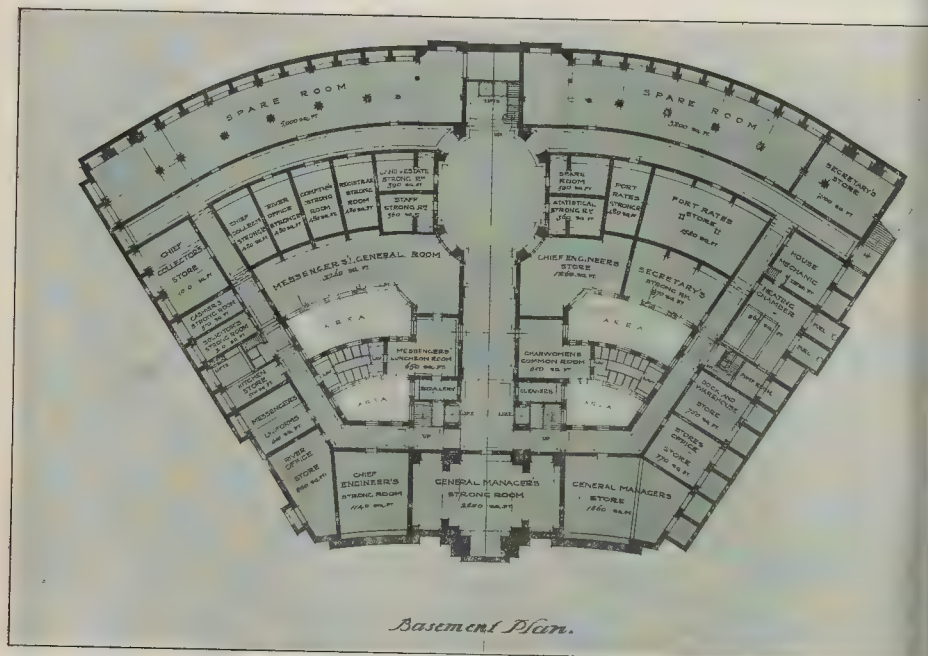
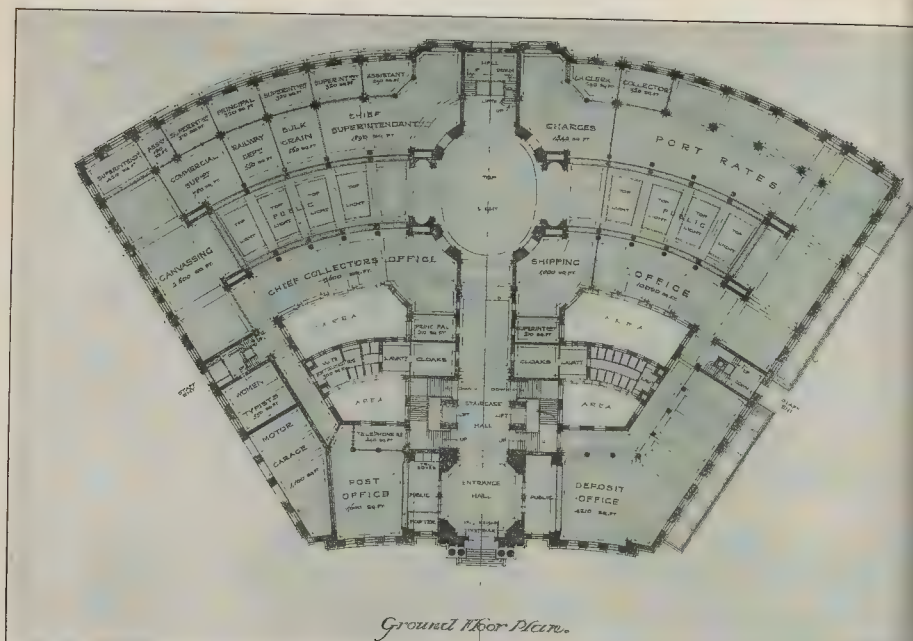
Elevation to "Trinity Square"



Longitudinal section thro' Main Entrance, Public space etc.

Port of London Authority: Competitive Design for the New Head Offices.

By Messrs. Lanchester & Rickards, F.R.I.B.A.



Port of London Offices.

Design by Messrs. Lanchester & Rickards, F.F.R.I.B.A.

rooms, which, however, may be considered of smaller importance in this than it would be in many buildings, as the requirements are largely utilitarian.

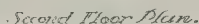
The treatment of the remainder of the site is skilful, a large area being left in rear of the new offices. Architecturally the scheme is both simple and pleasing, free from ostentation,

and very sober and dignified. A range of pilasters runs round the entire block emphasising the ground and first floors, surmounted by a simple stone attic story above which is a stone balustrade and mansard roof with dormers. The central feature is worked up very happily, and its receding stages are skilfully proportioned and well designed. There is a unity and har-

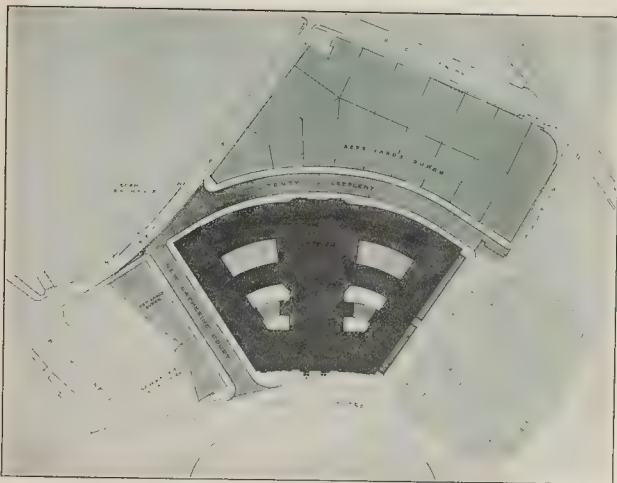
mony about the whole design which is characteristic of the work of Messrs. Lanchester & Rickards, among whose best efforts it will

Regent's Quadrant Competition.

It is competition, instituted by the proprietors of the *Builder*, was described



In the purposely steep pitched roof over, large dormer windows are provided which would amply light the showrooms behind.



Port of London Offices: Design by Messrs. Lanchester & Rickards, F.R.I.B.A.

To preserve a unity or harmony between the two structures, the same width between the columns in Mr. Norman Shaw's design is maintained in the new design; but instead of filling this up with heavy masonry a light metal treatment has been adopted, thereby obtaining the maximum of light for each floor.

Then by using single columns attached to riars the unnecessarily heavy cornice can be dispensed with.

To prevent a disagreeable gap between the two buildings it was found necessary to connect them by introducing some of the features of the one to the other and by a deeply recessed arch with solid attic over, having sculptured figures in the spandrels.

Provision has been made for the most up-to-date method of lighting shop-windows. The shop itself would be lit directly from the upper portion of the window glazed with prismatic glass. Within the window-cases provision is made for diffused artificial downward lighting, which is found to be the most agreeable method of lighting of goods. The sun-blinds would be attached to the top of these cases, and therefore would not interfere with the lighting of the shop when the blinds were in use. Where this is not observed it is generally found that the shop is considerably darkened, which greatly detracts from the proper display of the goods in the daytime.

A magnificent tea-garden could be introduced on the roof overlooking Piccadilly and the Mall, consisting of a light wooden pergola encircling the tea-garden, which would be sunk about 3 ft. below the level of the floor of the pergola, and would form a valuable attraction to the stores in the summer for customers.

The sculptured figures over the columns would be designed to depict the most refined costumes of the present day."

MEETINGS.

TUESDAY, JULY 23, to WEDNESDAY, JULY 21.
Royal Archaeological Institute.—Summer meeting, Northampton.

SATURDAY, JULY 27.
The Institution of Municipal Engineers.—North-Western District meeting at Clitheroe.

TUESDAY, JULY 30.
Institution of Mechanical Engineers.—Belfast meeting, in the hall of the Municipal Technical Institute, Belfast. 10 a.m.

WEDNESDAY, JULY 31.
Institution of Mechanical Engineers.—Belfast meeting, concluded, 10 a.m.

BOOKS.

Rambles in the Pyrenees and the Adjacent Districts, Gascony, Pays de Foix, and Roussillon. By F. HAMILTON JACKSON, R.B.A. (London: John Murray. 21s. net.)

This book follows on lines similar to those of the author's work on "The Shores of the

Adriatic," in so far as the places visited follow upon a continuous thread. The author has passed by those parts of the district well known to English people, and has devoted attention to places which are more or less fresh to the traveller; moreover, with the object of keeping the volume to a convenient size, he has limited the scope of the work to the French side of the Pyrenees. As on this side are many interesting and historical buildings, we are not surprised that Mr. Jackson has produced an entertaining book in describing the cathedrals, churches, castles, ruins, etc., in the districts covered by his rambles. He is not altogether concerned with architectural art in the course of his wanderings, though he has an evident love for it; but his gossip narrative includes notes, not only on the principal buildings but on the scenery, and such everyday events as a marriage, a funeral, and the hundred and one little adventures met with by the traveller in foreign lands. The author has much to tell, and he succeeds in interesting the reader in telling it—probably because he was interested himself and knew what to write about. A portion of the matter contained in the volume has previously appeared in our columns, but it has been revised, and, to a large extent, rewritten. Included in the work are some good illustrations from photographs by Mr. J. C. Ashton, while the author himself gives a number of his own effective sketches and drawings.

Municipal Art Galleries and Art Museums, their Scope and Value. By BERNARD DOUGLAS TAYLOR. (Manchester: J. E. Cornish, Ltd. Price 6d. net.)

ALTHOUGH the direct objective of this pamphlet is the Manchester Art Galleries, it bears also upon the conditions and development of art galleries in general. The value of provincial museums is at present greatly underestimated. The resources of local interests, historical and industrial, demand a more intelligent investigation than they now enjoy. And the first step toward this is set forth in the following utterance of Sir W. W. Flower, which the author quotes:—"What a museum really depends upon for its success and usefulness is not its building, nor its cases, nor even its specimens, but its curator." A curator of the first order will discover and co-ordinate material. He will create unexpected interests from the slenderest resources.

There need be no township traditionally too poor to own its museum. Local topography, as recorded in forgotten sketches and prints, has not been half exploited. The fame which a locality once boasted in some manufacture or production lies still buried in the ages. Then, the temporary exchange of exhibits with other galleries is full of possibilities. Unfortunately, notwithstanding the capabilities of curator or director, he more often than not is but an official cipher, the whole direction being in the hands of

a governing body. Mr. D. S. Macdonald, in a recent article in the *Nineteenth Century* has pointed out this situation.

The construction of galleries is too important a matter to be left to the whims of the Art Galleries of Birmingham and Manchester. This branch of the matter was well discussed by Mr. Edwin T. Hall in a paper read before the R.I.B.A. on April 1 last. Of the height of the cabinet, greater or less height, side lighting, are the chief controversial points.

Both gallery and cabinet have found their plan of the recent additions to the Manchester Art Gallery. It is found that the latter is easily supervised. If the improved method of hanging pictures only upon the line is adopted, a lofty gallery leaves a most undesirable feature that appears to swallow up the exhibit. Architecturally, height may be a factor.

Top lighting is almost invariably employed, yet the particular form this shall take is not agreed upon. It may easily be overdone, an awkward angle of light introduced, and in some instances been found necessary to suspend glass screens or velaria between the lights. We are inclined to think that the difficulties of lighting are largely due to the fact that no two pictures demand the same conditions.

FIFTY YEARS AGO.

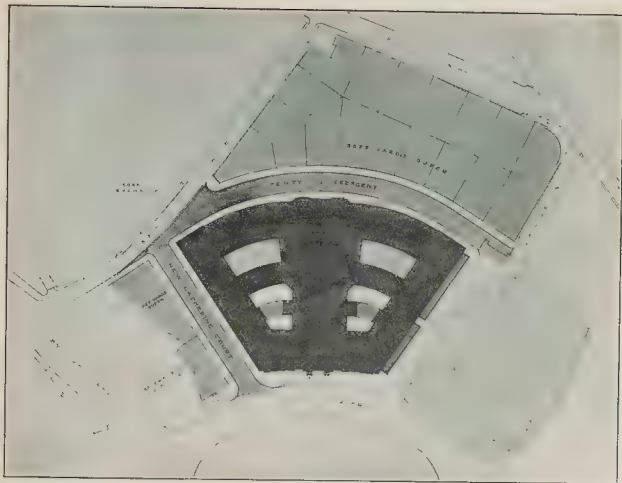
From the *Builder* of July 26, 1850.

Hampstead Heath.

EACH session of Parliament, notwithstanding the discouragement which the Government has received, renewed attempts are made to alter the title of the manor to obtain permission to build upon this open and picturesque ground; which is every month, as the police extends in this direction, becoming of greater value to the pent-up London. Not many years will have passed, if it be continued to the same extent as at present, before the Heath will be joined to North London by houses and surrounding all sides by dwellings; then the value of the land would be greater than just now conceive. . . . It therefore is an important matter for serious consideration how arrangements can be best made to secure this land for the public use.

* * In 1866, Sir Thomas Wilson, a pleader at all the cognomies, and that the Heath was now his property, began to build a house on the Heath. Upon this a strong opposition of Hampstead residents was formed. Large sums were subscribed for the purpose of trying the case in the Law Court. The proceedings dragged on for years, and issue seemed open to doubt. Sir Wilson died and was succeeded by his brother, who was open to compromise. Eventually the manorial rights on the Heath (with certain small exceptions) were transferred in 1871 by the Metropolitan Board of Works (now the London County Council).

In 1899, the Heath was more than doubled in extent by the purchase from the Mansfield and Sir Spencer Mayson respectively, of Parliament Fields at Park, containing together about 260 acres. Ten years later the beautiful estate of Hill at North End was bought by the executors of Sir Spencer Wells, the surgeon, and thrown open as a public park. Further, in 1907, some 100 acres were added at the northern end of the Heath, purchased of the picturesque field known as "Collins' Fields," then christened and more generally known as "Wylde's Farm," the old and euphonious name which has been adopted. Adjoining this last purchase is the New Garden Suburb, which, covering a large area already, is still in the process of erection. This, in brief, is the situation recorded in the paper above quoted, and for most of our information we are indebted to Mr. Mayle of the Priory Press, Hampstead.—Ed.



Port of London Offices: Design by Messrs. Lanchester & Rickards, F.F.R.I.B.A.

To preserve a unity or harmony between the two structures, the same width between the columns in Mr. Norman Shaw's design is maintained in the new design; but instead of filling this up with heavy masonry a light metal treatment has been adopted, thereby obtaining the maximum of light for each floor.

Then by using single columns attached to piers the unnecessarily heavy cornice can be dispensed with.

To prevent a disagreeable gap between the two buildings it was found necessary to connect them by introducing some of the features of the one to the other and by a deeply recessed arch with solid attic over, having sculptured figures in the spandril.

Provision has been made for the most up-to-date method of lighting shop-windows. The shop itself would be lit directly from the upper portion of the window glazed with prismatic glass. Within the window-cases provision is made for diffused artificial downward lighting, which is found to be the most agreeable method of lighting of goods. The sun-blinds would be attached to the top of these cases, and therefore would not interfere with the lighting of the shop when the blinds were in use. Where this is not observed it is generally found that the shop is considerably darkened, which greatly detracts from the proper display of the goods in the daytime.

A magnificent tea-garden could be introduced on the roof overlooking Piccadilly and the Mall, consisting of a light wooden pergola encircling the tea-garden, which would be sunk about 3 ft. below the level of the floor of the pergola, and would form a valuable attraction to the stores in the summer for customers.

The sculptured figures over the columns would be designed to depict the most refined costumes of the present day.

MEETINGS.

TUESDAY, JULY 23, to WEDNESDAY, JULY 31.
Royal Archaeological Institute.—Summer meeting, Northampton.

SATURDAY, JULY 27.
The Institution of Municipal Engineers.—North-Western District meeting at Clitheroe.

THURSDAY, JULY 30.
Institution of Mechanical Engineers.—Belfast meeting, in the hall of the Municipal Technical Institute, Belfast, 10 a.m.

WEDNESDAY, JULY 31.
Institution of Mechanical Engineers.—Belfast meeting, concluded, 10 a.m.

BOOKS.

Rambles in the Pyrenees and the Adjacent Districts, Gascony, Pays de Foix, and Roussillon. By F. HAMILTON JACKSON, R.B.A. (London: John Murray, 21s. net.)

This book follows on lines similar to those of the author's work on "The Shores of the

Adriatic," in so far as the places visited follow upon a continuous thread. The author has passed by those parts of the district well known to English people, and has devoted attention to places which are more or less fresh to the traveller; moreover, with the object of keeping the volume to a convenient size, he has limited the scope of the work to the French side of the Pyrenees. As on this side are many interesting and historical buildings, we are not surprised that Mr. Jackson has produced an entertaining book in describing the cathedrals, churches, castles, ruins, etc., in the districts covered by his rambles. He is not altogether concerned with architectural art in the course of his wanderings, though he has an evident love for and knows how to appreciate good work; but only on the principal buildings but on the scenery, and such everyday events as a marriage, a funeral, and the hundred and one little adventures met with by the traveller in foreign lands. The author has much to tell, and he succeeds in interesting the reader in telling it—probably because he was interested himself and knew what to write about. A portion of the matter contained in the volume has previously appeared in our columns, but it has been revised, and, to a large extent, rewritten. Included in the work are some good illustrations from photographs by Mr. J. C. Ashton, while the author himself gives a number of his own effective sketches and drawings.

Municipal Art Galleries and Art Museums. Their Scope and Value. By BERNARD DOUGLAS TAYLOR. (Manchester: J. E. Cornish, Ltd. Price 6d. net.)

ART over the direct objective of this pamphlet is the Manchester Art Galleries, it bears also upon the conditions and development of art galleries in general. The value of provincial museums is at present greatly underestimated. The resources of local interests, historical and industrial, demand a more intelligent investigation than they now enjoy. And the first step toward this is set forth in the following utterance of Sir W. W. Flower, which the author quotes:—"What a museum really depends upon for its success and usefulness is not its building, nor its cases, nor even its specimens, but its curator." A curator of the first order will discover and co-ordinate material. He will create unexpected interests from the slenderest resources.

There need be no township traditionally too poor to own its museum. Local topography, as recorded in forgotten sketches and prints, has not been half exploited. The fame which a locality once boasted in some manufacture or production lies still buried in the ages. Then, the temporary exchange of exhibits with other galleries is full of possibilities. Unfortunately, notwithstanding the capabilities of curator or director, he more often than not is but an official cipher, the whole direction being in the hands of

a governing body. Mr. D. S. Macdonald's recent article in the *Nineteenth Century* with this suggestion.

The construction of galleries is too important and comparative plans are given of the Art Galleries of Birmingham and Manchester. This branch of the matter was well dealt with by Mr. Edwin T. Hall in a paper read before the R.I.B.A. on April 1 last. The gallery, greater or less height, side lighting, are the chief controversial points.

Both gallery and cabinet have formed part of the recent additions to the Manchester Art Gallery. It is found that the latter is easily supervised. If the improved method of hanging pictures only upon the line is adopted, a lofty gallery leaves a most undesirable appearance that appears to swallow up the exhibit. Architecturally, height may be a factor.

Top lighting is almost invariably essential, yet the particular form this shall take is agreed upon. It may easily be over an awkward angle of light introduced, and in some instances been found necessary to suspend glass screens or velaria between lights. We are inclined to think that the difficulties of lighting are largely due to the fact that no two pictures demand the same conditions.

FIFTY YEARS AGO.

From the *Builder* of July 26, 1850.

Hampstead Heath.

EACH session of Parliament, notwithstanding the discouragement which the Government has received, renewed attempts are made to the lord of the manor to obtain permission to build upon this open and picturesque ground; which is every month, as the sun's rays extend in this direction, becoming of greater value to the pent-up London. Not many years will have passed, if it is continued to the same extent as at present, before the Heath will be joined to North London by houses and surrounding all sides by dwellings; then the value of the range of land would be greater than is now conceived. . . . It therefore is an important matter for serious consideration how arrangements can be best made to secure this land for the public use.

** In 1866, Sir Thomas Wilson, Bart., who had been the first to propose that all the copyholders were to be purchased, and that the Heath was now his property, began to build a house on the Heath. Upon this a strong Committee of Hampstead residents was formed, and large sums were subscribed for the purpose of trying the case in the Law Court. The proceedings dragged on for years, and the issue seemed open to doubt. Sir Thomas Wilson died and was succeeded by his brother, who was open to compromise, and eventually the manorial rights on the Heath (with certain small exceptions) were given to the Metropolitan Board of Works in 1871 by the Metropolitan Board of Works (now the London County Council).

In 1899, the Heath was purchased by the Metropolitan Board of Works, in extent by the purchase from the Earl of Mansfield and Sir Spencer Mayson, Bart., respectively, of Parliament Fields and the Heath, containing together about 260 acres. Ten years later the beautiful estate of the Earl of North End was bought by the Metropolitan Board of Works, the executors of Sir Spencer Wells, the late surgeon, and thrown open as a public park. Further, in 1907, some 80 acres were added at the northern Heath, the purchase of the picturesque field known as "Collins' Fields," though christened and more generally known as "Wilde's Farm," the old and euphonious name which has been retained. Adjoining this last purchase is the New Garden Suburb, which, though covering a large area already, is still in the process of erection. This, in brief, is the history of the Heath, and to the position above quoted, and for most of our information we are indebted to Mr. Mayle's *History of the Heath*, published by the Priory Press, Hampstead.—Ed.



Placater & Trinity Square.

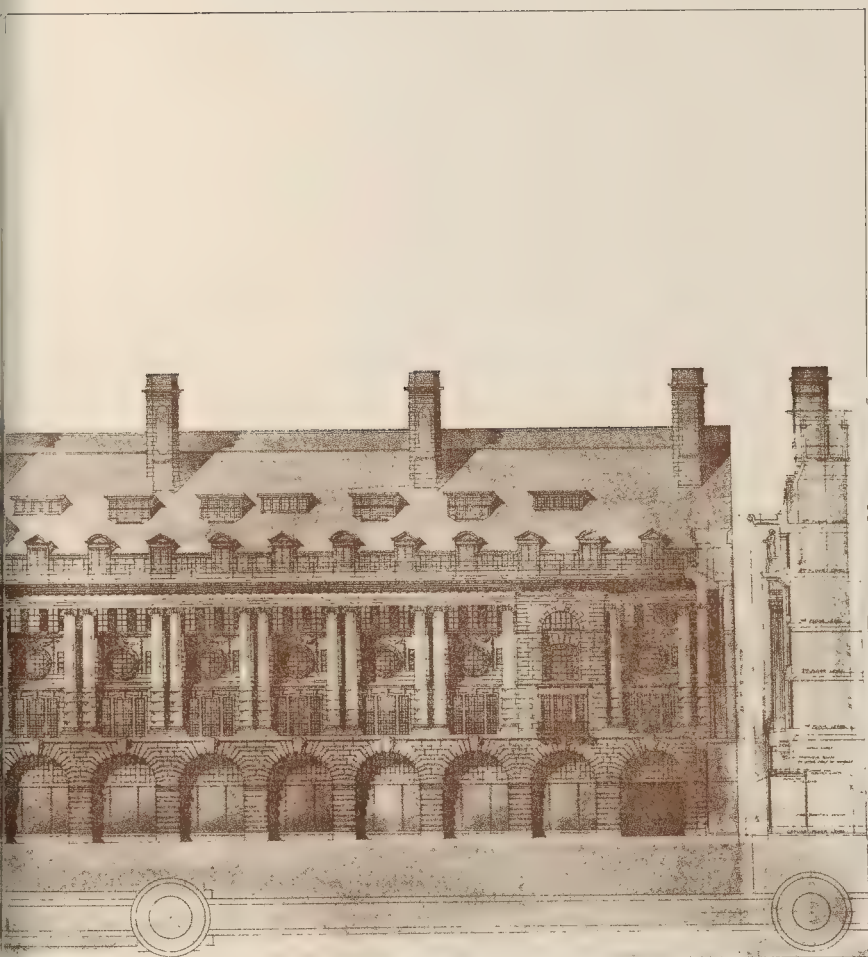
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INK PHOTO SPRAGUE & CO. 64 & 66 PA. STREET ADL.

PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES
By MESSRS. LANCHESTER & RICKARDS, F.F.R.I.B.A.



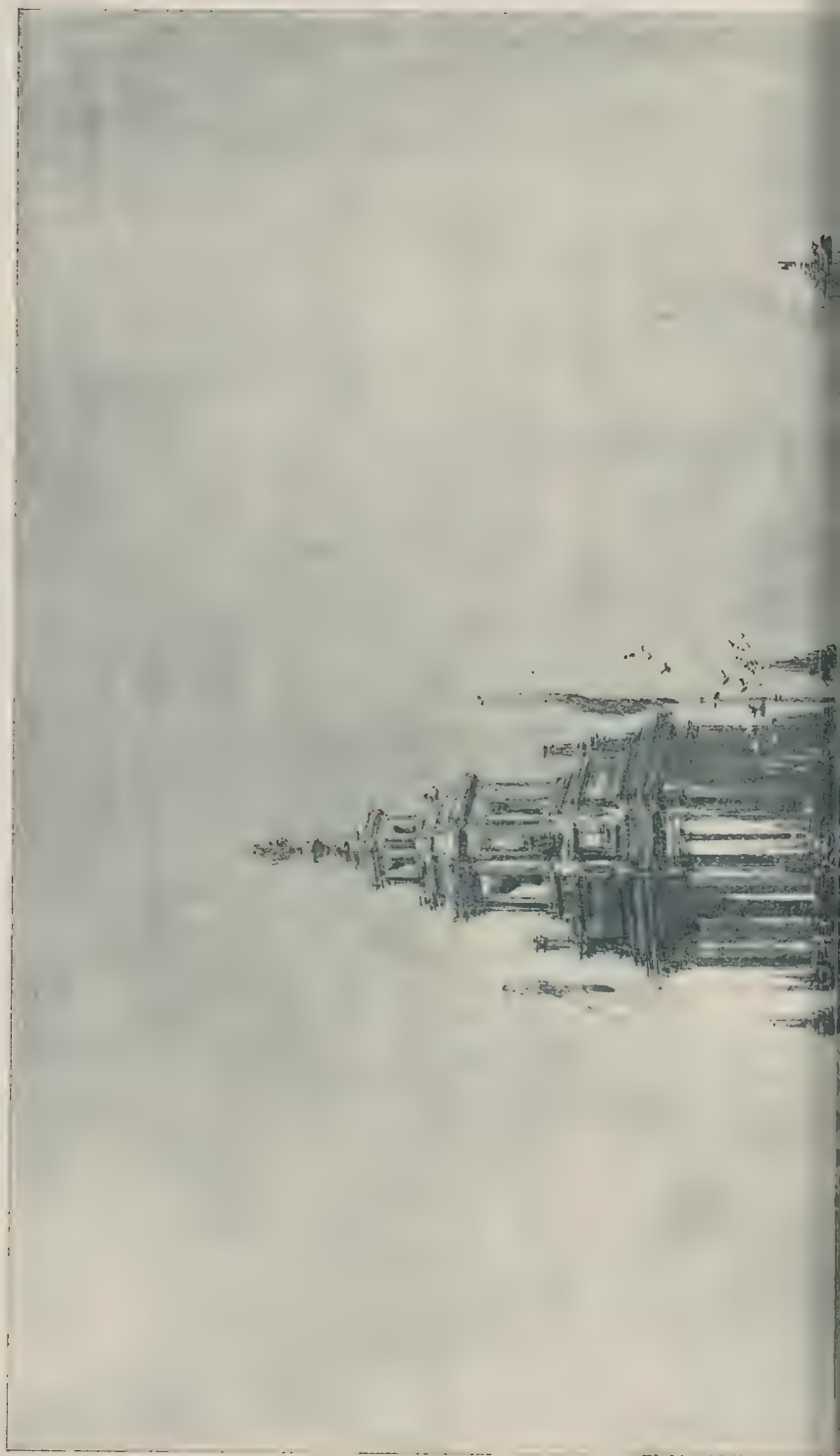
"THE BUILDER" REGENT'S QUADRANT

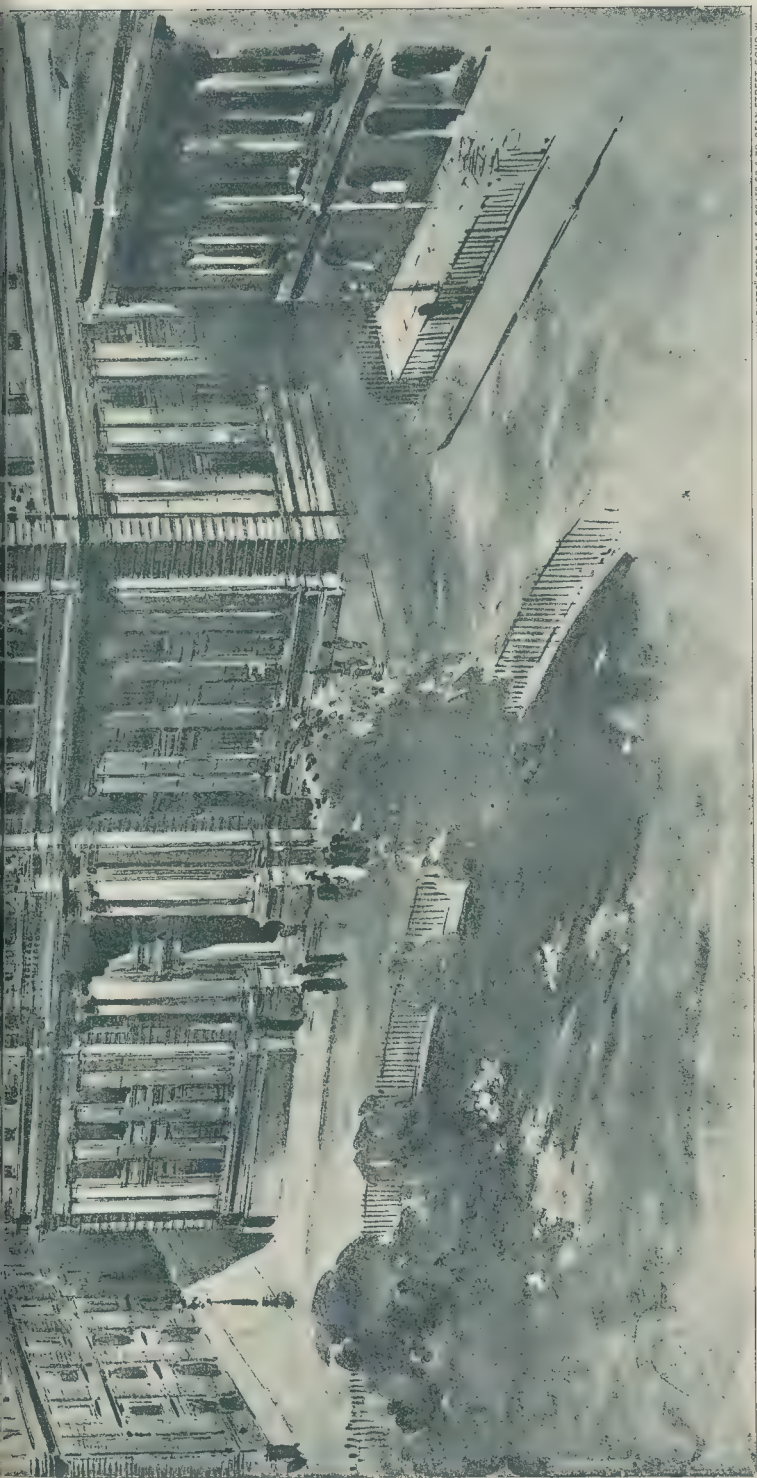


W. H. PHOTO SPRAGUE & CO. LTD. 25 & 27, DEAN STREET, SOHO, W.

TEN GUINEAS.—By MESSRS TAIT & WHITELAW

THE BUILDER, JULY 26, 1912





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PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.—By MESSRS. LANCHESTER & RICHARDS F.F.R.I.B.A.



PORT OF LONDON AUTHORITY COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES
BY MESSRS LANCHESTER & RICKARDS, F.F.R.I.B.A

MONTHLY REVIEW . of . ENGINEERING.

FORCED CONCRETE
PRINTING WORKS :S. R. CLAY & SONS, LTD.,
BLACKFRIARS.

the most important examples of reinforced concrete construction in London recently been completed from the Mr. G. F. Collinson, F.R.I.B.A., at street, Blackfriars, for the printing Mr. R. Clay & Sons, Ltd.

richly feature of the building is that walls, as well as the skeleton frame, reinforced concrete, which, in consequence, exhibited as an architectural material, merely employed in structural forms by brick or stone.

shows with sufficient clearness that, so far as is concerned, the material lends itself to effective treatment, even though the use of concrete may not be all that is desired.

itect of this building is certainly gratified on a successful attempt to design expressing the material and construction, although it must be that in some details the idea of cut stone is too strongly expressed for reliance with ideal reinforced concrete.

whole, however, the composition is good, and represents a great improvement on the dreary type of brick factory which is far too common in London cities. In addition to the pleasing obtained by the adaptation of towers and, the exterior is lightened by an large proportion of window surface, the general effect and the utility of

g. Alexander Drew, M.I.Mech.E., acted as engineer for the reinforced concrete work, designed in accordance with the plan, and executed by Messrs. D. G. & Co., Ltd., of Westminster.

ilding has a frontage of about 260 ft. on Fenchurch-street, measuring 96 ft. deep at the end and 41 ft. deep at the south end. It covers about 16,000 sq. ft., and the contents of the building is a little more than 900 cubic ft.

time when the plans were authorised by London County Council were unable to effect any reduction in the thickness of the exterior and interior walls, all of which are, in fact, of the same thickness as ordinary brick walls.

necessary amount and dead weight of the building thereby entailed added considerably to the cost of the work, encroached upon the floor space, and threw a great deal of additional load upon the foundations, all of which are compensated by advantages.

Building includes basement, ground floor, second floor, terrace roof with three large towers. In the basement are the boiler house, coal and gas stores, engineers' and carpenters' shops, and gas apparatus room, printing-room, paper, type, and plate store-rooms, and space for additional printing machines, and ventilating chamber, and two lift shafts.

The ground floor, as shown by the plan in Fig. 2, is the main printing room, occupying nearly the whole of the floor. A covered courtyard for vans is at the south end, three main staircases and convenient means of communication between the ground floor and the first floor, in addition to a small proof lift for the reviser.

The first floor are rooms for cutting and a large warehouse, book store, and tea-rooms.

The second floor are the general and private reading-room, luncheon-room, compositors' and proofers' room, and lead-casting-room.

The terrace roof provides a floor for a men's room, kitchen, scullery, and domestic offices, contained in a house occupying a position on both sides of the central staircase, the latter being a tank-room. The end

towers bring the stairways up to roof level, and covered ways are constructed to connect the stair landings with the roof house containing the dining-room and kitchen. Fig. 3 is a longitudinal section, and Fig. 4 includes three transverse sections through the building on the lines indicated in Fig. 2.

Reference to Fig. 2 will enable the reader to identify the positions of the column footings, which vary in dimensions with the loads to be carried, and in some cases where the columns are near together one footing supports two or more columns.

In order to ensure perfect stability the footings were taken down to a firm bed of gravel at the average depth of 19 ft. below street level.

The footings are proportioned so that the maximum pressure on the ground does not exceed 2 tons per square foot. Along the front of the building the column footings are from 10 ft. to 11 ft. square, and consist of a tapered slab from 14 in. to 26 in. thick, reinforced by 1-in. Kahn rib bars in two series at right angles to one another.

The exterior columns in the front of the building are spaced about 20 ft. apart, centre to centre, and are nearly square in cross-section up to the upper part of the basement, where they are widened out and continued to first floor level in the form of twin columns side by side, and above the first floor in the form of piers.



Fig. 1. Principal Facade.

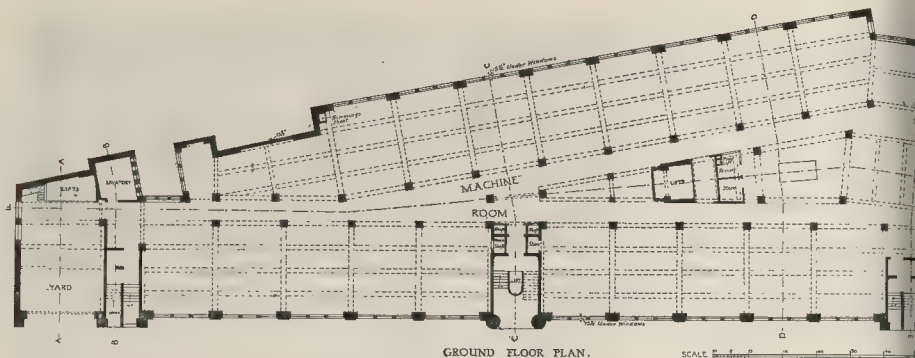


Fig. 2. Plan of Ground Floor.

The columns are reinforced by longitudinal $\frac{1}{2}$ -in. rib bars, and $\frac{1}{2}$ -in. bars in spiral coils of 2-in. pitch, as transverse reinforcement. The piers in continuation are reinforced by vertical and horizontal rib bars constituting a network of steel with meshes about 9 in. square.

The interior columns are reinforced by longitudinal bars and spiral hooping, as described above, and are progressively reduced in cross-sectional area from floor to floor proportionately with the diminution of load to be carried.

the façade are reinforced by $\frac{1}{2}$ -in. and $\frac{3}{4}$ -in. rib bars, and the parapet to the terrace roof is designed as a reinforced concrete beam. Fig. 5 is a detail of the main cornice from one of the architect's drawings.

The design of the exterior walls is quite novel in several respects, and was evidently intended to overcome as far as possible the disadvantages imposed by the unnecessary wall thicknesses demanded by the building regulations in force at the time.

the building. The average span of the beams is 26 ft., and of the secondary 20 ft., the connecting slab averaging thick, $1\frac{1}{2}$ in. of this being granolithic each bay immediately after completion of reinforced concrete work.

The beams are reinforced by Kahn bars, and the slabs by rib bars in two directions. Fig. 6 is a view on the ground floor of the interior columns and the under side of the main and secondary beams and slabs.

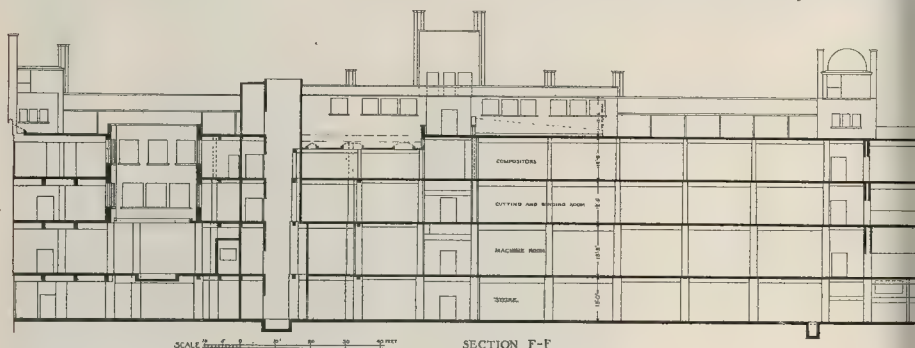


Fig. 3. Longitudinal Section.

Ample provision for the admittance of light has been made by windows to the full width of the panels between the twin columns in the ground-floor story and between the piers in the stories above. The windows are divided by reinforced concrete mullions, and wall beams or lintels are constructed at each floor level to take part of the floor load, while the wall panels above the windows are also constructed to act as beams.

The main cornice and projecting features on

The floor loads are exceptionally heavy, consisting of heavy printing and auxiliary machinery at various points on the ground, first, and second floors, in addition to the estimated uniform load of 3 cwt. per square foot throughout. The first floor and ground floor have also to carry electric runways each involving the travelling load of 1 ton.

Fig. 2 shows the arrangement of the main and secondary beams in the ground floor, which may be taken as typical of the other floors in

first floor. Some temporary struts are seen in position beneath the beams as a guard during the hardening of the concrete.

All stairways, staircases, and lifts are constructed in reinforced concrete, a universal employment of which in the building is a valuable feature from the standpoint of fire protection.

Another advantage secured by the use of monolithic reinforced concrete construction is an almost entire absence of vibration

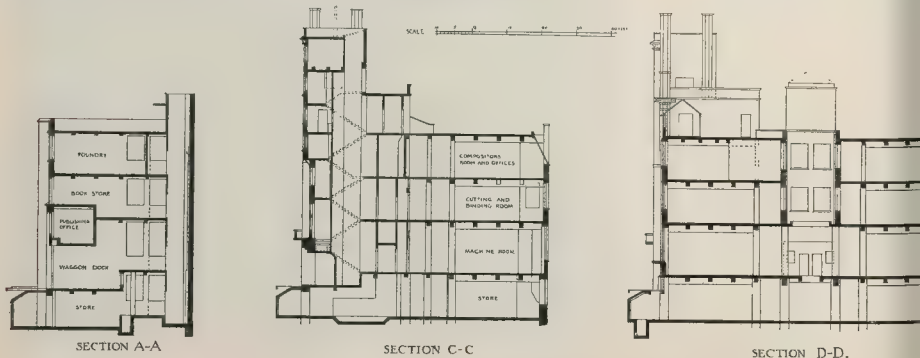


Fig. 4. Typical Cross-Sections.

and other machines are in operation. The new building compares with the works previously occupied. That building was of brick with work, and it is stated that the was so great that on the top floor the structure was quite perceptible. The contractors' plant included two electric concrete mixers, one at each end. Concrete from these was delivered by high-speed hoisting skips, of raising a load of 2 tons. The skips their contents into storage hoppers, feeding side-tipping trucks, in concrete was conveyed to different required.

and steel for reinforcement were by an auxiliary hoist fixed in one of the.

Asessment were established temporary for bending and shaping the steel for preparing the moulds, centring, and so on. A 36-in. diameter circular by electricity was installed in the shop.

For concrete mixing was obtained from the by the contractors on the site. The materials for the concrete were delivered and shot direct into storage hoppers, so as to deliver accurately-measured of cement, sand, and ballast into the the correct proportion of water for of concrete was admitted from measuring tanks.

to the care bestowed on the on-plant installation the concrete was very efficiently and economically, work of erecting the building was generally.

ment for the concrete was supplied by Martin Earle & Co., Ltd., the sand and Thames sand, sharp and gritty, aggregate consisted of washed Thames washed to pass through a 1-in. square carefully graded in size. The size of the magnitude of the reinforced construction may be gathered from ment that it involved the use of 500 steel, 1,500 tons of Portland cement, of sand, and 6,000 tons of Thames

CENTRAL HEATING AT MANCHESTER UNIVERSITY.

COLLEGE, now forming the oldest in the University of Manchester, was Oxford-road from 1873 to 1877. Since any new buildings have been added, the original site, bounded at the sides and street and Burlington-street and upon land beyond.



Fig. 6. Interior of Ground Floor Story.

The original building and successive additions were provided with independent heating installations, each with its own boiler-house or heating-chamber.

Various systems of heating were adopted from time to time, some of the buildings being warmed by low-pressure hot-water circulating in pipes and radiators, some by low-pressure steam, also in pipes and radiators, and some by hot air distributed through ducts.

The different methods of heating and the different sizes of the installations finally resulted in a heterogeneous collection of boilers and stoves, including Cornish, Lancashire, and vertical steam boilers, saddle and sectional hot-water boilers, and several hot-air stoves.

The large number of fires to be maintained in the various buildings and the antiquated arrangements for stoking and handling fuel and ashes combined to render the equipment both wasteful and troublesome.

With the object of placing matters on a more satisfactory basis—a central heating station has been built and equipped in the western quadrangle. From this station heat

is supplied to all the University buildings, although it has been found impracticable to make any change in the methods of warming.

We give on the next page a plan of the University buildings, and illustrating the general arrangement of the remodelled heating installations.

The heating station comprises a boiler-house and an engine-room, the floor being 9 ft. below ground level. In the boiler-house three Lancashire type boilers, each 28 ft. long by 7 ft. 6 in. in diameter, provide steam for heating water as required in the pipes and radiators of some buildings, for heating air to be distributed through ducts in other buildings, and for use, after reduction of pressure, in the pipes and radiators of other buildings again. The boilers also supply steam to the electricity generating plant and for other requirements throughout the University.

Coal bunkers have been constructed in front of the boilers so that fuel can be delivered into them from waggons, and a refuse destructor for burning rubbish has been placed in one corner of the boiler-house.

The engine-room is equipped with electricity generating plant, pumps for boiler feeding and for the circulation of water and steam in the heating installations, live and exhaust steam calorifiers, fans for induced draught, warming and ventilation, and various auxiliary appliances and fittings.

Thus it will be seen that, although the original methods of warming are essentially unaltered, the whole of the heat is generated at one central point, thereby obviating the waste of fuel and labour previously occurring, and at the same time providing facilities for the more efficient control of the warming systems.

Three vertical calorifiers in the engine-room provide water for the buildings warmed by low-pressure hot water. One calorifier is connected with the exhaust pipes for the engines and steam-driven pumps, and has alternative live-steam connections. The other calorifiers are supplied with live steam only.

Hot water is circulated through all the buildings so warmed by the aid of two circulating pumps of the "Roturbo" type, the total radiating surface in the buildings being 34,800 sq. ft.

Those departments warmed by steam are supplied direct from the boilers, the pressure being suitably reduced by means of reducing valves. The total radiating surface in the buildings warmed by steam is about 3,000 sq. ft., and all water of condensation is conveyed back to the boiler-house.

Whitworth Hall and the Christie Library are warmed by hot air. The old stoves, which had an inconvenient habit of discharging sulphurous fumes and other objectionable products into the ducts, have been replaced by steam batteries with the heating surface

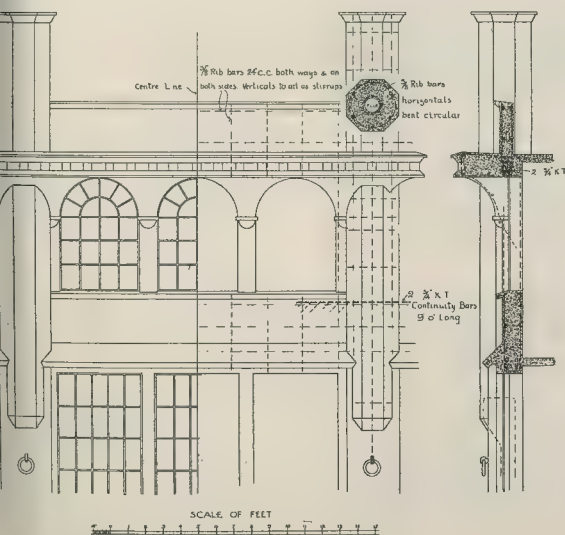
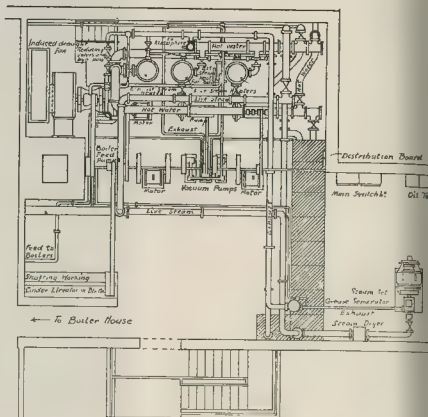
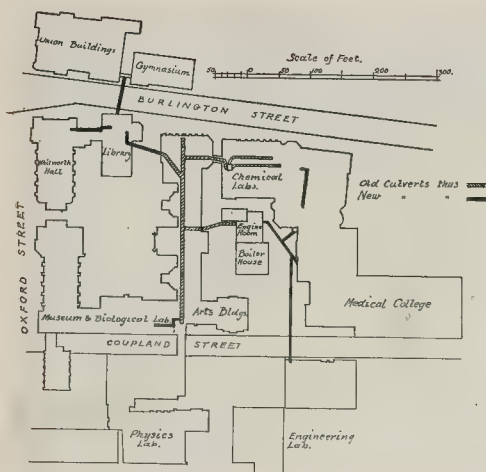


Fig. 5. Detail of Reinforcement at Main Cornice.



Central Heating at Manchester University.

of 514 sq. ft. The air passed over these is filtered and washed and distributed by means of an electrically-driven blowing fan. The total contents of the two buildings is equal to 408,500 cub. ft. For the purpose of a rough comparison we may state that if they were warmed by hot-water radiators on the basis of 10 sq. ft. per 1,000 cub. ft. of space the total radiating surface would be 4,685 sq. ft.

All the distribution mains for steam and hot water are carried in subways of ample size, all with provision for being lighted by electricity. The total length of old and new subways amounts to about 1,600 ft. in all.

Water of condensation from the steam battery in the buildings warmed by hot air, from the steam-heating mains and branch pipes, and from domestic water-heaters and cooking apparatus flows back to the engine-room, where, with condensed water from the calorifiers, it is passed through cooling apparatus to the vacuum pumps and discharged thence into a water tank for use in boiler feeding.

Electric motors are employed in the engine-room for driving fans, pumps, and an ash elevator, and other motors are connected with

the fan for distributing warmed air in the Whitworth Hall and the Christie Library buildings. Connections are provided with the electricity mains of the Manchester Corporation for use in case of emergency.

HAMPSTEAD SEWERS: MAINTENANCE AND CLEANSING.

ALTHOUGH merely one among other units in the metropolis, Hampstead contains some 60 miles of sewers under the direct control of the Borough Council, in addition to 4 miles of main trunk sewers maintained by the London County Council.

In a paper read to the Institution of Municipal and County Engineers, Mr. Oliver E. Winter, the Borough Engineer, gives an account of his work in connexion with the maintenance, cleansing, and flushing of the sewers in the borough.

Many of the older brick sewers constructed between forty and fifty years ago have become defective, chiefly in the invert, which has mostly been constructed in brick with cement blocks or

cases. This has become worn with settling in places. The side walls and arch are of hard brick, but with wide joints in line often burnt ballast mortar. Consequently brickwork has become uneven with surface, and impossible to keep clean.

In many cases the sewers are large required, and where extensive repairs essential it is necessary to decide whether to reduce the size of the sewer by reconstructing in glazed stoneware of dimensions such make it self-cleansing, or to carry out without reduction of size.

Fig. 1 illustrates the reconstruction of a 3-ft. by 2-ft. brick sewer, constructed seven years ago, by laying a 15-in. diameter pipe inside and filling it around solid concrete. The pipe used in this case was grouted composite pipe joint made by Boulton & Co., Ltd.

Fig. 2 shows the repair of an old brick sewer where material reduction of sectional area not practicable.

The treatment illustrated is that of for inverts not so defective as to require pinning or the complete removal of the ring. The reinforced concrete invert was 2 in. thick in 2-ft. lengths with rebated. These inverts were made by the Imperial Company, and could be passed readily in sewer through manholes or side openings. They were bedded and jointed in mortar, and any depressions in the invert were filled with fine concrete.

To secure the inverts in position a continuous line of cement benching was formed along the side walls over each joint, enclosing the corbels and finished continuous line.

Mr. Winter states that several thousand of reinforced concrete invert have been laid in old brick sewers in Hampstead, with satisfactory results. The cost, including digging and laying complete, averages from 4s. 3d. per foot run, which is much less than of cutting out and renewing the brick.

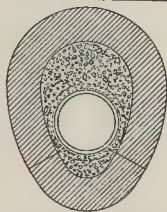
Regular and systematic flushing of sewers is of great importance, and absolutely necessary for the purpose of keeping the sewer free from nuisance. For this purpose the borough of Hampstead is divided into districts, and two men are regularly engaged each of these.

Forty-two underground flushing tanks of capacity of about 2,000 gallons, are distributed at least once a week, the tanks being placed at points where they can be used to flush three, or more sewers by means of flaps.

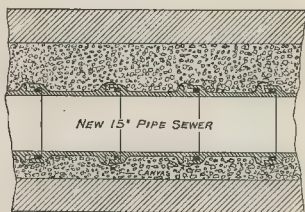
The men who operate the tanks also look out the surface ventilators, see that the gratings are free from obstruction, and any defects.

In addition to the tanks, flushing is arranged at the apex of other sewer and are flushed out from time to time by means of a steam watering and flushing van of 2,000 gallons capacity.

3'0" x 2'0" BRICK SEWER.



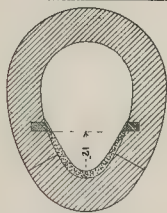
CROSS SECTION.



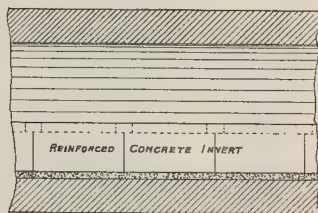
LONGITUDINAL SECTION.

Fig. 1.

3'9" x 2'6" BRICK SEWER.



CROSS SECTION.



LONGITUDINAL SECTION.

Fig. 2.

Hampstead Sewers.

rick sewers are systematically a gang of three or more men for removing deposits and of seeing main flaps are working freely. After cleansing of large brick sewers is fully charged at long intervals exceptional rainfall Mr. Winter has arranged consisting of a portable hose-pipes. The meter is attached to a hydrant and a 2½-in. hose-pipe is run from the meter to a manhole or side at the end of the hose is an attachment of two valves and smaller hose-pipes, arranged to spray down the sewer, where four men are spraying the walls and two men with bass and steel wire

states that very marked improvement has been evidenced since the adoption of this method of cleansing. It is described may not be so striking as that executed by the municipal engineer, but it is entirely hidden from the public eye, and it is of great importance, and means without interest.

WATER-SOFTENING PLANT AT YORK.

ation of water-softening apparatus at the works of Messrs. Rowntree & Co., was designed for the treatment of exceptional hardness, containing 51 grains of mineral salts per

water first passes over a water wheel 6 ft. diameter paddle wheel in a where milk of lime is kept in a state

next enters a Patterson "oscillating" measuring the water and adding reagents in predetermined proportions. This consists of a two-compartment tank with one compartment having an extension for the water overflows, causing the water to tip over and discharge the contents of the compartment while the other is brought in for the reception of more water. This, with each oscillation, scoops in the reagent chamber pick up and discharges a required quantity of chemicals for the water delivered by the oscillating

er and chemical reagents pass along a mixing trough, and then through a tank, 4 ft. in diameter and 25 ft. high, a vertical division causing the water to flow on one side and up the other.

the tower the water passes into a tank in a chamber 17 ft. 6 in. diameter, a large proportion of the suspended solids, the process being aided by a series of inclined plates, fixed at an angle to the horizontal, and dividing the water into several comparatively narrow

are filters are provided at the upper end of the precipitation chamber, through which the softened water passes and is drawn into a central collecting trough.

age at the bottom of the precipitation tank is removed by a system of drain pipes, with their mouths opening downward to draw away the sludge uniformly, merely from the vicinity of the

agents used are lime and sodium carbonate, the proportions required averaging 1 lb. of the former and 2 lb. of the latter for every 100 gallons of water treated. Chemical analysis shows that the softened water is of a very pure character, the small percentage of carbonate remaining in solution having no effect of loosening any scale in the steam boiler in which the water is used. The cost of the installation is 12,000 gallons

REINFORCED CONCRETE IN HYDRAULIC WORKS.

International Congress of Navigation, Newell, late Major in the United States Engineers, presented a Report summarizing communications submitted from various countries in Great Britain, France, Hungary, America on the uses of reinforced concrete in works pertaining to navigation, and kindred purposes.

The scope of the papers will be gathered from the following summary:—

Mr. R. W. Vawdrey, A.M.Inst.C.E., a director of the Patent Indented Bar and Concrete Engineering Company, Ltd., described canal bridges, piers and jetties, dock warehouses, and other structures in this country executed on the Considère, Hennebique, and Indented Bar systems.

M. Jacquinet, Ingenieur-en-chef des Ponts et Chaussées, of Chaumont, France, gave particulars of water tanks, embankments, revetments, aqueducts, canal towpaths, quay walls, jetties, and the encoirments of the Rue de Rome, Paris.

The Hungarian State Water Survey submitted details of a dam and lock at the mouth of the Körös River, and a lock on one of the arms of the Danube, near Budapest.

Signor Perilli, chief civil engineer, of Ravenna, Italy, described the Risorgimento Bridge, Rome, with the span of 100 metres constructed on the Hennebique system at the cost of 50,000l., various other bridges, siphons under the River Ombrone, a needle dam in the province of Ravenna, canal banks, wharves, landing stages, and barges.

Mr. R. L. Humphrey, President of the National Association of Cement Users, United States, dealt with the uses of reinforced concrete in canal locks, dams, harbour works, irrigation works, and for general purposes.

In commenting upon the foregoing papers, Mr. Sewell says that the conclusion seems justified that all the objections urged against the use of reinforced concrete as a material suitable for use in connexion with hydraulic works are either imaginary, or can be overcome by practical methods, and must have arisen at a time when the subject was not so well understood as at present.

The great advantage of reinforced concrete lies in the fact that it is capable of withstanding stresses due to transverse strains, tension, and shearing. Thus designs can be adopted wherein structural resistance rather than dead weight is the essential feature.

Dead weights on foundations are diminished, difficult excavation is avoided or lessened, and the cost of construction is proportionately reduced.

A study of the successful applications submitted to the Congress leads to the general conclusions that reinforced concrete combines the structural qualities of steel and timber with the durability of masonry; it is free from many of the limitations applying to masonry in mass; and in some cases it offers the only practicable solution of the most difficult structural problems.

A WATER-STORAGE PROBLEM.

EXPERIENCE has demonstrated the remarkable improvement effected by storage in the quality of river water, such as that drawn from the Thames by the Metropolitan Water Board.

It does not follow, however, that other classes of water are similarly improved by storage. A case in point is furnished by the trouble experienced at Gloucester with water derived from the lower oolite of the Cotswold Hills.

This water, it appears, is particularly favourable to the growth of the *Cara vulgaris*, a plant which develops very rapidly in the summer months, and in the autumn, when it begins to die down, the water becomes filled with secondary growth. The decay of the *Cara* is attended with discolouration of the water and the communication of a fishlike odour, supposed to be imparted by essential oil in the seed pods.

Mechanical means for clearing this growth from reservoirs have not been attended by successful results, and chemical treatment has been far more satisfactory.

The method adopted at Gloucester is to scatter copper sulphate over the surface, the quantity being never more than equal to the proportion of one part in 1,000,000 parts of water. At the end of three days not a trace of the salt is to be detected in the water, but what becomes of it is not known at present.

It is stated that the use of copper sulphate in this way has cleared the reservoirs effectively three times since the year 1905, relieving the filters of a considerable amount of work, and saving large quantities of water that were formerly wasted in emptying and cleaning the reservoirs.

ENGINEERING NOTES.

Metropolitan Water Reservoirs. In his Presidential Address to the Institution of Water Engineers Mr. J. S. Pickering stated that the completion of the reservoir at Chingford, with the capacity of 3,000 million gallons, will bring up the total reservoir capacity for unfilled water in the system of the Metropolitan Water Board to 12,800 million gallons, in addition to provision for the storage of filtered water to the extent of 311 million gallons.

A Curious Heating Boiler Explosion. In a report upon the explosion of a heating boiler at Bolton, it is stated that the mishap was due to the circumstance that the fire was lighted at a time when the circulation pipes were blocked by ice. The result was that the pressure in the water space of the boiler increased until the shell was ruptured, with injury to two persons. As a general rule, it may be assumed that heating boilers are kept at work during the prevalence of frosty weather, although it is often necessary to discontinue the use of hot-water supply boilers owing to the temporary stoppage of cold-water supplies. In any event, the explosion to which we refer emphasises the need for a conspicuous notice near every heating or hot-water supply boiler for the guidance of the attendant, stating the precautions necessary for safety at ordinary times and in or after frosty weather.

Brooklyn Navy Yard Dry Dock. In Vol. C we gave an account of the long series of troublesome foundation problems involved in the construction of the dry dock at the Brooklyn Navy Yard, New York.

The contractor who undertook the work after Congress had voted a million dollars in 1900 for the building of a dock 554 ft. long, and capable of accommodating vessels of 91 ft. beam, encountered so much running sand that he finally gave up the job in despair.

In 1908 another contract was made providing for the length of the dock to be increased to 620 ft., and this contract was cancelled in turn owing to further difficulties with sand.

Then a third contract was entered into in 1909 providing for increase of the dock to 726 ft. long by 110 ft. wide. The contractor had the valuable assistance of Mr. F. R. Harris, Civil Engineer to the United States Navy, by whom was worked out the mode of procedure adopted, and fully described in our previous article on the subject.

The new dock has recently been formally opened by the docking of the United States battleship *Utah*. So far as can be judged, the work is in every way satisfactory, a result reflecting great credit upon Mr. Harris and the contractors who had the courage to undertake the exceedingly risky and troublesome task of completing the dock.

Preparing Tar for Roads and Buildings. Mr. C. H. WEBB, of the district meeting of the Institution of Municipal and County Engineers, recently held at Stourbridge, described the Wilton's tar dehydrating plant, for the purpose of preparing gas tar for use on roadways. He said the special feature of this particular apparatus is that it is on the enclosed system, the tar being dealt with in a slow continuous stream, instead of in bulk. By this means the constancy of the finished product is more readily assured, and this is an important point when working to the Road Board's specification.

In the working process the tar is heated to about 320° Fahr., whilst under a pressure of about 30 lb. per square inch, and then released when the water and light oils, being at a temperature higher than their respective boiling points, are evaporated, and leave dehydrated and acid-free tar behind. The plant at Stourbridge is capable of dealing with 100 gallons—about half a ton—of crude tar per hour. The tar is supplied from the sale tank by gravity into a suction or feed tank, from which it is continuously pumped through a preheater or economiser, the coils of which are surrounded by hot, dehydrated tar. After absorbing some of the heat in this, the crude tar then passes to the still, which is a brick structure, containing about twelve laps of coiled piping, heated by a small breeze furnace, under forced draught.

The crude tar, when passing through the coil, is still further heated, and on leaving the still, the pressure is suddenly reduced in the vapour box, where there is a free space provided.

The water and light oils, being at a high temperature, are vaporised, and leave the tar, which latter flows away through the preheater, where it parts with some of its heat, on to the store tank, ready to be used for road preservation asphalt making, etc.

From the top of the vapour box the vapours pass through a coiled condenser surrounded by cold water, and thence to the receiver, where the ammoniacal liquor and light oils separate by gravity, and are utilised.

The plant must be worked, like all tar and ammoniacal works, under a certificate of registration of the Alkali, etc., Works Regulation Act, 1906, and is regularly examined by the Government Inspector. Packing of a ton of dehydrated tar requires five barrels, costing each about 6s. If eight journeys be made during the life of each barrel, the cost under this head is 3s. 1½d. per ton as against 4s. 2d. when only six journeys are made, a sum not to be neglected when the utmost economy in road covering is sought. By careful handling on the part of the railway companies, draymen, and roadmen the longer life can be attained.

Action of Cement and Liquids on Metals. The results of two series of tests given in *Armierter Beton* relate to the action taking place where copper, lead, and zinc are immersed in aqueous solutions in contact with cement or concrete, and where the same metals are embedded in cement or concrete.

The liquids employed in the first series included distilled water, tap water, solutions of calcium hydroxide, calcium carbonate, calcium bicarbonate, calcium sulphate, artificial sea water, cement water, and water where cement was present as a sediment.

The tests extended from one to twelve months, and the results showed that the access of air perceptibly increased the action upon the metals.

The results of the second series of tests indicated that copper embedded in cement cubes suffered less than where exposed to the action of cement water. Lead similarly embedded was attacked violently, and in the case of zinc chemical action took place causing the metal to adhere to the cement very closely, the surface of the zinc being covered by a layer of cement particles which could not be removed by ordinary rubbing.

An Ancient Timber Barge. DURING the excavation of a new water main in King's-road, Swanage, some interesting relics were discovered. The relic is partly on the site of a former creek, long since silted up, in which the workmen found an ancient barge, of more than 50 tons burthen, built of English oak, and with her timbers firmly secured by trenails. Near this vessel a flight of stone steps was uncovered, formerly leading down to the creek. It is believed that the barge is about five or six hundred years old, and that it was employed for the transport of stone quarried on the hillside and in the valley leading up to Corfe Castle.

It would be impossible to speak too highly of the work done by the Universities of London, Manchester, Liverpool, Birmingham, Leeds, Sheffield, and Bristol, and of the kindred work performed by the technical colleges which are scattered over the country.

At the same time there is no doubt that the older Universities of Oxford and Cambridge impart to students a tone which is somewhat lacking in the average student coming from the Universities and colleges of the newer type.

Business firms appear to be turning in an increasing measure to Oxford and Cambridge, because they look for character and stability as well as technical knowledge in young men who enter their employ. One result of this feeling is the decision of the Oxford University authorities to frame a curriculum with direct reference to a mercantile training, and another development of the same kind is denoted by the efforts of Lord Hythe and others to extend the facilities at the University for imparting training in engineering science, while not neglecting that liberal culture which is so valuable a feature of the older Universities.

The movement is one deserving the hearty support of the engineering profession, and if carried into effect the scheme will prove of great advantage to those who require something more than purely technical education after leaving school.

Lambeth Bridge.

It will be remembered that the London County Council Bill for the reconstruction of Lambeth Bridge at a cost of 240,000L. was rejected for three main reasons:—(1) That the amenities of the Houses of Parliament would be affected by the architectural design of the structure; (2) that the bridge was too narrow; (3) that the gradients were too steep.

Commenting upon these objections, the Improvements Committee of the County Council urge that the provision of 20,000L. in the estimate is adequate for the production of an acceptable artistic design and architectural treatment. On the question of width they point out that as the main approaches to the bridge are only about 40 ft. and 50 ft. wide, the proposed width of 48 ft. should be adequate, considering the position of this cross-river communication, and is equivalent to that of a street from 65 ft. to 70 ft. wide.

The question of gradients is one of some difficulty, and to make any important alteration in the project would involve raising the level of the Albert Embankment at the south end of the bridge, and the payment of compensation to property owners.

Having fully considered the objections made by Parliament, the Committee recommend the County Council to bring in a new Bill asking for power to reconstruct the bridge on the general lines proposed in 1911, but including certain modifications of structural character. From sketch designs submitted to them, the Committee are assured that there need be no difficulty in designing the bridge so as to comply with all reasonable aesthetic requirements. This last is clearly a matter on which independent expert opinion is necessary.

Resistance of Piles.

A PAPER in the *Annales des Pontes et Chaussées*, by M. Benabeng, discusses at length the load-bearing capacity of piles, the second part being devoted to the dynamic aspects of the subject. The author investigates the shock of the monkey on the pile with the recoil, considering the classic theory and other theories of the shock, and giving the general equation of the work of driving with the work due to vibrations, the work of compression, and the work of sinking. The author passes in review the various formulae proposed for calculating the resistance of piles, among them those of Redtenbacher, de Stern, de Brix, and empirical American formulae. The conclusions deduced from his study may be thus briefly summarised—Dynamic formulae merely afford approximate guidance in cases where piles are driven through soft earth to a hard stratum, and for this condition the new formula proposed is sufficiently accurate. On the other hand, formulae deduced from the static study of the question possess the advantage of being based upon an exact theory, and are applicable under all conditions to ordinary piles and screw piles. The general lesson to be learnt from the entire investigation is that the static method ought always to be adopted, since it is both exact and of general application.

Direct-Current Electrolysis of Iron.

In the *Journal of the Franklin Institute*, Mr. J. L. R. Hayden gives the results obtained by a study of the corrosion of iron by stray direct currents of electricity in the ground, such as occur where rails in electric traction systems are employed as return conductors. His conclusions may be thus briefly summarised:—(1) No definite ratio exists between the electrolyte corrosion of iron and the amount of current passing from the iron as anode, since the metal may assume a passive state in which corrosion is generally absent, or an active state in which corrosion follows Faraday's law; (2) the conditions governing the passive or active state are not fully understood, but it appears that an alkaline reaction of the electrolyte and the presence of nitrates or dichromates tend to produce the former, while sulphates and chlorides induce the latter; (3) the products of corrosion where occurring in the passive state are ferric compounds, and in the active state ferrous compounds; (4) the potential difference at the electrodes is much higher in the passive than in the active state.

Lectures on Reinforced Concrete.

On July 3 and 10 Noble Twelve lectures on concrete to the students of the Crystal Palace Practical Engineering. The first with the fundamental principles of concrete construction and the general beam design. The second lecture will be to the principles underlying the columns, struts, arches, and other structural elements, and to various practical construction in reinforced concrete. This lecture was illustrated by various types of reinforcing steel, as models and photographs of works of the United Kingdom.

Reinforced Concrete Fence Posts.

THREE English railways, viz., the Great Eastern, London and North, have been making use of reinforced concrete fence posts of a crescent-shaped timber. The life of a crescent post does not exceed twenty years, estimated that that of reinforced concrete be upwards of a hundred years.

The cost of the latter posts is about 10s. per yard, which can be greatly reduced if cement and iron can be obtained cheaply. It is estimated that that of wooden posts have been made of the same material results, trials made with all steel reported upon as unsatisfactory on the noise arising therefrom.

Both the above methods posts and are said to give great satisfaction.

Concrete Bench Marks.

THE Chicago Division of the establishment of bench marks where required, throughout the city, and says the *Journal*, have for several years been a system of exact levels, previously bench marks where required. The accompanying drawings, the standard marks are of concrete, with the base below surface level. The concrete truncated square pyramid 6 ft. high sides 3 ft. 6 in. wide at the base, square at the top. In the top is a round copper rod, and over the rod a cast-iron frame, 8 in. square inside, cast-iron cover locked in place and opened by a simple steel key. The bench marks is about 6 ft. each in concrete, copper rods, covers, and moulds. Up to the end of 1910 the had constructed nearly 200 bench marks described.



STEEL KEY



SECTION A-B



SECTION C-D

Standard Construction for Bench Monuments in Chicago.

(From the Municipal Journal.)

The different suggestions which have been made in this matter relate to the position of different schools and the constitution of their consultative Committees, and also to the difference between North and South London. It might be unwise to form a number of these Committees immediately, but it seems from experience of the work of other consultative Committees that the most satisfactory method of dealing with the matter will be to appoint Consultative Committees dealing with specific

branches of the building trades, and giving them as their field of operations the whole of the London area, including the School of Building at Brixton. It is possible that a wise course to adopt would be to have nominees of the Committee at Brixton on the other committees. We therefore suggest that the following Consultative Committees should be formed at an early date:—

(1) Consultative Committee on painters' and decorators' work. (2) Consultative Committee on plumbers' work and gas fitting.

When these Committees have been set in operation, they might usefully be followed by Committees on:—(a) Carpentry and joinery, (b) brickwork, masonry, and plastering, and (c) architecture; but we do not think that it would be wise to initiate these latter Committees until the first two Committees are in operation.

Subjoined is the complete series of decisions arrived at by the Education Committee:—

"(a) That it be pointed out to the Institute of Builders—(i.) that the Council is unable to consider any scheme of apprenticeship involving the payment of premiums; (ii.) that the Council is in agreement with the Institute of Builders as to the desirability of elaborating a scheme of training of boys in which proper provision would be made for theoretical training at technical schools on two (or more) afternoons a week, and would be glad to co-operate in any such scheme so far as arranging for the provision of suitable classes and instruction is concerned; and (iii.) that the fixing of a scale of wages for 'premium' and 'non-premium' apprentices is not a matter which comes within the Council's purview, and that the Council is unable to allocate scholarships for this purpose.

(b) That it be pointed out to the London Association of Masters Decorators—(i.) that the Council is in a position to train immediately twenty boys per annum at the Brixton School of Building, and that very shortly it expects to be able to train thirty others per annum from schools in the north and west of London; (ii.) that the Council will expect the Association to assist the Council in the placing of these boys with reputable firms on an approved scale of wages for a period of three years; (iii.) that the Council is prepared to afford facilities for afternoon and evening classes in north, west, and south London whenever a suitable number of applicants is forthcoming; and (iv.) that the Council proposes to form a consultative committee for painting and decorating trades, with a view to increasing the scope and utility of the technical classes provided.

(c) That, as from September, 1912, ten additional trade scholarships per annum be established at the London County Council School of Building (Brixton) for boys who are less than fifteen and not less than thirteen years of age in the year of award who intend to specialise in the trade of painting and decorating; and that the scholarships consist of free tuition for a period of three years, together with maintenance grants of 6s. for the first year of the course, 10s. for the second year, and 15s. for the third year.

(d) That, in the opinion of the Council, a day trade school, giving a three-year course of instruction to prepare boys for employment in certain branches of the building trade, should be established at the Northern Polytechnic (Islington, E.), as from September, 1912; and that the governing body be so informed.

(e) That, as from Easter, 1913, fifteen additional trade scholarships per annum be established at the day trade school at the Northern Polytechnic (Islington, E.) on similar conditions to those set out in resolution (c).

(f) That, as from September, 1912, the building section of the day trade school at the London County Council Hackney Institute (Hackney, S.) the building trade scholars elected in 1911 and 1912, and the ten trade scholarships awarded annually for building trades tenable at the London County Council Hackney Institute (Hackney, S.), be transferred to the Northern Polytechnic (Islington, E.).

(g) That, as from September, 1912, ten additional trade scholarships per annum be established at the London County Council Hackney Institute (Hackney, S.) for boys who are less than sixteen and not less than thirteen years of age in the year of award who intend to specialise in engineering; that the scholarships consist of free tuition for a period of two years, or, in a few special cases, for three years, together with maintenance grants of 6s. for the first year of the course, 10s. for the second year, and, if extended, 15s. for the third year.

(h) That a special estimate of expenditure on maintenance account of 310s. for the financial year 1912-13, and estimates of expenditure on maintenance account of 680s. and 138s. for the financial years 1913-14 and 1914-15 respectively, under standing orders Nos. 221 and 228, submitted by the General Purposes Sub-Committee for the purpose referred to in resolution (d), and of the development of the existing day technical school at the Northern Polytechnic, be forwarded to the Finance Committee.

(i) That the special estimate of expenditure on maintenance account of 310s. for the financial year 1912-13, and the estimates of expenditure on maintenance account of 680s. and 138s. for the financial years 1913-14 and 1914-15 respectively, submitted by the Finance Committee for the purpose referred to in the foregoing resolution (h), be approved as estimates of costs, debt, or liability under sect. 80 (3) of the Local Government Act, 1888.

(j) That, subject to the annual maintenance votes for the respective years, including the necessary provision therefor, the block maintenance grant to the governing body of the Northern Polytechnic (Islington, E.) for the school years 1912-13 and 1913-14 be increased from 8,020s. to 8,493s. and 8,800s. a year respectively; and that the matter be referred to the Finance Committee for payment.

(k) That a special estimate of expenditure on maintenance account of 80s. for the financial year 1912-13, and the estimates of expenditure on maintenance account of 890s., 820s., 1,360s., and 1,260s. for the financial years 1913-14, 1914-15, 1915-16, and 1916-17, and subsequent years respectively, submitted by the General Purposes Sub-Committee for the purposes referred to in the foregoing resolutions (c), (e), and (g), be forwarded to the Finance Committee.

(l) That the special estimate of expenditure on maintenance account of 390s., 820s., 1,360s., and 1,260s. for the financial years 1912-14, 1913-15, 1915-16, and 1916-17, and subsequent years, submitted by the Finance Committee for the purposes referred to in the foregoing resolution (k), be approved as estimates of cost, debt, or liability under sect. 80 (3) of the Local Government Act, 1888.

(m) That on the remaining portion of the vacant site adjoining the London County Council Hackney Institute School of Arts and Crafts (Hackney, S.) a new art school be provided, and that the present art school be adapted to use as a building trades school; that the building trades school do become the centre for building instruction in the west of London, and that the building classes from the Finsbury Technical Institute be transferred thereto; that a day trade school be established therefor for the building trades, and that the school be a separate institution; that a principal be appointed thereto; and that the Education Committee do submit the necessary recommendations in due course to give effect to this resolution.

(n) That consultative committees be appointed on the subject of: (i.) painters' and decorators' work; and (ii.) plumbers' work and gasfitting; and that the Higher Education Sub-Committee do report thereon."

CONCRETE-MIXERS. THE "OPEN DRUM" MIXER.

THIS machine is a batch mixer, of simple design and sound construction. As implied by the name, its distinctive feature is the open drum, which is cylindrical in form, with the body made of steel plate, to which is added a conical top narrowing the area over which the mixed concrete is discharged.

The interior of the drum is fitted with blades riveted to the shell and parallel to each other. The bottom of the drum consists of a cast-iron pan, fitted with the circumferential rack by means of which the drum is rotated, and with a short central shaft working in a ball bearing provided in the supporting frame of the machine. The side standards of the frame carry the necessary gear for driving the machine and tilting the drum to discharge the concrete.

When in position for mixing the drum is tilted at an angle of 45 deg., as shown in Fig. 1. The blades in conjunction with the rotary motion of the drum do not merely carry the



Fig. 1. The "Open Drum" Concrete-Mixer.

material to the top and then let it fall, but cause a kind of pouring process by which the materials are rapidly and thoroughly mixed.

Special appliances are unnecessary for loading the drum, because the open top and its nearness to the ground permit wheelbarrows to be employed for placing materials in the drum, providing a suitable incline is made up to the loading platform.

The entire time required for loading, mixing,

and discharging each batch of concrete by the makers to be about two minutes.

To discharge the mixed concrete it is necessary to tilt the drum, this operation being easily performed in the larger machine by aid of worm gear operated from the platform. In the smaller machine the gear is operated by hand, and in the larger by either hand or power.

One advantage claimed for the open drum is that when discharged no concrete will

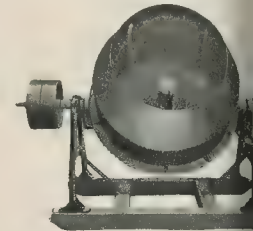


Fig. 2. The "Open Drum" Concrete-Mixer.

left inside. Another advantage is that it affords for inspection of the material the whole process of mixing. Consequently it is claimed that all uncertainty as to the amount of water is eliminated, and that of an automatic water-tank need not be used.

The "Open Drum" mixer is made in sizes of from 2½ to 18 cubic ft. capacity can be obtained in more than twenty styles to meet varied requirements.

The makers are Messrs. Goodwin & Co., of Leicester, who are also manufacturers of a continuous type cylindrical concrete well as flat macadam mixers, mortar stone-breakers of various types.

BUILDERS' BENEVOLENT INSTITUTION.

MR. F. G. RICE (President) presided at the Wednesday afternoon at the offices, House, Kingsway, over the annual meeting of the subscribers Institution.

MR. T. Costigan (Secretary) submitted his sixty-fifth annual report, as follows:—The committee of management have to submit their sixty-fifth annual report, and desire to express their deep gratitude to the President (Mr. F. G. Rice) for the valuable and hearty help he has rendered to the Institution during the last twelve months. Grateful acknowledgment is due to Mr. Henry F. Higgs for his kind memory of "L. A. H." The function to be administered with the greatest thorough investigation is given in appeal made. During the past year five female pensioners have died, grants having been made where and one man and six women have been added to the list of pensioners. There were twenty-eight male and twenty-five female pensioners. The committee give thanks for their valuable assistance. President (Mr. F. G. Rice), to the Hon. Mr. F. J. Dove, Sir Arthur C. L. Mr. Frank May, Mr. T. F. Rider, Mr. and Mr. John T. Bolding; to the Hon. Mr. John T. Bolding and Mr. H. F. C.A., and to the dinner stewards. Mr. Minster has kindly accepted the post of the coming year, and subscribers are earnestly urged to support his presence and generous assistance at dinner, which will be held in the Rooms, Hotel Metropole, W.C., on November 14. The next election of will be held in November."

On the motion of Mr. Carter, Mr. Stirling, the report was adopted. Mr. J. T. Bolding proposed that the accounts, and said the annual sum was 403s., as against 427s. last year, the weak spot of the Institution. T. subscriptions were getting fewer each in his early years with the Institution used to get 600s. or 700s. a year source. No doubt the decrease was due to the holding of the annual dinner everyone connected with the trade asked to assist the Chairman, and hardly expect people to give dona-

h too. The donations were 30l. last year, which made the subscriptions 1,380l., or within 30s. of 1,410l. Their total interest receipts were 4,727l. The pensioners' account for 1911 amounted to 1,799l. 6s., as against 1,799l. 6s. in 1910, or 98l. less. The expenses were 1,364l., against 1,357l., and interest, advertising, and postages 126l. 11s. The balance at the bank was 1,799l. 6s.

seconded the motion, and it was carried. The effect of the alteration to the effect that the circuit of eligibility for a pension be extended from 12 miles from Charing Cross. He at the last election two candidates most suitable in every other respect ruled out owing to the fact that they were not within the circuit of eligibility. The present radius of eligibility. The circuit was made sixty-five years ago, would all agree that the district miles of Charing Cross was really very small.

May seconded the motion. The effect, whilst not altogether opposed to the motion, pointed out that their present pensioned 83 square miles, and if the circuit were carried they would add a further 73 square miles, and they would include many more pensioners. A large number of builders' pensioners was of what he might term a "character." Hence they would be very seriously liable which required consideration.

able discussion followed as to what the effect of the extension, and the opinion seemed to be that whilst it might be a fresh help could be given for from the added districts, yet it would be extended so far as the funds would allow.

ally the motion was agreed to. The motion of the Chairman, Mr. F. G. Wilson, elected President for the year. May was re-elected Treasurer, and a vote of thanks was accorded him for his services in the past.

question of the re-election of the President, Mr. May moved that the question of nomination of the names of members for the next year should be considered. That Past Presidents should become members of the committee as vice-presidents, and that the executive committee be limited to fifteen.

seconded the motion. The course of the discussion which ensued, thought they would be taking too much time in carrying such a motion, for to remember that even if the whole of the meeting did not attend the meetings would be liberal supporters of the motion.

he subsequently withdrew his motion as he had attained his object in raising the question.

ter considered the idea of having past-presidents as members of the committee ought to be dropped, and suggested that their names could be placed in the list.

net with general support, and was carried.

ing moved a hearty vote of thanks to the retiring President, and expressed the hope of everyone in hoping Mr. Rice would meet the members in the future.

iding seconded the motion, and it was carried.

he briefly acknowledged the compliment, and any efforts of his would have been without the loyal assistance of the members and the committee.

MARBLE CONTRACT AT THE BRITISH MUSEUM.

Monday, Mr. Tyson Wilson asked the representative of the First Commissioner of Works if he would now state the reasons which led the Office of Works to permit the contractors for the marble work in connexion with the British Museum to sublet part of the work to the abroad. Mr. Wedgwood Benn replied by sanctioning the subletting of a small part of the marble work at the British Museum, extension, the Office of Works were not principally by the facts that such a system is customary in the trade, and that in question can be executed more easily abroad.

TRADE DISPUTES.

It seems idle to be talking of trade activity and commercial prosperity at a time when we are confronted with labour unrest, which has created a record in the loss of working days. In the first six months of this year 37,444,000 working days have been lost through trade disputes. Many of the 1,260,461 workpeople involved were highly paid, and the loss in wages is, therefore, colossal. Some idea of what the loss, and the consequent diminution in spending power is, may be gathered by simply computing each working day at the very low rate of half-a-crown, as this alone shows a loss of 4,680,500l. in wages in six months, and, added to this, the trade union resources have been squandered in strike pay. Nothing like such a loss of time is to be found in the records published by the Board of Trade. In the year 1893 there was a great dispute in the coal trade, and that year was the highest recorded for loss of working days, but in that whole year the loss of time was under 31,000,000 working days as compared with the 374 million recorded in the past six months. Since 1893 the years with the greatest loss in working days have been 1898, with just over 15 million; 1908, with 103 million; and 1910, with 94 million. These figures are for the whole year. Can any country continue prosperous with a loss of time and wages such as is shown in the first half of this year? It has been a period of trade prosperity which to some extent has mitigated the evil results of this labour unrest, but periods of trade prosperity are not continuous, and slack times must come. Never has a prosperous time been so lost advantage of, and when trade activity lessens the pinch will be bitterly felt in this country. It behoves all classes at the earliest possible opportunity to devise a *modus vivendi* which shall secure industrial peace and retain our foreign trade.

LONDON MASTER BUILDERS' ASSOCIATION: MONTHLY REPORT.

THE Council of the London Master Builders' Association met on July 18, the chair being occupied by James S. Holliday, President.

The Special Committee appointed to confer with the representatives of the various trade organisations submitted its reports of the several Conferences which had been held, which were unanimously adopted.

The reconstitution of the Law and Parliamentary Committee in respect to important legal cases affecting members of the Association was approved and adopted.

Correspondence relating to trade matters was read.

The following firms were nominated for Associate membership:—Messrs. C. Burley, Ltd., Sittingbourne; Messrs. Samuel South & Son, Edmonton.

THE INSURANCE ACT AND THE CEMENT TRADE.

IN the House of Commons on July 17, Mr. Rowlands asked the Secretary to the Treasury whether his attention has been called to the printed form being handed to the late employees of the Associated Portland Cement Manufacturers, Ltd. (1900), at their works in Northfleet and Swanscombe, when the men give their names for re-employment after the strike, with verbal instructions that it be filled up and returned as soon as possible, the employees being asked whether they are members of an approved sickness benefit society, and, if not at present members, whether they would be prepared to join an approved society instituted by the Associated Portland Cement Manufacturers for the working of the Act on behalf of its employees, and, if at present members of an approved society, whether they would agree to transfer to such Associated Portland Cement Manufacturers Society; and whether he proposes to take any action in the matter in view of the provisions of the National Insurance Act? In reply, Mr. Masterman said that he had not seen the form in question, but understood that the Associated Portland Cement Manufacturers, Ltd., have been considering the formation of an approved society under sect. 25 of the Act, and issued an inquiry of the kind indicated with the intention of discovering how many of their employees were likely to join the society, if formed. On the information before me I see nothing in the action of the firm which calls for intervention on the part of the

Commissioners. Mr. Rowlands: Was it made a condition of reinstatement?—Mr. Masterman: I have no information on that point. Sir G. Parker: May I ask the right hon. gentleman whether he will communicate with the company, asking them whether they have made it a condition of re-employment?—Mr. Masterman: Yes, I think I am prepared to do that.

GENERAL BUILDING NEWS.

NEW CATHEDRAL, WELLINGTON, NEW ZEALAND.

A Roman Catholic cathedral is to be erected in Wellington. The plans of the cathedral have been completed, and the foundation-stone will probably be laid before the end of next year. The name and address of the architect is Mr. J. S. Swan, Kilburne-avenue, Wellington, New Zealand.

PROJECTED NEW BUILDINGS IN LONDON.

First portion of Australian Commonwealth-buildings, Aldwych, W.C.; Messrs. A. Marshall, McKenzie, & Sons, architects, 1, Victoria-street S.W.; Messrs. Holloway Brothers, builders, Victoria Wharf, Belvedere-road, Westminster, S.W. Sorting office, Brixton, S.W.: Messrs. Pasterfield & English, builders, Sunny-hill-road, Streatham, S.W. School, Wimbledon, S.W.: Mr. Charles H. Cooper, Surveyor, Town Hall, Wimbledon, S.W. Sorting office, Coburn-road, Bow, E.; Mr. H. Hann, builder, High-street, Collier's Wood, Merton, S.W.

TRAINING COLLEGE, CAERLEON.

This building is being erected at an estimated cost of 26,000l., from the designs of Mr. A. Swash, F.R.I.B.A., and his son, Mr. F. S. Swash, A.R.I.B.A., architects, of Newport. The building will be of three stories to provide accommodation for 100 students. The contractor is Mr. F. Bond, of Cardiff.

PUBLIC LIBRARY, ENFIELD.

On July 13 a new public library, the gift of Mr. Andrew Carnegie, was opened at Enfield. The architect was Mr. Richard Collins, Surveyor to the District Council, and the builders were Messrs. Fitch & Cox, also of Enfield.

TRADE NEWS.

Under the direction of Mr. Walter Wallace, architect, Kirkcudbright, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "airpump" ventilators and air-inlets, has been applied to Dundrennan School, Dundrennan.

The Governors of Seale-Hayne College (Agricultural and Technical), Newton Abbot, Devon, have accepted the tender of Messrs. Petrick Brothers, Ltd., contractors and granite merchants, Laira Bridge, Plymouth, for the erection of the Seale-Hayne College buildings.

The Bishop Eton Monastery, Woolton, is being supplied with Shorland's patent exhaust roof ventilators by Messrs. E. H. Shorland & Brother, Ltd., of Farnsworth, Manchester.

The Excellence Wood Block Flooring Company, of 90, Cannon-street, E.C. (works, Prospect Saw Mills, Leeds), have recently carried out alterations and repairs to the wood-block flooring at the Old Gaiety Restaurant (now Marconi House) for Messrs. Collis & Sons, builders. They have also laid their patent dovetailed grooved flooring recently at a number of other premises.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses:—)

Width of Way, Projections, and Construction.

Hoxton.—Construction of an external iron gangway and an external iron gangway and staircase at a building to abut upon Worship street, Clifton-street, and Merritt's-buildings, Hoxton (Mr. R. W. Hobden).—Consent.

Formation of Streets.

Dulwich.—Formation or laying-out of a new street for carriage traffic to lead from Underhill-road to St. Aidan's-road, Dulwich (Messrs. Cane & Co.).—Consent.

Lines of Frontage and Projections.

Deptford.—Erection of a building at the rear of No. 110, Lewisham High-road, to abut upon Malpas-road (Mr. E. C. Arter for Mr. Clark).—Consent.

Dulwich.—Four houses on the southern side of East Dulwich-road, Dulwich, with porches and bay-windows (Mr. H. G. Blackmore for the Gordon Carriage Works).—Refused.

Fulham.—Erection of a one-story addition at The Chalet, Fulham Park-road, Fulham, next to Fulham Park-gardens (Mr. J. Darch for Mr. A. J. Layton).—Consent.

Hackney, North.—Erection of bay-windows, porches, and overhanging eaves to ten houses on the western side of Springfield-gardens, Hackney (Mr. F. Collins).—Consent.

Hackney, North.—External iron staircase in front of a warehouse building on the northern side of Barrett's-grove, Hackney (Mr. J. H. Storar).—Consent.

Islington, East.—Erection of buildings upon the sites of No. 2, Holloway-road and No. 4, Highbury-crescent (Mr. H. C. Constantine).—Consent.

Kensington, South.—Projecting sign in front of No. 141, Kensington High-street (Messrs. Stanley Jones & Co., Ltd.).—Consent.

Newington, West.—Erection of buildings on the western side of Walworth-road, between Amelia-street and Steedman-street (Messrs. Buckland & Garrard for the Midland Railway Company).—Consent.

Strand.—Projecting clock in front of No. 132 Long-acre (Greenwich Time, Ltd.).—Consent.

Wandsworth.—Erection of porches, oriels, windows, bay-windows, and overhanging gables at Nos. 103 and 105, Down-on-avenue, Streatham-hill (Mr. J. Copp).—Consent.

Woolwich.—Two one-story shops in front of No. 62, Plumstead Common-road, Woolwich (Mr. J. O. Cook for Messrs. J. H. Sutch & Sons).—Consent.

Width of Way.

Hampstead.—Building at less than the prescribed distance from the centre of Belgrave-place, Hampstead (Mr. A. F. Faulkner for Mr. W. Willett).—Consent.

Width of Way and Construction.

Fulham.—Two temporary wood and iron buildings in a yard on the eastern side of New King's-road, Fulham, adjoining arches Nos. 407, 409, and 411 of the District Railway (Messrs. Cole & Shuttleworth, Ltd.).—Consent.

Width of Way, Frontage, and Construction.

Strand.—Iron and glass shelter at the entrance to the Loudoun Hotel, Surrey-street, Strand (Mr. P. C. de Lafontaine for Mr. W. Gaultlett).—Consent.

Line of Frontage and Deviation from Certified Plan.

Marylebone, East.—Re-erection of No. 23, St. Edmunds-terrace, Hampstead (Mr. J. C. Pocock for Sir Boverton Redwood, Baronet).—Consent.

Space at Rear.

Hoxton.—Erection of a water-closet building on the flat at the rear of No. 209, Kingsland-road, Hoxton (Mr. R. S. Powell for the Mary-street Estate Company).—Consent.

St. George, Hanover-square.—Erection of a building abutting upon Warwick-row, Prince's-row, and Brewer-street, Westminster (Messrs. A. E. Hughes & Son for Messrs. F. Gorrings, Ltd.).—Consent.

Uniting of Buildings.

City of London.—Uniting of Nos. 5 and 6 with No. 7, Paternoster-square, City, by means of an opening at the first-floor level (Mr. J. S. Heath for Messrs. Jacobsen & Welch).—Consent.

Finsbury, East.—Uniting of Nos. 27 and 28, Glasshouse-yard, Finsbury, with premises at the rear (Messrs. J. R. Pitcher & Son for Messrs. F. H. Ayres, Ltd.).—Consent.

Hoxton.—Formation of an opening in the party wall at the ground-floor level between Nos. 72 and 74, St. John's-road, Hoxton (Messrs. P. H. Clarke & Son).—Consent.

St. George, Hanover-square.—Uniting of Nos. 33 and 34 with No. 35, Half Moon-street, St. George, Hanover-square, by means of an opening at the basement level (Messrs. Martin & Sons for Mr. Hug).—Consent.

Westminster.—Uniting of Nos. 14 and 16, Victoria-street, Westminster, by means of an opening at the fourth-floor level (Messrs. Z. King & Son for Mr. R. T. Raikes, Mr. H. Hiscoc, and Mrs. L. Lean).—Consent.

The recommendation marked * is contrary to the views of the Metropolitan Borough Council concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

BERKSHIRE.—Schools at Bucksburn and Stonywood (3,000l.); Mr. G. B. Mitchell, architect, 148, Union-street, Aberdeen.

Ainsdale (Lancs.).—Vicarage (2,000l.); Rev. G. Z. Edwards, The Vicarage, Ainsdale.

Alnwick.—Parish hall, Painter-hill; Mr. H. W. Knowles, architect, Collingwood-street, Newcastle-on-Tyne.

* See also our list of Competitions, Contracts, etc., on another page.

Bedlington.—Twenty-two houses for the Netherdon Coal Company, Ltd., Cathedral-buildings, Dean-street, Newcastle-on-Tyne.

Blackburn.—Drying shed for Messrs. Whitaker & Co., Ltd.

Boston (Lincs.).—Restoration of Guildhall; Messrs. Sherwin & Son, builders, Wide Bargate, Boston.

Bristol.—Proposed baths; Mr. T. H. Yabbin, Engineer, Town Hall, Bristol.

Bucksburn.—Additions to school for the New-hills School Board.

Burton-on-Trent.—Receiving home (1,770l.); Mr. H. G. Adams, builder, 7, Wyggeston-street, Burton.

Chalvey.—School (5,000l.); Mr. Riley, architect, County Education Office, Aylesbury.

Chatham.—Twenty-two houses, Mount-road; Mr. C. E. Skinner, builder, Railway-street, Chatham.

Chirk.—Drill hall; Mr. C. D. Rutter, architect, Wrexham; Messrs. W. H. Thomas & Sons, builders, Salop street, Oswestry.

Colwyn Bay.—Proposed fifty houses; Mr. W. Jones, Surveyor, Town Hall, Colwyn Bay.

Cranborne.—Institute; Mr. W. Watson, builder, London-road, Ascot, Berks.

Crossabeg (Ennisorthy).—Roman Catholic church; Messrs. W. H. Byrne & Son, architects, Suffolk street, Dublin.

Dumbarton.—Baths; Mr. A. C. Denny, architect, 37, Church-street, Dumbarton.

Dunfermline.—Reconstruction of opera house (9,000l.); Mr. J. D. Ewanston, architect, Kirkcaldy.

Durham.—Laundry (7,000l.); Mr. L. G. Elkins, architect, West Blandford-street, Newcastle; Mr. J. White, builder, Sunderland.

Eastleigh (Hants).—Isolation hospital; Mr. W. W. Gandy, architect, Eastleigh, Hants.

Edinburgh.—Building, Canaan-lane (5,000l.); Mr. D. McCarthy, architect, 25, Frederick-street, Edinburgh.

Exmouth.—Erection of Marine-drive (20,000l.); Mr. S. Hutton, Surveyor, Council Offices, Exmouth.

Fishponds (Bristol).—Memorial hall; Mr. W. Froud, architect, St. Stephen's-chambers, Bristol.

Gloucester.—Fire-station; Mr. W. T. Nicholls, builder, St. Paul's-road, Gloucester.

Gomersal.—Proposed rebuilding of part of central premises (5,000l.) for the Co-operative Society.

Grays (Essex).—Repairs to school (475l.); Messrs. Brown Brothers, builders, Grays.

Great Bridge.—School (800 places); Mr. J. E. Pickles, Town Hall, West Bromwich.

Great Yarmouth.—A plan has been passed for five houses, Fulgrave-road, for Mr. F. Grimble.

Harrogate.—Extensive additions to Cairn Hydro for Cairn Hydropathic Company, Ltd.; Messrs. Bland & Bown, architects, North Park-road, Harrogate.

Haswell (Co. Durham).—Picture theatre; Mr. J. Garry, architect, 47, Church-street, West Hartlepool.

Hebburn.—Four houses, Argyle-street (710l.); Messrs. S. Oake & Co., builders, Tennant-street, Hebburn.

Heywood.—Warehouse, Simpson Clough, for Messrs. Barker Brothers, dyers, 534, High-street, Manchester.

Horsham.—School, Denne-road (1,915l.); Mr. L. Thompson, County Hall, Horsham.

Hull.—Workshops, stables, etc., Stepney lane (7,760l.); also stables and car sheds, Cleveland-street (2,210l.); Mr. C. Greenwood, builder, Hull.

Keighley.—Additions to hospital for the Keighley and Bingley Joint Hospital Board.

Kettering.—Alterations to public baths (5,000l.); Mr. T. R. Smith, Surveyor, Urban District Council Offices, Kettering.

Kinlochleven.—School; Mr. K. McRae, architect, Kinlochleven.

Lancing.—Parish hall; Mr. O. S. Doll, architect, North-street, Brighton.

Leek.—Offices at gasworks (900l.); Mr. Sampson Salt, builder, Overton's Bank, Leek.

Leigh.—School (2,280l.); Messrs. Goddard & Sons, builders, Dorking.

Lianduno.—Police buildings (4,600l.); Mr. J. Holt, architect, 8, Albert square, Manchester.

Lowestoft.—School, Romanhill (6,323l.); Mr. Abel Round, architect, 1, Newhall street, Birmingham; Messrs. G. & H. Marshall, builders.

Manchester.—Abrasive material works for the Carborundum Company, Ltd., Hull.

Methie.—Theatre; Mr. J. D. Ewanston, architect, Kirkcaldy.

Monaghan.—Dispensary (2,300l.); Surveyor, County Council-buildings, Monaghan.

Montrose.—Shelter (600l.); Mr. S. L. Christie, Surveyor, Burgh Hall, Montrose.

Mossley.—Offices for the Victoria Spinning Company, Ltd., Elder-street, Rochdale.

Mountain Ash.—Isolation hospital; Mr. G. Thomas, Surveyor, Urban Council Offices, Mountain Ash.

Newbiggin.—Stores and houses for the Newbiggin Sanitary and Water Supply Co., Ltd., Newbiggin.

Ossett.—Offices, Pildacre-lane, for Mr. Fitton & Sons.

Pelsall.—School (2,200l.); Mr. J. H. County Offices, Stafford.

Peterborough.—Enlargement of workhouse infirmary (850l.); Mr. George Brown, Surveyor, Peterborough.

Plimpton (near Plymouth).—Territorial quarters; Messrs. Ellis, Son, & Bowdler, Bedford circus, Exeter.

Port Talbot.—Theatre; Mr. Morgan, builder, Sea View, Aberavon, Port Talbot.

Preston.—St. Cuthbert's Church; Mr. Moore, architect, 37, Old Queen-street, minister, S.W.

Queensborough (Kent).—Offices & Works; Mr. W. L. Grant, architect, street, Sittingbourne.

Ramsbottom.—Extensions to works of Bradford Dyes' Association, Ltd.

Ryton (Co. Durham).—Church hall & rooms; Mr. G. Bell, architect, 34, 1/2, street, Newcastle; Mr. T. Charlton, Newburn, Northumberland.

St. Albans (Herts).—School, Stanbury; Mr. H. Fim, architect, St. Albans; Mr. Skelton, builder, Blandford-road, St. Albans.

St. Anne's.—Premises for Messrs. J. Deacon's Bank, Ltd.; Mr. W. C. architect, Chesterfield; Mr. James, builder, 51, Booth Ley-road, Blackpool.

Sholden.—Alterations and additions to Chase Club House; Mr. J. Jefford, builder, Walmer.

Southampton.—Residence; Mr. Poole, architect, 340, Balham Hill, Upper Tooting, S.W. Additions, ca. 1890; Mr. H. F. Street, T. Manager, Southampton.

have been passed for four houses, B. avenue, for Mr. J. Smith, and four Newton-road, for Mr. F. Lowe.

Stratford-on-Avon.—Twenty-four (3,495l.); Messrs. T. Barker & Sons, 14, Swan-street, Loughborough.

Surrey.—New schools at Hook, Hersham (500 places), Byfleet (3,910l.), also additions to school, C. (1,920l.); Mr. H. Ramsay Nares, Court Kingston-upon-Thames.

Swanscombe (Kent).—School; Mr. Dunstall, architect, Bank-chambers, Swanscombe.

Swansea.—Business premises, 6 place, Mr. Henry C. Portsmouth, 6 street, Swansea.

Tibshelf.—Picture theatre; Mr. J. son, architect, South Nortonham, Alf.

Troon.—Church; Mr. J. A. Morris, architect, Wellington-chambers, Ayr.

Twickenham.—Buildings at Orleans (800 places); Mr. F. W. Pearce, S.W. Urban District Council Offices, Twickenham.

Walloway.—Town Hall, North Mead (94,000l.); Messrs. Briggs & Thorneley, architects, Richmond, Blackburn.

Watford.—Additions at Old C School; Messrs. G. Wiggs & Sons, Albans-road, Watford.

Winchester.—Electric theatre; Houston & Houston, architects, 1, Le W.C.

Wood Street (Surrey).—Alterations, 28, Chertsey-street, Guildford.

Yarmouth.—Additions at factory Nicholas-road, for Messrs. Grant & crane manufacturers.

Yorkshire.—Sanatorium (16,000l.); Mr. Edwards, architect, County Hall, Wakefield.

GOVERNMENT BUILDING CONT.

MR. PORTER, on Monday, in the Commons, asked the representative of the Commissioner of Works whether, in the fact that the maintenance and work on the various Government buildings more or less of a regular character, in many cases the same workmen performed the work for years, although tracts have changed hands, he will have consideration given to the advisability of employing these workmen direct and to the profits of contractors.

Mr. Benn, in reply, said:—Long and consideration has already been given question of the advisability of employing the workmen referred to in the Where it is found desirable, work employed direct by the Department, generally it is found that the employment of workmen through contractors under the system is more efficient and economic.

AND BRIDGE, SURREY : CONTROVERSY RECALLED.

the generation is paying very heavily for the men of the past, and the calls of the Richmond and Twickenham with regard to the improvement of river traffic arrangements at this seriously enough, almost the same amount as those of their forefathers and a half ago.

early times at this point a ferry to which many allusions are made of the privy purse expenses of Mary, and Elizabeth, and in 1607 leased by James I. to Messrs. and Edmund Sawyer, of London, for the sum of 13s. 4d. a year, however, had, by the time the was mooted, been raised to "The lease in 1770 was a Mr. whose lease expired in 1798, and the sum possesses a coloured print, bridge of nine arches to be built at Mr. Windham, partly of wood, stone, and dated 1772. In order position of affairs at that time the sketch, which has been prepared in 1741, shows the land on the river and the portion of the existing, and it may be noted that buildings on the Richmond side up improvements at the foot of Hill and the lines of the old plan. approaches were exceedingly steep, dated that an old woman used to livelihood by means of a few chairs to rest on halfway up the slope. position of affairs in 1772, and a entitled:—

The Case of the inhabitants of Richmond to a Bridge between Richmond the opposite shore. 1773.

one, H. Reynell, near Air-street, which shows the arguments for and of whom Mr. Windham. Windham a petition for leave to introduce the House of Commons for building a the ferry and enabling the King to the inheritance of the ferry, and the people appointed a Committee to the matter, for as they were afraid bridge was "to be built at his to be his private property, cheap- attended to in the construction public conveniences," and also on the general unsuitability of the site, position induced Mr. Windham to the Bill.

Committee then set to work to produce a theme, and was of opinion (and the end of George-street was the ion and that Water-lane leading to be widened accordingly. Had none the present traffic difficulty been almost non-existent.

But, too, was considered inadvisable, express of the gradient at Perry-hill or eyes, an outstanding drawback. Committee also drew attention to the access on the Twickenham side, that either an embankment or a over a portion of Twickenham Farm necessary, and to the objections of the

farm owner that it would spoil his view and "destroy the beauty and form of the grounds," the Richmond people answered that the prospect would be "improved by the addition of an elegant stone bridge near the end of Water-lane, and also pointed out that the land was subject to inundations and other disagreeable things, and to the "inroads of bargemen."

However, the forces against the Richmond party, whether Mr. Windham or the Twickenham farm owner, or, as one writer hints, the objection of a royal personage, carried the day, and the present bridge—"a palpable inconsistency," as one Richmond worthy calls it—was erected, with its tortuous approach and steep gradients, which latter were altered about 1830, as may be noticed by an inspection of the balustrade, when it will be seen that the roadway does not follow the line of the coping, but is nearer to the top at the ends. The money for the undertaking was provided by a tonnage—20,000*l.* for the first, and a second of 5,000*l.*, and the bridge was a toll-bridge till March 25, 1859. Looking back over the discussion, it is interesting to note the clear way in which the Richmond people realised the situation, and it is exasperating to think that the present generation are fettered by the obstinacy of the past, for the opportunity is now gone, it is to be feared, for ever, of building a bridge on George-street, as the Twickenham side, once farm land and country lanes, is now a thriving residential suburb, and financial reasons alone are a sufficient objection to the making of new roads on that side. The alternative to widening Richmond Bridge may mean the partial loss of a bridge worthy of the old town of Richmond and an ornament to the river side, but the present traffic problem must be solved, and delay will only mean increased cost.

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended that loans be made to Borough Councils and other authorities as follows:—Wandsworth, 3,000*l.* for acquisition of an open space; Battersea, 1,500*l.* for acquisition of an open space; Hackney, 58,100*l.* for electricity undertaking; Kensington, 1,760*l.* for street improvement; Shore-ditch, 4,139*l.* for electric lighting purposes; and Poplar and Stepney Sick Asylum District Managers, 2,160*l.* for provision of lifts.

St. Paul's Bridge.—In a report presented by the joint Improvements and Highways Committee it was recommended that authority be sought in Parliament in 1913 for the construction of (1) tramways from Southwark-street, over the proposed new St. Paul's Bridge to a point near the most western end of Cheapside; and (2) the construction of a shallow underground subway, with the incidental works connected therewith; and (3) the construction of junction lines between the tramways in Southwark-street and those in Southwark Bridge-road at the junction of those thoroughfares.

London University Site.—The Chairman of the Local Government Committee was asked whether his attention had been called to the proposed acquisition of the Foundling Hospital site for the new London University buildings, and whether, as this proposal, if carried into effect, would undoubtedly involve the destruction of a part, if not the whole, of this old building, he would ask the Committee to consider if steps could be taken by the Council to prevent such vandalism, especially if it could be shown that the existing building could be saved and possibly used for such a purpose as that of the London Museum.

The Chairman, in replying, said that his attention had been called to the matter, and if the proposal to house the London University on the site were carried out there could be little doubt that it would be necessary to destroy a part, and possibly the whole, of the existing building on the site. He promised, however, to bring the matter before the Committee.

THE NEW IMMINGHAM DOCK.

In connexion with the opening by the King on Monday, 22nd inst., of the new dock at Immingham, a knighthood was conferred on Mr. Sam Fay, general manager of the Great Central Railway Company.

LEGAL COLUMN.

Workmen's Compensation.

The Court of Appeal, in a recent case, *White v. Wiseman*, had once again to consider how the average weekly earnings of an injured workman ought to be calculated under the Workmen's Compensation Act.

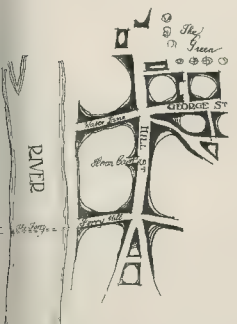
The workman was engaged in the electroplating trade, and had been employed by the same employer for at least twelve months, but part of that time he had been employed on time work, part on piece work. This, it is to be observed, involved no change of grade under Schedule 1, par. 2 (b), therefore the whole period of employment during the twelve months preceding the accident could be regarded. The question really involved was whether certain periods during which the workman had to work short time ought to be regarded in arriving at the average. The County Court Judge had excluded such periods, and the Court of Appeal now held that he was wrong in so doing. The case is really concluded by authority—viz., by a decision of the Court of Appeal in *Bailey v. G. H. Kenworthy* (the *Builder*, January 11, 1908), and of the House of Lords in *Anslow v. Cannock Chase Colliery Company* (the *Builder*, January 2, 1909), but there is some difficulty in applying the principles laid down in these decisions.

If the earnings for twelve months be added together, that will give the man's earnings for a year, but if this sum is divided by the number of weeks in the year, it will not necessarily give the average weekly earnings, as there may have been some weeks in which there was no work. The Act by Schedule 1, par. 2 (c), provides that average weekly earnings shall so be computed as is best calculated to give the rate per week at which the workman was remunerated. If a stoppage of work is a normal incident to the trade, as, for instance, by fixed holidays, this must be taken into consideration, and the amount earned in the year must only be divided by the number of weeks work was available. On the same principle, if, as in the case under consideration, working short time is an incident of the employment, this must be regarded in totalling the earnings and arriving at the weekly average. If, however, a man takes a holiday or is prevented from working by a casualty, this does not affect his earning capacity, and such interruptions need not be taken into consideration.

Contracts with Local Authorities.

SECT. 174 of the Public Health Act, 1875, provides in sub-sect. (1), that "every contract made by an urban authority whereof the value or amount exceeds 50*l.* shall be in writing and sealed with the common seal of such authority." The facts in the case, *Hoare v. Kingsbury Urban District Council* (the *Weekly Notes*), recently tried in the Chancery Division, show the importance of public attention being drawn to the above sub-section.

The plaintiff was owner of a building estate which on one side for a length of 1,000 ft. abutted upon a public road, a narrow lane 20 ft. in width, and on a higher level than the plaintiff's land. The plaintiff deposited plans for the erection of thirty-six houses fronting this lane. The Chairman of the Council suggested that the plaintiff should set back his houses and level up his land, and throw a strip 20 ft. wide and 1,000 ft. long into the roadway, and that in consideration of this the Council would adopt the strip of land as part of the roadway and would make it up as a public road with a footway adjoining his land. An agreement on the above lines was prepared by the Chairman and signed by the plaintiff, and this agreement and the plans were approved by the Council; but the agreement was not sealed. The plaintiff performed all his part of the agreement, the Council took possession of the strip of land, erected three lamp-posts upon it, and connected them with the gas mains at the other side of the road. They obtained the sanction of the Local Government Board for a loan to make up and sewer the lane, and advertised for tenders; but there they stopped short, and, despite repeated applications on the part of the plaintiff made to them to fulfil their part of the agreement, did nothing. In an action for specific performance of the agreement, the Council pleaded first the Statute of Frauds, and, secondly, sect. 174 of the Public Health Act. This was the first intimation the plaintiff received that the contract had not been signed or sealed. The defence under the Statute of Frauds failed, as the defendants had taken possession of the strip of land and there had been part performance; but the Court held that as the defendants did not purport to make the agreement as a highway authority, and the contract was for more than 50*l.* in



Ferry, with the adjacent Streets.
A Survey made in 1741.

As to Messrs. Rowley Brothers, his said that the plaintiff set up a building relating to the estate, and he had in establishing a building scheme. His belief on a building scheme from Lordships' decision was that the plaintiff's building scheme should not be applied to a portion of an estate, provided that which the scheme was applied sufficiently defined. His Lords were not concerned with leases nor giving to each purchaser a right upon the enforcement of the stipulations in them relating to the last other purchaser. The plaintiff was entitled to enforce the stipulation in the lease with which the only one was as to the relief to which he was entitled. The plaintiff's house was a dwelling facing the road, and the house adjacent of the same character. Beyond the defendant's a triangular piece of land was nothing but a building, and the plaintiff to say that such piece should be kept open. The defendant had given their approval to the Messrs. Rowley Brothers building, with a building line. So far as seen from the plaintiff's house, it was an ordinary dwelling-house. In opposite the triangular land were shops. The result of the evidence the plaintiff was such as to lead to the conclusion that the defendant had paid a penny piece, and he said he did not believe that the plaintiff's house had been reduced in the defendants', however, were to treat him as having suffered some loss into Court 50/- without admitting if the plaintiff had been well advised would have taken that sum and so paid to the action. He was now pressing the defendant's contention to put the defendant's building in this position, however, that he ought not to make order, which would be a great loss to the defendants, and would not confer any on the plaintiff. The defendants, however, said that the plaintiff was not to have the sum out of Court by way of for the infringement of his rights, the plaintiff had succeeded in obtaining that which his rights had been intended to give, and that the plaintiff must be paid by Messrs. Rowley Brothers.

Chairman and Members of the Council of Llantrisant.

called upon to assume the judicial tribunal, and the Court could not be faulted for saying that he would not

CHANCERY DIVISION.
(Before Mr. Justice SWINFEN EADY.)
Dispute as to Tenant's Rights :
Appendrodt v. Rosedale.

urged, on behalf of the defendant, that he was entitled to do what he had done, under the covenant in the lease to repair; but his Lordship decided that he could not do the acts complained of under the guise of repair.

Their Lordships held that the judgment of Mr. Justice Joyce was right, and dismissed the appeal with costs.

Finchley.—Plans have been passed for the

Finchley Co-Partnership Society, showing amaking up, paving, and sewerage, etc., the roads adjoining the Royal Albert Hall, subject to the type of artificial flags being satisfactory. The carriageway of Argyle-street is to be widened by setting back the footway on each side of the street for a distance of 70 ft. southwards from Oxford-street, at an estimated cost of 285*l*. In connexion with the paving of the Mall-approach, the tender of either the Acme Flooring and Paving Company (1904), Ltd., at 422*l*. 13*s*. 4*d*., for pine paving, or that of Messrs. William Griffiths & Co., Ltd., at 537*l*. 10*s*., for combined strip paving, is to be accepted, subject to an understanding with H.M. Office of Works, as to which of the two kinds of paving shall be laid. Subject to protective conditions, the offer of Mr. I. Davis, 20, Cockspar-street, managing director of the Electric Pavilions, Ltd., is to be accepted for taking over for the remainder of the Council's lease of the Orange-street Baths, which he intends to convert into a cinematograph theatre at a cost of between 4,000*l*. and 5,000*l*. Subject to the approval of the Marylebone Borough Council to the proposed widening at the corner of Oxford-street and Park-lane, tenders are to be invited for carrying out the necessary paving works, which the Engineer estimates at 830*l*. exclusive of alterations to main, cables, and boxes, which will probably not exceed 200*l*. Plans have been passed for Messrs. L. S. Mouchel & Partners for additions to the British Motor-Cab Company's premises, Grosvenor-road; as have also plans for Mr. E. Wimpey for the Grosvenor Estate Board for the erection of buildings on the south side of Oxford-street.

Hackney.—The sewer in part of Pedro-street is to be reconstructed with 12-in. glazed stoneware pipes for a length of about 127 ft., and with 9-in. glazed stoneware pipes for a length of about 330 ft., at an estimated cost of 106*l*. The estimates of the Borough Surveyor, of 380*l*. and 629*l*., have been approved for making up, as new streets, parts of Portesque and Grandson avenues, respectively. Electricity mains are to be extended in various parts of the district at an estimated cost of 426*l*. Plans prepared by Messrs. Gordon & Gunton, of extensions to the electricity works, have been approved. Mr. W. R. Hood, 8, Union-court, Old Broad-street, E.C., has, subject to the usual sanction, been appointed quantity surveyor in connexion with the building of the North-west Branch Library, at a remuneration of 1*l*. per cent. on the structural cost of the building. The tender of Messrs. A. & S. Wheeler, 193, High-street, Stoke Newington, has been accepted, at 4,545*l*., for the erection of a branch library at Homerton. The following plans have been passed:—Mr. G. Butters, factory, rear of No. 5, Shore-road, South Hackney; Messrs. H. Bradford & Sons, eight houses, Wellington-road; Messrs. J. E. Whitler & Co., additions to factory, Mare-street; Messrs. Sheffield Brothers, warehouse, Retreat-place; Messrs. F. Boreham, Son, & Gladding, conversion of Nos. 60 and 62, Stoke Newington-into picture theatre; Mr. J. S. Alder, additions to St. Barnabas' Mission-buildings, High-street, Homerton.

Heston and Isleworth.—Electricity mains are to be extended at an estimated cost of 850*l*. Plans have been lodged by Mr. W. E. Eburne for the conversion of the "Courtney Arms" public-house into houses; also by Messrs. Roper, Son, & Chapman for six houses in Standard-road, Hounslow.

Islington.—Repairs are to be carried out to portions of the carriageway of Highbury-crescent at an estimated cost of 118*l*. The wood paving in the upper portion of Hornsey-road is to be renewed at an estimated cost of 550*l*. Electricity mains are to be extended at an estimated cost of 580*l*.

Poplar.—Plans have been passed for Mr. A. R. Emerton for the erection of a cinematograph theatre on the site of Nos. 71 and 73, Parnell-road.

St. Pancras.—1,786*l*. is to be provided in the next estimates for repaving the sides of a portion of Camden-road, including the tramway margins, with cross-tied deal blocks. Repairs are to be carried out to the macadam roadway of Anglers-lane.

Stepney.—Electricity mains are to be extended in two roads. Subject to protective conditions, Mr. W. Verrey, 60, High-street, Whitechapel, E., is to be allowed to build over the sewer at the premises mentioned. Plans have been lodged with the London County Council by Mr. D. P. Hayworth for the erection of additions to No. 264, Burdett-road; also by Mr. D. Goldberg for the erection of a building in Great Garden-street.

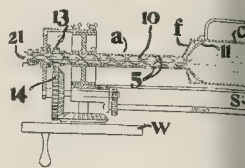
Watford.—The tender of Messrs. Clifford & Gough, at 1,415*l*., has been accepted in lieu of that of Messrs. Bracey & Clark, for the erection of a public convenience in Church-street.

West Ham.—Increased accommodation is to be provided at the Harold-road Handicraft centre. The following plans have been passed:—Messrs. Ward & Ward, cinematograph theatre, Green-street; Mr. W. H. Allerton, seven houses, St. Mary's-road, Plaistow; the Ford's Park Co-operative Bakers; Ltd., alterations and additions to bakery, etc., 44, Plymouth-road, Canning Town; Mr. F. Parnell, extensions to cinematograph theatre, Adamson-road, Custom House; Mr. W. Jacques, Women's Settlement, Barking-road, Canning Town; Messrs. Fuller, Horsey, Sons, & Co., alterations and additions to the late Vinolia Company's premises, Carpenter's-road, Stratford; Mr. J. Wardle, laundry, Humberside-road, Plaistow; Mr. H. Cundy, cinematograph theatre, Richmond-street, Plaistow; Mr. C. J. Dawson, fishmeal factory, Carpenter's-road, Stratford.

Westminster.—The tender of Mr. T. Coulthard, 113, Eaton-terrace, S.W., has been accepted at 116*l*. for carrying out certain alterations at the City Hall. Repairs are to be carried out to a portion of the wood-paving and foundations in the Strand at an approximate cost of 140*l*. A portion of the wood-paving in Piccadilly is also to be relaid at an estimated cost of 70*l*. The tender of the Acme Flooring and Paving Company (1904), Ltd., has been accepted, at 10,620*l*. 4*s*. 1*d*., for

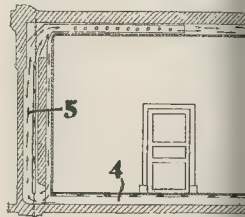
SELECTED PATENTS.

3,103 of 1911.—Samuel Carhart: mouldings. This relates to apparatus for pouring



3,103 of 1911.

and forming mouldings comprising cylinder *a*, containing mortar, and fixed piston *f*, to which is secured provided with a moulding-tool or *t*. The cylinder is detachably mounted *a*, and is forced over the piston *f* by engaging a clamp-nut *p*, and driven *w*. The flow of mortar through *t* is assisted by a conveyor 10 and *s*, which are also driven from *t* through gearing 13, 14. The wheel rotated by hand or by being pressed the wall on which the apparatus is 3,337 of 1911.—Charles Kleinschmied buildings. This relates to the heating of



3,337 of 1911.

wherein the rooms are warmed by heated in a space 5 to be distributed ceiling and to pass between the w room and those of the building, down a space 4 below the floor, whence it and again heated.

OBITUARY.

Mr. F. J. Macaulay, A.Inst.C.E.

The death, on July 18, at his residence, "Alverstoke," Clapham Common, is announced of Mr. Frederic Julius Macaulay, F.R.G.S., aged eighty-two years. He was educated at Carrickfergus and Belfast, and when twenty years old entered the service of the London and South Western Railway Company; he was appointed Secretary in 1880, and eighteen years afterwards was invited to a seat on the direction. He was a promoter of the Waterloo and City electrical line, and the Westminster and Lyme Regis light railway, and was for a while chairman of the Demerara Railway Company. He was a Governor of the Railway Benevolent Institution, and was closely associated with the founding of the Union Jack Club.

PATENTS.

APPLICATIONS PUBLISHED.*

15,639 of 1911.—Arthur Edwin Lamkin: Means for heating kitchen ranges and the like by gas.

15,870 of 1911.—Mary Ewart Cambell, Walter Cambell, and Alexander Pryde: Construction of domestic hearths and the like.

19,183 of 1911.—Conrad Otto Stinebaugh: Cement composition for making concretes and the like.

19,235 of 1911.—Société Drouard Frères: Stone-breaking machines.

19,682 of 1911.—Carl Ernst Rose: Door gauges.

20,629 of 1911.—John Algermisen: Revolving chimney-top.

20,772 of 1911.—James Edward Flynn: Chimney-pots and ventilator shafts.

21,301 of 1911.—Thomas Alison Helm: Fastenings for the doors or gates of yards and the like.

25,505 of 1911.—George Edward Montagnon and Frederic Atkinson: Fireproof floors and partitions constructed in reinforced concrete.

142 of 1912.—Josef Von Vass: Methods of and means for raising and forcing semi-fluid mixtures of materials such as cement, lime, and the like.

2,928 of 1912.—Ludwig Walther Müller: Wash-basin supports.

4,770 of 1912.—Charles Henry Triggs: Window-sashes.

5,082 of 1912.—William Nathaniel Jones, John Robert Ramsay Thomas, Percy Lloyd, and John Frederick Burns: Manufacture of bricks and the like.

6,965 of 1912.—John Henry Nicholas: Sanitary equipment for earth closets.

7,297 of 1912.—Robert Hudson: Glazing and ventilating buildings or structures.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

SOME RECENT SALES OF PRO

ESTATE EXCHANGE REPORT

July 2.—By FRANK PARSONS & Co., Streton-on-Fosse, Warwick: Ditchford Farm, 450 a. 1 r. 19 p., *f*.

July 3.—By BALLS & BALLS, Stamborough, Essex.—Robin Hood Road, New Barn Farm, 122 a. 2 r. 37 p., *f*.

By WAINWRIGHTS & HEARD, Cheltenham, Gloucestershire: Green Ore Estate, 985 acres, *f*.

July 5.—By STEPHEN GREGORY & SON, March, Cambs.—Two fen farms, 197 a. 2 p., *f*.

Whitney, Cambs.—Two farms, 113 a. 31 p., *f*.

July 9.—By W. & T. T. IRESON, Hexham, Northumberland.—Eshells, Embley Farms, 1,288 acres, *f*.

By GABRIEL, TURNER, & SON, Cotton, Suffolk.—Hempnall Hall and Ch Farm, 221 acres, *f*.

Earl Stonham, Suffolk.—Venus Farm, 37 acres, *f*.

Mont Soham, Suffolk.—Woodcroft Hall Farm, five cottages, and 180 acres, *f*.

East Bergholt, Suffolk.—Richardson's Farm, 71 a. 1 r. 39 p., *f*.

By JOHN D. WOOD & Co., Cuckfield, Sussex.—Little Thorndean & Deaks Farms, 147 a. 3 r., *f*.

By KROHRT, FRANK, & HUBERT, 4, Marlton, Durham.—Marlton Estate, 298 acres, *f*.

F.g. rents 90*l*. 1*s*. 3*d*.

By J. G. PLATT, Hammer-smith.—38, 35, and 37, Nasmith-st., w.r. 97*l*. 10*s*.

31, Aldenley-rd., u.t. 68 yrs., g.r. 6*l*. 6*s*. 6*d*.

By FLORENCE, FRANK, & HUBERT, 4, 52, Leyfield-rd., u.t. 54 yrs., g.r. 2*l*. y.r. 36*l*.

By THOMAS BOWEN & Co., Greystoke, Cumberland.—Farm, 63 acres, Low Beckside Farm, 73 a. 2 r. 34 p., *f*.

By HESSE & MARTIN, Littleport, Cambs.—Arable and pasture, acres, *f*.

July 10.—By HENRY & PLATT, Dinas Mawddwy, Merioneth.—Dinas Mawddwy Estate, 940 a. 1 r. 9 p., (outlying portion)

SOME RECENT SALES.—continued on

List of Competitions, Contracts, etc.

Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxii. Conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

Given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

Must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

Cardiff.—**FIRE-STATION.**—The Corporation invite design and estimate for a new fire station in Westgate-street. Mr. Mackenzie, assessor. Particulars in City Hall, Cardiff.

Chorley.—**SCHOOL.**—The Chorley Committee invite designs for a school for about 500 children. See notice in issue of July 12. Premiums £100. Deposit, 21/2s.

Dublin.—**UNIVERSITY COLLEGE.**—Limited to architects in Ireland. Mr. H. T. Hare, F.R.I.B.A., architect, 21, Moynihan to King's College, Dublin. Designs in plaster to be sent to the Director of National Art Gallery, Dublin, on or before the 10th inst.

Glasgow.—**DESIGNER FOR EXTENSION OF BUILDINGS.**—The Glasgow City Council invite architects to submit preliminary designs in competition for the extension of the Glasgow City Council buildings. Five will be selected for further consideration. See advertisement in issue of July 12. Deposit, 11/6.

Huddersfield.—**TOWN PLANNING COMMISSION.**—The Huddersfield Corporation invite the laying-out of certain areas within the borough and part of an adjacent township. 1000s., 500s., and 250s. Deposit, 10/6. See advertisement in this issue for particulars.

Bulgaria.—**DESIGNS FOR A ROYAL LAW COURTS.**—Particulars from the Intelligence Branch of the Board of Trade, London, C.

1913.—**BANGOR.**—**MUNICIPAL COMMISSION.**—The Committee of the Municipality invite designs for the new Municipal Buildings of 3000, 2000, and 1000 sq. ft. for first, second, and third. See notice in this issue, and Competition for further particulars.

Jordanhill, Glasgow.—**PROPOSED COLLEGE.**—Limited to six firms, named in the programme, page 635.

Motherwell.—**HIGH SCHOOL.**—Dr. Mackenzie, assessor. Premiums 500, 300, and 200.

Contracts.

BUILDING.

Given at the commencement of each is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

Coventry.—**ADDITIONS.**—For erection of a new school at St. Nicholas's Church, Radford. Plans and specification seen, and from Mr. Herbert W. Chattaway, Trinity-churchyard, Coventry.

Dudley.—**STAIRCASE.**—For the new staircase at the Dudley Works. Plans and specification with Mr. Ernest W. Bell, architect to the Guardians, Union Offices, St. Paul's, Dudley.

Eastbourne.—**STAIRCASE.**—For the new stone staircase, etc., at the Workhouse. Plans and specification with the architect, Mr. J. M. Inst. C.E., 2, Hyde-street, Eastbourne.

Armagh.—**TOWER.**—For erecting a new tower at the Armagh, Drawing-office with particulars, from Mr. J. M. Inst. C.E., architect, Armagh.

Cheriton.—**COTTAGE.**—Erection of a Landmore Farm, Cheriton, Gower. Plans and specification obtained at Landmore Farm, Cheriton, Gower.

Hop.—**TOWER.**—For the renovation of the Church tower. Specifications and from Mr. J. H. Conde, architect, Hop.

Mullaghshubh.—**SCHOOL.**—For building a new national school at Mullaghshubh, Co. Antrim. Drawings and specifications from Mr. John A. Duff, general merchant, Mullaghshubh.

Pembroke.—**EXTENSIONS.**—For the extension of buildings at electricity works, South Lotts-road, Co. Dublin. Specification, general conditions, and form of tender, with plans, at the Town Hall, Ballbridge, Co. Dublin. Deposit of 10s.

Chichester.—**CARETAKER'S QUARTERS.**—For the erection of caretaker's quarters at the High School for Girls, Chichester. Plans, specifications, and conditions of contract seen, and from Mr. H. P. Roberts, F.R.I.B.A., County Education Architect, Thurlow House, High-street, Worthing.

Dalton.—**ADDITIONS.**—For erection of additions to Grove Cottage, Dalton. Plans seen, and quantities from Messrs. J. Berry & Huddersfield.

Ivybridge.—**ADDITIONS.**—For alterations and additions to the Ivybridge Asylum at Blackdown, Ivybridge. Drawings, specification, and the conditions of contract with Mr. B. Presley Shires, F.R.I.B.A., architect, 21, Lockyer-street, Plymouth.

Bessingby.—**COTTAGE.**—For erection of a cottage at Bessingby. Drawings, etc., with Mr. J. Barnham, architect, Carlton House, Brixington.

Leiston.—**TANK.**—Construction of a grit chamber and settling tank, with manhole and outlet channel, at the sewage outfall works, Leiston. Plans and specifications at the Council Offices, 39, High-street, Leiston.

Llanedarn.—**COTTAGES.**—Erection of three cottages at Llanedarn, near Cardiff. Conditions of contract seen, and plans and specification from the City Engineer, Mr. W. Harpur, M.Inst.C.E., City Hall, Cardiff.

Ilwaco.—**COTTAGES.**—For erection of two cottages, and the construction of a private road to same. Plans and specification with Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., M.S.A. architect and surveyor, Finbury-avenue, London, E.C.

Aberanell.—**BRIDGE.**—Erection of a bridge over the River Dovey. Plans, specifications, etc., at the office of Mr. D. Evans, solicitor, Machynellth.

Kilkeel.—**TOWER.**—For the completion of tower of St. Colman's, Kilkeel. Plans and specification with Mr. J. V. Brennan, C.E., architect, Belfast Bank-chambers, Belfast.

London.—**CONVENIENCES.**—Erection of sanitary conveniences and urinals, etc., at the electricity works, Fulham Palace-road, W. Plans, general conditions, form of tender, and specification from Mr. H. Mair, Borough Surveyor, at the Town Hall.

Keighley.—**COACH-HOUSE, ETC.**—Erection of new stabling, hay-chamber, coach-house, etc., adjoining Kensington-street, Keighley. Quantities from Messrs. R. B. Broster & Sons, architects and surveyors, Craven Bank-chambers, Keighley.

Ebbw Vale.—**THEATRE.**—For erection of an electric theatre, for the Ebbw Vale Cinema, Ltd. Plans and specification seen, and quantities, on deposit of 21/2s., from Messrs. Johnson & Richards, architects, Marbury Tydd.

Ilkley.—**ANNEX.**—Erection of an annex to the King's Hall. Plans seen, and specifications, quantities, and forms of tender from Mr. Henry West, Building Inspector, Town Hall, Ilkley.

Ackworth.—**OFFICES.**—The Directors of the Brackenhill Light Railway invite tenders for the erection of stationmaster's house, four cottages, tranship shed, and weigh office at Ackworth Moor Top. Plans and specification seen, and quantities from Mr. William Bell, Architect to the Light Railway Company, at York.

Hamilton.—**OFFICES.**—Erection of new municipal offices. Schedules from Messrs. Cullen, Leitch & Brown, architects, Hamilton, on deposit of 11/6.

Aberbeg.—**ADDITIONS.**—The Great Western Railway invite tenders for alterations and additions to Aberbeg Station, Mon. Plans and specification seen, and forms of tender and quantities at the office of the engineer at New Station.

Birmingham.—**OFFICES.**—The Great Western Railway invite tenders for the erection of offices, etc., at Small Heath, near Birmingham. Plans and specification seen, and forms of tender and quantities at the office of the resident engineer, at Snowhill Station, Birmingham.

Highbridge.—**SCHOOL.**—Erection of a new infant's Council school at Highbridge. Plans and specification with the architects, Messrs. Samson & Colburn, 51, High-street, Bridgewater.

Kingham.—**SHED.**—The Great Western Railway invite tenders for the erection of an engine-shed at Kingham, Oxon. Plans and specification seen, and forms of tender and quantities at the office of the new works engineer at Paddington Station, London.

Liverpool.—**ADDITIONS.**—For alterations and additions to a warehouse in Chaloner-street, Liverpool. Plans and specification seen, and forms of tender and quantities at No. 11, James-street, Liverpool.

Oxford.—**STABLES.**—The Great Western Railway invite tenders for the erection of stables at Oxford. Plans and specification seen, and forms of tender and quantities at the office of the engineer at Paddington Station, London.

Chesham.—**BATH.**—For construction of an open-air swimming-bath on the moor. Plans and specification with Mr. Percy C. Dormer, Engineer and Surveyor, Council Office, Chesham.

Dublin.—**STATION.**—Erection of a new coast-guard station at Portlaine, Co. Dublin. Plans and specification seen, and forms of tender and quantities, on deposit of 11/6, from Mr. H. Williams, Secretary, Office of Public Works, Dublin.

Tredegar.—**CHAPEL.**—Erection of a new chapel, adjoining Llys-Wedog Bridge, at Tredegar, Mon. Plans and specifications seen, and quantities, on deposit of 21/2s., from Mr. A. F. Webb, M.S.A., architect and surveyor, Tredegar-chambers, Blackwood, Mon.

Abernant.—**DWELLINGS.**—Erection of four blocks, comprising thirty-two tenement dwellings, at Abernant. Plans and specification at the Surveyor's Office, Town Hall, Aberdare.

Fleiton.—**ENLARGEMENT.**—For the enlargement of the primary secondary school. Specifications from the County Surveyor, 36, High-street, Huntingdon.

London.—**FOUNDATIONS.**—The Commissioners of H.M. Works, etc., invite tenders for foundations for new offices for the Public Trustee and Lunacy Commissioners. See advertisement in this issue for further particulars.

Portsmouth.—**MARRIED SOLDIERS' QUARTERS.**—The Secretary of State for War invites tenders for erection of married soldiers' quarters, in flats, at Milldam Barracks, Portsmouth. See advertisement in this issue for further particulars.

Tidworth.—**STABLES.**—The Secretary of State for War invites tenders for erection of two blocks of stables and coachmen's quarters, including approach roads, at Tidworth, Hants. See advertisement in this issue for further particulars.

Weybridge.—**POST-OFFICE, ETC.**—The Commissioners of H.M. Works, etc., invite tenders for erection of the Weybridge New Post-office and Telephone Exchange. See advertisement in this issue for further particulars.

Southend-on-Sea.—**LODGE AND REFRESHMENT-ROOMS.**—The Southend-on-Sea Corporation invite tenders for the erection of a lodge and refreshment-rooms at Southchurch Hall Park. See advertisement in this issue for further particulars.

Southampton.—**CLASSROOM.**—The Southampton Education Committee invite tenders for erection of additional classroom at Cocke's Heath School. See advertisement in this issue for further particulars.

Wandswoth.—**BOILER-HOUSE.**—The Wandswoth Guardians invite tenders for erection of boiler-house and extension of the boiler-house at the Workhouse. See advertisement in this issue for further particulars.

Belfast.—**SCHOOLS.**—For building new National Schools at Lower Sydenham, Belfast. Plans, specification, and conditions of contract with Messrs. Fennell & Clarke, architects, 3, Wellington-place, Belfast. Quantities from Messrs. McCarthy & Brooks, quantity surveyors, Scottish Provident-buildings, Belfast.

Birmingham.—**EXTENSION OF COUNCIL HOUSE.**—The Birmingham Corporation invite tenders for erection of buildings in extension of the Council House. See advertisement in this issue for further particulars.

Cardigan.—**ALTERATIONS.**—For alterations and improvements to the Varsity Council School, Cardigan. Plan, specification, and full particulars with Mr. Geo. Dickens-Lewis, County Architect, Aberystwyth.

BUILDING—continued.

The data given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

No DATE.—**Cheadle**.—School.—Erection of a new Council school at Cheadle, near Stoke-on-Trent. Quantities, on deposit of 1l. is., from Mr. Graham Balfour, Director of Education, County Education Office, Stafford.

No DATE.—**Cockburnspath**.—School. Erection of a new school at Cockburnspath. Schedule, on deposit of 2l. 2s., from Messrs. Gray & Boyd, architects, 2, Ivy-place, Berwick-on-Tweed.

No DATE.—**Crownhill**.—Additions, etc.—For alterations, additions, and repairs to farm buildings, Whiteleigh Hall, Crownhill. Messrs. Carder & Carder, civil engineers, architects, and surveyors, 24, Lockyer-street, Plymouth.

No DATE.—**Dolphinton**.—School.—For erection of proposed new school-house at Dolphinton. Schedule, on deposit of 10s. 6d., from Messrs. Traill & Stewart, 38, High-street, Lanark.

No DATE.—**Folkingham**.—House, etc.—For new dwelling-house and stables. Mr. G. W. Cooper, Lic.R.I.B.A., architect and surveyor, 1, Market-place, Slough.

No DATE.—**Guisborough**.—Nurses' Quarters.—Erection and completion of new nurses' quarters and corridor at the south side of the Workhouse Infirmary. Quantities and form of tender from the architects, Messrs. J. J. Taylor & Minor, A.R.I.B.A., Post Office-chambers, Derlington, on deposit of 1l. is.

No DATE.—**Middlesbrough**.—Bakery.—Erection of a bakery in Saltwells-road, Middlesbrough. Bills of quantity from Mr. W. E. Haslock, architect and surveyor, 143, Albert-road, Middlesbrough.

No DATE.—**Rhyhope**.—Offices.—Erection of new Council offices. Architect, Mr. Geo. T. Brown, F.R.I.B.A., 51, Fawcett-street, Sunderland.

No DATE.—**Wigginton**.—Additions.—For alterations and additions to the schools. Architect, Mr. William Huckle, Tring.

ENGINEERING, IRON, AND STEEL.

JULY 29.—**Stratfield Mortimer**.—Waterworks.—For the construction of waterworks in Stratfield Mortimer, consisting of water mains, engine-house, and water-tower. Particulars and forms of tender from the consulting engineer, Mr. H. Howard Humphreys, 29, Victoria-street, Westminster, S.W. Deposit of 5l.

JULY 30.—**Swansea**.—Pipes, etc.—For alterations and additions to the suction and discharge pipes, work for suction chambers, strainers, work at dock side, and excavations. Specification and general conditions, and form of tender from the Borough Electrical Engineer, Mr. C. A. L. Prusmann, Electricity Department, Strand, Swansea. Deposit of 1l. is.

JULY 31.—**Atherton**.—Transformer.—For one 250-lw. single-phase transformer. Particulars from Mr. C. T. Astbury, Resident Engineer.

JULY 31.—**Cabrach**.—Bridges.—For the construction of a steel girder bridge over the River Deveron at Lescurdie. Plans and specifications with Mr. R. Davidson, Road Surveyor, Dufftown, or with Mr. J. Barron, M.Inst.C.E., 214, Union-street, Aberdeen. Quantities on deposit of 1l.

AUGUST 8.—**Frome**.—Tank.—For the construction of an underground brick water-storage tank at Nunney Catch, near Frome. Specification and plans with Mr. J. A. Beynon, Surveyor, Nunney-road, Frome.

AUGUST 12.—**Widnes**.—Lock Entrance.—For the construction of a new lock entrance leading from the Widnes West Bank Dock into the Mersey. Plans and specifications and contract drawings, with quantities and form of tender, from the Trustees. Ditton-road-chambers, Widnes. Deposit of 5l. The consulting engineer for the work, Mr. R. R. Wilton, A.M.Inst.C.E., 18, Westminster-chambers, 1, Crosshall-street, Liverpool.

AUGUST 13.—**Martavy**.—Waterworks.—Construction of works for water supply for the village of Martavy. Plans and specifications with Mr. T. H. Harris, A.I.S.E., 1, Millbrook-place, Tavistock.

FURNITURE, PAINTING, MATERIALS, etc.

JULY 30.—**Bromley**.—Painting.—For external painting at the Municipal Buildings, Twesley-road, Bromley. Specification from the Borough Engineer, Bromley.

JULY 30.—**Cardigan**.—Painting, etc.—For painters' work at the mentioned Council schools: Liedrod, Strata Florida, Myrdlyn, Cross Inn (Llanon). Specification and particulars from Mr. G. Dickens Lewis, M.S.A., County Architect, Aberystwyth.

JULY 31.—**Ely**.—Painting.—For painting at Isolation Hospital, Ely. Specification with the Surveyor, Mr. James Holden, A.M.Inst.C.E., 20, Fark-street, Cardiff.

JULY 31.—**Govan**.—Painting.—For the repainting of dining hall at Merryflatts Poorhouse, Govan. Quantities and form of tender from Mr. J. Thomson, Governor, Poorhouse, Merryflatts, Govan.

JULY 31.—**London**.—Glazing.—For the glazing of a portion of the South Court at the Victoria and Albert Museum. Drawings, specification, and a copy of the conditions and form of contract with Mr. G. J. T. Reavell, Office of Works, etc., Storey's-gate, London, S.W. Quantities and forms of tender on deposit of 1l. is.

* AUGUST 1. **Kensington**.—WARD LOCKERS.—The Kensington Board of Guardians invite tenders for thirty-eight Canadian birchwood ward lockers for the infirmary. See advertisement in this issue for further particulars.

AUGUST 2.—**Stockport**.—Painting.—For painting various bridges, etc., in the borough. General conditions seen, and specification, with forms of tender, from Mr. J. Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

AUGUST 5.—**Bedlington**.—Tubes.—Supply of 100 yds. of 15-in. steel tubes, coated. Particulars from the Surveyor, Mr. J. E. Johnston, Bedlington.

AUGUST 6.—**Sunderland**.—Painting, etc.—For the inside cleaning, etc., of the Victoria and two adjoining halls. Specifications seen, and schedule and form of tender at the Borough Surveyor's Office, Town Hall.

AUGUST 7. **Richmond**.—PAINTING.—External painting, cleaning, etc., at office and shot, Richmond. Specification and form of tender from Mr. Percy Umney, Clerk, Guardians' Offices, Parkside-mound, Surrey.

ROADS, SANITARY AND WATERWORKS.

JULY 29.—**Swansea**.—Road.—For construction of a new road from Co. Wainarwydd. Plans, specification, and conditions of contract at the Council Office, Swansea. Deposit of 2l. 2s. Mr. G. P. Thomas, Surveyor, Station-road, Fforestfach.

JULY 30.—**Clayton**.—SEWERAGE.—Construction of 225 yds. of sewers. Drawings seen, quantities, and form of tender at District Council's Office, Clayton.

JULY 30.—**Richmond**.—WATERWORKS.—Ing and joining 1,553 yds. of 6-in. water-main, joining in sluice valve hydrants in the Kew-road, Richmond. Conditions and form of tender from Mr. W. C. Walworth, Engineer, Riverside, Richmond, Surrey.

JULY 31.—**Birmingham**.—Road Works.—For the repainting of part of St. Martin's-road, Ward End. Drawings seen, quantities, and form of tender at Mr. H. Salage, M.Inst.C.E., City Engineer, Surveyor, Council House, Birmingham. Deposit of 2l.

JULY 31.—**London**.—PAVING.—For repaving the carriage-way of Uxbridge with canted deal blocks, on existing Specification, with form of tender, from Mr. M. Inst.C.E., Borough Surveyor, Hall, Hammersmith, W.

AUGUST 1.—**Surbiton**.—STREETS.—For street improvement works at Malvern, Surbiton. Drawings seen, and specification of quantities from the Public Health Council Offices, Ewell-road, Surbiton, of 1l. is.

AUGUST 3.—**Glasgow**.—SEWERAGE.—For construction of an 18-in. pipe sewer at the avenue from end of existing sewer, east Millbrae-road; and a 5-ft. brick sewer in Millbrae-road; and Cockburn-road. Specifications and forms of tender at the Office of Publicity-chambers, 64, Cochran-street.

AUGUST 6.—**Sanbury-on-Thames**.—G. For the supply of 100 tons of Kentish pit flints. Particulars from Mr. H. F. A.M.Inst.C.E., the Surveyor to the Corporation, Sanbury-on-Thames.

AUGUST 7.—**Swansea**.—SEWERAGE.—For construction of new sewers. Plans seen, conditions of contract, specification, quantities, and form of tender from the engineers, Braddy & Partington, A.M.Inst.C.E., Hall, Chapel-en-le-Frith, on deposit of 2l.

AUGUST 19.—**Newcastle-upon-Tyne**.—DRAINAGE.—For drainage work in the in Jesmond-road. Mr. A. Stockwell, 11, Pilgrim-street, Newcastle-upon-Tyne. Particulars from the Surveyor, Mr. Frank Braddy, 21, Church-street, Newcastle-upon-Tyne, with granite macadam, of about 10,000 yds. of the London-Portsmouth road. Particulars and form of tender from the Engineer and Surveyor, Mr. Frank Braddy, 21, Church-street, Newcastle-upon-Tyne. A.M.Inst.C.E., the Council House, Chichester, Buxton.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.
*QUANTITY SURVEYOR.....	Hendon U.D.C.....	Not stated....

Auction Sales.

Nature and Place of Sale.	By whom Offered.
*FREEHOLD BUILDING LAND, POTTER'S BAR.—At the Mart	Elliott, Son, & Boyton
*BUILDER AND CONTRACTOR'S STOCK.—At 174, West Green-road, Tottenham	J. Hibbard & Sons
*FREEHOLD BUILDER'S YARD.—At 174, West Green-road, Tottenham	J. Hibbard & Sons
*TIMBER.—At Bury St. Edmund's	Lacy Scott & Sons
*MOTOR CHASSIS.—At Mill-lane Depot, West Hampstead, N.W.	Stuart & Curzon
*FREEHOLD BUSINESS PREMISES, LANDS, ETC.—Northampton	Peirce & Thorpe

SOME RECENT SALES—continued from page 124.

July 10.—By T. D. & A. R. PRACY.			
Muswell Hill.—29, Kings-av., u.t. 81 yrs., g.r. 11l. 11s., ex. 70s.	2520		
By J. E. LAWRENCE.			
Samblesbury, Lancs.—Higher Park Farm, 28 a. 2 r. 16 p., l.	1,420		
July 11.—By RICHARDSON & TROTTER.			
Rufforth, York. Grasslands Farm, 194 a. 2 r. 12 p., l.	3,325		
By FRANK LLOYD & SONS.			
Llanfihl, Denbigh.—Llwyn-Ynn Estate, 2,000 acres, l.	49,173		
By ALFRED J. BURNHOS.			
Lenham, Kent.—Mansion Farm, 59 acres, f....	2,300		
July 12.—By CLARKE & CO.			
Hackney—56 to 66 (even), Barkshire-rd., u.t. 45 yrs., g.r. 27l., w.r. 186l. 8s.	440		
By FIELD & SONS.			
Brixton.—Vicary-street, f.g.r. 13l. 10s., reversion in 40 yrs.	4,905		
Allington-st., f.g. rents 17l. 10s., reversion in 30 yrs.	410		
Conwall-rd., f.g. rents 65l. 12s. 6d., reversion in 30 to 51 yrs.	1,575		
Greenwich.—Burgos-gr., f.g.r. 20l., reversion in 45 yrs.	330		
Peckham.—Groun-rd., f.g. rents 97l. 17s., reversion in 49 and 51 yrs.	2,300		
By KNIGHT, FRANK, & RUTLEY.			
Westminster.—305, Vauxhall Bridge-rd. (s.), y.r. 65l.	1,525		
By CUMBERBELL, LACE, & CO.			
Penge.—169, Beckenham-rd., u.t. 50 yrs., g.r. 81s., y.r. 45l.	280		
By MONAY & JOHNSTON.			
Orpington, Kent.—St. Peters-rd., 10kworth Cottages, l.	425		
By HERB. G. MARTIN.			
Downham, Cambs.—Agricultural estate, 80 acres, l.			
By DRIVER, JONES, & CO.			
Arthuret, Cumberland.—Part of Netherby Estate, 1,744 acres, f.			
July 13.—By BRITTON, KNOWLES, & CO.			
Newent, Glos.—Clifford Manor Estate, 214 acres, f. (outlying portions)			

Contractions used in these lists.—F.g.r. for ground-rent; l.g.r. for leasehold ground-rent; improved ground-rent; g.r. for ground-rent; f. for freehold; l. for leasehold; y.r. for yearly rental; q.r. for quarterly rental; y.r. for year's rent; l. for lease; s. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; gds. for gardens; yd. for yard; h. for house; b. for business; p. for public-house; o. for office; s. for shops; et. for court.

METALS (Continued)

[illegible]

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday, [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner, and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100, unless in some exceptional cases and for special reasons.]

*Denotes accepted. †Denotes provisionally accepted.

ATHY.—For erection of twenty-one houses. Mr. J. F. Reade, A.M.Inst.C.E., architect, Waterford:—

	No. 1 Site.	No. 2 Site.	No. 3 Site.
	£ s. d.	£ s. d.	£ s. d.
D. Carbery, Athy	2,544 7 11*	1,376 5 6	
D. Toomey, Athy	—	1,424 5 0	704 10 0*
J. Norman	—	—	685 10 0
M. J. Sweeney, Portlanning	2,556 10 0	1,264 2 10*	870 3 4
Delany & Salor	2,570 0 0	1,410 0 0	750 0 0
M. H. Barry	3,070 0 0	1,663 10 0	727 10 0

† Partial.

BECCLES.—For the erection of new shops, etc., Smallgate-street, Beccles, for the Beccles W. Ms. Co-operative Association, Ltd. Mr. Arthur Pells, F.S.I., architect, Beccles:—

Parkington &		Sparkes &	
Son	£3,650 0 0	Latten	£3,100 0 0
Riches & Son ..	3,400 0 0	Hindes & Co. .	3,100 0 0
Carter & Wright	3,337 0 0	H. A. King ...	2,995 0 0
Scarlus Bros. .	3,265 0 0	A. G. Beckett	
W. C. Read	3,220 0 0	& Son	2,973 9 9
Crimwood & Son	3,192 0 0	G. Johnson ...	2,800 10 11
Youngs & Son ...	3,148 0 0	H. Hindes .	
Plummer & Son	3,140 0 0	Beccles* ...	2,784 0 0
C. Grimwood &			
Son, Ltd.	3,132 0 0		

LONDON.—For work to be executed at premises Nos. 104, 106, 108, and 110, High-street, Kingsland, N., in compliance with 1905 Act (Fire Escape, etc.), for Messrs. Edwards & Wise, drapers. Messrs. H. Gordon Wilson & Co., architects and surveyors:—

B. Ward & Sons	£111 0 1	A. Webb, Stratford	
G. Hanter & Son	230 10 0	ford	£285 0 0

LONDON.—For enlarging the Victoria-road School, Peckham, for the London County Council:—

F. W. Fletcher	£1,037 9 6	H. L. Holloway	£240 0 0
Triggs & Co.	1,032 0 0	J. & C. Bowyer, Ltd.	
W. Akers & Co., Ltd.	1,023 0 0	H. H. Hollingsworth	929 0 0
H. Groves	993 0 0	G. Parker & Sons	8 0 0
J. Appleby & Sons	967 0 0		

LONDON.—For the reconstruction and widening of the bridge carrying High-street, Wandsworth, over the River Wand, for the London County Council:—

A. Thorne & Sons	£5,685 10 6	A. N. Cohen	£5,880 19 1
J. Ford	5,574 12 0	J. Mowlem & Co., Ltd.	5,748 0 0
Dick, Kerr, & Co., Ltd.	5,911 14 0	W. Muirhead & Co., Ltd.	5,550 10 3
Rowlingsons & Co.	5,902 12 3	Kirk & Randall	5,510 8 2

LONDON.—For erection of three centrifugal pumps for the Falconbrook pumping-station, for the London County Council:—

Jens Orten-Böving & Co.	£23,141
Fullerton, Hodgart, & Barclay, Ltd.	2,766
Rees Roturbo Manufacturing Co., Ltd.	(2,160)*
Drysdale & Co., Ltd.	2,158
J. Coolrane	1,800

LONDON.—For repairs to terrazzo paving, Joyce Green Hospital, Dartford, for the Metropolitan Asylums Board. Mr. W. T. Hatch, Engineer-in-Chief:—

J. F. Ebner	£196 17 6
L. & L. Taffurelli	140 12 6
Diespeker & Co., Ltd., 57-60, Holborn-viaduct, E.C.	140 0 0

LONDON.—For supply of valve grids and valves at the Abbey Mills pumping-station, for the London County Council:—

Ashton, Frost, & Co., Ltd.	£1,988 0 0
Hunter & English, Ltd.	171 18 0
Clayton, Goodfellow, & Co., Ltd.	112 4 6

PONTEFRAC.—For erection of the Crosekers Hotel, stables, etc., for Messrs. Beverly Bros. Messrs. Garside & Pennington, architects, Pontefract. Quantities by architects:—

Brick and Stone Work: W. Horner, Pontefract	£1,385 10 0
Joiners: D. Jackson & Son, Pontefract	381 10 0
Plumber and Glazier: W. H. Keighley, Pontefract	235 10 0
Plasterer: T. W. Tenion, Pontefract	63 10 0
Slater: W. P. Allinson, Castleford	80 0 0

SHERBORNE.—For erection of new head quarters in Aceman-street, for the Territorial Force Association for the County of Dorset. Mr. F. T. Matby, A.M.Inst.C.E., architect and surveyor, Dorchester:—

H. Gillingham	£2,490 0 0	F. B. Bartlett	£1,934 0 0
Tasty & Baker	2,382 11 0	Guppy & Son	1,900 0 0
Burt & Viall	2,218 0 0	H. Moore & Son, Sherborne	1,735 0 0
F. Merrick & Son	2,059 0 0		

WALTHAMSTOW.—For renovations and improvements to various schools, for the Walthamstow Education Committee. Mr. H. Prosser, M.S.A., Architect to the Committee:—

William Morris Schools.	
S. Blow, Ltd.	£399 14 1
A. G. Barton, Walthamstow	371 10 0

Coppermill-road Schools.

A. G. Barton	£446 0 0	J. & J. Dean, Walthamstow	£285 0 0
S. Blow, Ltd.	309 9 3		

Wood-street Schools.

S. Blow, Ltd.	£196 13 4	A. J. Wick	£154 0 0
A. G. Barton	185 0 0	Webb & Co.	149 0 0
J. Sands	192 0 0	J. F. Penn, Walthamstow	130 5
J. & J. Dean	160 0 0		

Salway-avenue Schools.

A. G. Barton	£123 10 1	J. F. Randall	£104 8
D. W. Lucas	119 0 0	J. F. Penn, Tot.	99 5
Webb & Co.	118 0 0	J. F. Penn, Walthamstow	73 12

Forest-road Schools.

Webb & Co.	£48 0 0	J. & J. Dean	£44 0
A. G. Barton	47 10 0	J. Sands, Tottenham	37 0
J. F. Randall	46 10 0		

St. George's Schools.

A. G. Barton	£28 0 0
J. Sands, Walthamstow	26 10 0

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WINCHCOMB.—For alterations and additions to Workhouse Infirmary. Messrs. Philpotts architects, Cheltenham:—

Building.	
Tilt	£2,780 17 2
Wilson	2,562 0 0
Dorset	2,464 0 0

Heating.

Festham	£215
Tilt	160
Nicholls	149
Dorset	147

† Accepted subject to Local Government.

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THE BUILDER

JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

L.—No. 3636.

ILLUSTRATIONS.

AUGUST 2, 1912.

ON AUTHORITY: COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES. "THE BUILDER" REGENT'S QUADRANT COMPETITION: DESIGN BY MESSRS. ROBERT BOWDEN & WALLIS. CROMIE & T. H. GIBBS. DITTO, PRIZE OF FIVE GUINEAS. BY MR. GEO. DRYSDALE, A.R.I.B.A.

ILLUSTRATIONS IN TEXT.

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"I KNOW OF BUT ONE ART."

THE practice of the Renaissance was such that it often seems there was but one art, and that artists, from their general training, themselves competent to work at painting, sculpture, and architecture quite apart from the possessions. For not only were great able to use this triple expression but innumerable less talented. The system which taught their craft—their apprenticeship workshop or *bottega*, where all activity prevailed—may have been possible for this to some extent, it was of equal importance was of life towards art; it demanded something of it. Its various and innumerable of life, all had to be by its golden hand. "All things and household use, drinking-bottles, instruments of music," no detail of domestic or religious but became the sufficient workman, and as such was always fair. It filled "the common ways with the reflection of some far-off

brightness." Art was, in fact, not a thing apart from the manifold activities of life, but the crown and head of them.

The distinction, as we know it, between the beautiful and merely useful did not exist. And although, in their lives, it may seem to us that the exuberance of passion and joy sometimes overflowed into excesses, yet, on the whole, it was buoyant and beautiful. It was, indeed, as if life itself, in its labyrinthine course, was inspired by art to natural and joyous issues. The many activities of poetry and art, of religion and philosophy, had in the XVth century in Italy a common starting-point, a common course to run, and this oneness of aim gives a peculiar character to the age. A new world was shown to men who found it a fair and wondrous place in which it was well to live. It was like the coming of dawn—the still grey silence of the end of night, the fleeting stars, the hushed expectancy, and then the rapturous breaking into song of all nature at the advent of the sun. Such, it seems to us, was the Renaissance which culminated in the middle of the XVth century.

The tendency of the age, that there

was but one art, is exemplified by several great men—by Leonardo, whose insatiable curiosity led his spirit into the mazed bypaths of experiment, but still better by Michelangelo, whose strength was greater, if his curiosity was less, than the other. For one brief moment these two men, the greatest of their time, appear in competition. When Michelangelo had finished his "David" in 1504 he was given a commission to prepare a cartoon to place in the Palazzo Vecchio on a wall opposite that already apportioned to Leonardo, whose famous design, the "Fight for a Standard," was already in preparation. Michelangelo chose for his subject an episode from the war with Pisa, when a band of Florentines were surprised bathing in the Arno, by Sir John Hawkwood. The subject supplied the artist with the *motif* he loved—nude figures of men in the varied attitudes expressive of haste and surprise. Both cartoons have perished, but they can never have seriously been in competition with one another; for each summed up an epoch. Both were personalities of commanding stature. Michelangelo, however, seems to stand more apart from the

current of life. He appears a solitary brooding figure, like his own "Moses." But better than any other artist he gave to his art this threefold expression in works which can never be surpassed. In the Sistine Chapel he painted a vault that is at once painting, sculpture, and architecture. The Chapel of the Medici shows architecture and sculpture wedded as they have never been since the days of Pericles, and at last he was permitted to build his dome of St. Peter's among the clouds. Lorenzo Bernini, a century later, practised architecture, painting, and sculpture. He was called the Michelangelo of his century, and Ruskin joined them together in a common ridicule to make an epigram. Bernini still is so little considered that the English biographical dictionaries do not even mention his name. It was he, it will be remembered, who gave Wren a glimpse of his plans for the Louvre. Why Ruskin's slight should have been allowed to obscure the undoubted talents of this great artist is exceedingly strange; for no man, if we except Wren, has been able to give a character to a city as he has done. The scale of Rome, as we see it to-day, is really that of Bernini, not of Ancient Rome, as is so often imagined. And to condemn him because of his leaning to the "Barocco" is to make him responsible for the tendencies of his age. But if one will, calmly and without prejudice, study the work of this period, he will find much that is stately and noble, that the "florid efflorescence" had little in common with the gigantic measure of Bernini. He built altars, tombs, and palaces in a great style of design.

Bernini, in his life, was treated in princely style, popes and kings vying with one another to obtain his services. Besides his many architectural works, he produced an innumerable number of statues, busts, and paintings. He also wrote for the theatre. Indeed, his energy was such that no form of activity came amiss to him.

Since then art has been so much subdivided that it is difficult for an individual to combine in himself the technique necessary for the practice of a threefold expression of art. In architecture, for example, the exigencies of planning are so complicated that it almost becomes a separate branch of art or science, and many other considerations make it increasingly difficult to do other than specialise.

But what is necessary for the health of art is a mutual understanding of its various branches. Alfred Stevens was the last great artist who attempted to practise the triple expression of art and who achieved notable work in every one. When he entered the competition for the Wellington Memorial he chose for his motto, "I know of but one art," a paraphrase of the *Vé un arte sola* of Michelangelo. Unfortunately, he was adequately employed in none, and nothing is more tragic than to examine a collection of his sketches, which are invariably for something never carried out. Yet we suppose his Wellington Memorial is the finest monument in England, and his few designs which were carried out possess a rare quality of beauty. But there is that against this practice of universality—that the artist

may be neglected. Art itself, however, does not suffer—in Stevens's case it was quite the reverse. It should be possible, however, to adopt a middle course which would still be for the good of art, and which would at the same time advance the reputation of the artist.

The old system of the Italian *bottega* is no longer possible. This is our undoubted loss; for in these, workshops were continued from generation to generation, a tradition in a state of growth or increase. The numerous legends of pupils surpassing their masters simply means that technique had moved on a step. To-day it may be said that all technical methods are fixed, there is growth in them no more; they can be learnt by almost any clever student. But, unfortunately, they are scarcely taught, and the student has to move in a welter until he discovers his trade for himself. The old system gave a perfect training in mere workmanship.

Besides a profound knowledge of his own particular craft, the artist should understand the scope of the various expressions of art. Easel-painting may stand apart, but decorative painting, sculpture, and architecture cannot; they touch one another at so many points, their orbits cross and recross, so that a mutual understanding is essential to their health. Architecture, indeed, if she is to remain the Mistress Art, must know intimately her fair handmaidens—painting and sculpture. Whether they will ever dwell together in one fair mansion as they did in the age of Phidias, and in the XVth and XVIth centuries, lies entirely with artists. If they accept the larger issues of art as a part of life they can disregard none of its manifestations, but must cherish and understand them. For *Vé un arte sola*, which with paint and marble and stone builds up beautiful conceptions of the earth and the divine form of man—and, in architecture, the most impersonal in its expression, raises out of the quarry, as if by some magic music, ordered and harmonious piles, eternal as the impassive hills. One spirit presides over their birth—painting, sculpture, and architecture—and gives them a beauty beyond that of the world.

FURTHER IMPROVEMENTS AT THE MARBLE ARCH.

THE mere idea of shops in Park-lane strikes, as it were, at the roots of British respectability. Park-lane is, or rather was, considered the sacrosanct dwelling-place of all who are most blue in blood and faultless in lineage. We wonder how such a rumour would have been received a generation or so ago, by Thackeray's world of Vanity Fair, for instance? You can picture the uplifted hands, the shocked looks, and almost hear the outcry of Mayfair that the world was going rapidly to the dogs. On the present occasion the removal of an inn parlour from a country town would seem to have caused more emotion. It was not even reported that an American had bought the threatened site and presented it to the nation. The truth is that the glory of Park-lane is passing. Since gold was discovered in South Africa the thoroughfare as a place

of residence would seem to have been these days the prestige of vast wealth, and not add to the amenities of a residential neighbourhood. Shops in Park-lane, notwithstanding, would have been an ill-advised scheme, and we are glad to see that it has been abandoned. There are plenty of streets and sites in the immediate neighbourhood which are much more suitable for business purposes. The Grosvenor Estate is to give 60,000l. for public improvement at Marble Arch, which will include a particular corner of Oxford-street. Park-lane which was in danger of being widened at the junction of the street will now be widened at the junction by 16 ft., and Park-lane, at the other end, by 10 ft., the junction of the thoroughfares being rounded off by an additional 27 ft. being thrown into a public thoroughfare. The actual area of the land ceded by the Grosvenor is 5,139 sq. ft. This is a considerable gift, and we are quite ready to share in the expression of gratitude which Mr. F. W. Speaight, in the printed on page 142, considers to be due to the donors. We are even inclined to include in that expression of gratitude Mr. Speaight himself. It is not often that a member of the public shows so much public spirit and enterprise as Mr. Speaight manifested seven years ago, when the agitation for the improvement at the Marble Arch first began to arouse the attention of the man in the street. Mr. Speaight, in the forefront of that agitation, devised schemes for the consideration of the public authorities, and he neither his energy nor his pocket in effect to his ideas. In the summer of 1905 we commented on a pamphlet proposed improvement which he then recently issued, illustrated by and perspective drawing by Mr. Davison. The scheme, which has been largely carried into effect, and no doubt will now be complete, full, propounded the forming of a semicircular place and leaving the arch in its present isolated position. Arguments were brought against the arch as a solitary feature in the plan; and, curiously enough, at very time the authorities in Park-lane becoming disturbed about the grandeur of Fontaine and Percier's *Triomphe du Carrousel*, erected by Napoleon in the Tuileries Gardens. French authorities proposed continuing the arch with balustrades; but as our observation goes when we leave the arch, in the spring of the present year this has not been done. But we leave the arch solitary? It agrees with historical precedent; the triumphal arches of the Romans were, we know, invariably allocated to individual and lonely sites; and just as the *Triomphe du Carrousel* was a copy of the Arch of Severus, so John Nash, the designer of the Marble Arch, derived his inspiration from the Arch of Constantine. But the Marble Arch in its original position in front of the chief entrance to Buckingham Palace was not a triumphal arch, nor did it carry the sense that the arches were, although, as it was to carry the royal banner, we may say that it more or less expressed the

bol. It was removed from its position in 1851, as it was not the design for building the of Buckingham Palace. As as designed by Nash, and as reliefs were modelled by not to speak of its cost, which, and the almost unsuspected material is marble from the Carrara), it is perhaps entitled respectful artistic consideration ally receives. Its metal gates, and cast by James Parker, are some attention.

improvement at the Marble not been received with complete aesthetic grounds, there can not that the change has been the better; it has certainly what town-planners call the "of the site, and to our arch has gained enormously tive feature. As a means for ation of traffic the improve compare favourably with that metropoliton readjustment for purpose of recent times. Pre the alteration this was one most congested cross-thorough- London. There is now no traffic more speedily negotiable. ot of time and nervous worry the course of the year to the who daily use the route must rable. The absorption of the corner of Park-lane in the theme will assist in giving the h of completeness which was the first instance by those who it.

NOTES.

SINCE publishing the article in our last issue on this subject we understand that an Approved for architects' assistants is timed at the suggestion of the Rural Association, who are in ation with the Royal Institute of Architects and the Surveyors' with a view to circularising ubers of all three bodies ely. Our only doubt at the riting as to the success of such y was based upon what we to be insufficient numerical but if these three bodies ombined membership is close a thousand) act together, and ubers unite in pointing out to employed by them the un- advantages of such a society, d prove a great success and ficial to all those employed tects' and surveyors' offices. an be no doubt that, given numbers, the additional benefits e greater than those offered ties which admit members of grades, professions, and trades. rulate the Architectural Asson their enterprise.

We understand that the expert committee appointed to advise the ment of India respecting the site e plans for the new Delhi has ed the position of the site and ral idea of the plan. The most

important feature of the new city, we are told, will be Government House and its precincts, to be designed by Mr. E. L. Lutyens, which will face a wide avenue forming a vista, terminated by the Jamma Musjid; so connecting the old with the new. The native Moghul style of architecture not having been considered suitable, it is proposed to erect the new buildings after European Renaissance models, modified to suit the peculiar climatic conditions of the country. An open space of parkland, some 1,000 yds. wide, will be left between the old cities and the new. The committee, we learn, will return to India in December, by which time a beginning can be made with building operations. The main connecting avenue will be begun as soon as possible after the rains, which in this district cease in September. Considering the great importance of this scheme, and its high political and Imperial significance, it would be most interesting if the plans could be published before the work is actually carried out.

The Small Landowner.

LORD LANSDOWNE'S recent speech in the House of Lords, and the still later pronouncement of Mr. Bonar Law at Blenheim, commits the Unionist Party to a policy of legislation on behalf of the small landed proprietor which has already been inaugurated by their political opponents. The effect of this policy will have considerable influence on the practice of architecture. According to Mr. Bonar Law, the Unionist Party proposes to give the small holders the "security and pride of ownership." The breaking-up of large landed estates has for some time been in progress. The change, therefore, which is being effected will ultimately largely change the character of building operations in rural districts. This opening up of the land and large addition to the number of small proprietors, not to speak of the general increase of the rural population, will no doubt give a considerable impetus to building in places where building hitherto has been the last thing contemplated. A multitude of farms and cognate buildings will take the place of solitary manor-houses and large residences. We are not, however, inclined to view this change with the dismay with which it is regarded by architects whose practice has been chiefly concerned with the latter type of building. The conditions of life are rapidly altering; both political parties are committed to policies which tend in a socialistic direction, but (and this fact ought to be kept in view) not more so than our continental neighbours. Whatever our personal feeling may be, it were folly not to realise what appears to be the *Zeitgeist*, a world movement that is in progress, and not to accept it seriously. If the change contemplated by Lord Lansdowne and Mr. Bonar Law is successful in its effect, communities of varying size and importance will occupy spaces which are at present practically without population. The creation of architecture, both civic and private, will necessarily follow in the steps of any such development. And it need not be feared that the rich will remain without their dwelling-

places. A change in the mode of life of the rich may also involve a change in the type of building which they inhabit, but, in any case, it will bring into operation the skill and art of the architect.

The Fatal Fire in Moor-lane.

The regrettable fire on the evening of Tuesday, July 23, resulting in the death of eight poor girls engaged on the top floor of a factory and warehouse, calls attention to the necessity for the greatest precautions to ensure safety from fire in workshops and other places where materials of an especially inflammable nature are in daily use. With all our existing regulations, official inspections, and appliances for the prevention and extinction of fire it seems almost incredible that such a catastrophe should have occurred, but we think it best to defer our comments upon this particular building and the disaster which befel it until the Coroner's inquiry, now being held, is concluded. In our next issue we hope to give the conclusions arrived at independently, after an inspection of the premises made shortly after the fire under the courteous guidance of Lieut.-Colonel Fox, the Chief Officer of the London Salvage Corps.



THE EXAMINATIONS.

THE Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London and the provincial centres indicated below on June 10 and 11. Of the 171 candidates admitted, 49 were exempted from sitting, and the remaining 122 examined, with the following results:—

	Number Examined.	Passed.	Reluctated.
London	64	39	25
Birmingham	7	4	3
Cardiff	8	3	5
Glasgow	6	6	0
Leeds	12	11	1
Manchester	20	15	5
Newcastle	5	3	2
	122	81	41

The passed candidates, with those exempted, making a total of 130, are as follows:—

J. Addison, Aberdeen	C. S. T. Calder, Edinburgh
G. D. P. Allen, Cambridge	R. W. G. Card, Birmingham
J. R. Armstrong, Edinburgh	B. P. Carter, St. Anne's-on-Sea
L. J. Ashby, Nottingham	J. Chapman, Sanderstead
M. A. Atalls, London	R. E. Chardin, Woodford Green
A. S. Bagshaw, New Cross	E. E. Clamp, New Cross
P. W. Barnett, Hornsey	G. G. Clark, Seaton
P. Batstone, Lee	C. Carew, Gillingham
P. V. Beirstein, Kensington	G. E. Cruickshank, High Barnet
G. G. Bennett, Stratford	D. C. Cunnell, Norwich
H. A. Benson, Aldershot	M. N. Das, Rochester
F. G. Bethel, Douglas	D. De, London
C. C. Bethell, Bush Hill Park	B. De Keisly, Stockport
J. R. Blake, Malvern	D. C. L. Derry, Hampstead
T. M. Bridge, Manchester	
J. B. Brown, Southsea	

W. Dougill, Bradford
N. W. Dransfield,
Huddersfield
T. V. Duncan, Knuts-
ford
P. A. Durlacher, Lon-
don
C. R. Edwards, Hale
F. T. Elliott, Pimlico
S. R. Evans, Birming-
ham
L. S. Ford, Cobham
T. S. Ford, Peckham
B. T. Francis, St.
Austell
D. H. Francis, Merthyr
Tydfil
T. O. Fraser, Kentish
Town
F. G. E. Gardiner,
Bath
P. T. Garner, South-
end-on-Sea
D. S. Glover, Wanda-
sworth
F. E. Gooder, Wellin-
ton, N.Z.
N. Crickwood, Goodwin
J. D. Gordon, New-
townards
O. H. Green, Lost-
withiel
J. W. Hanson, South
Shields
H. G. Hart, Dover
H. C. Hellmühl, Man-
chester
A. K. Hewitt, Great
Yarmouth
C. P. Hodson, Bowes
Park
A. P. Hooper, Becken-
ham
S. L. Hoesain, Man-
chester
F. J. Howell, Bolsover
F. E. Howels, Hamp-
stead
J. G. Hughes, Mold
A. J. A. Illingsworth,
Lisacard
R. Jackson, Scar-
borough
W. Jackson, Reading
T. H. Jennings, Dart-
mouth Parkhill
H. Z. Kassam, Man-
chester
J. L. Keith, Hamp-
stead
K. Kinna, Manchester
D. E. Knight, West
Bridford
J. S. Lawson, Dun-
fermline
E. G. S. Leadam, Lon-
don
S. Lee, Hull
T. E. E. Llewellyn,
Cardiff
E. G. Mackenzie,
Pennybridge
W. M. McLean, Paisley
J. P. Margerison,
Calverley
J. P. Martin, London
H. Matthews, Stoke-
on-Trent
T. W. V. May, Stroud
Green
A. Maynard, Man-
chester

J. B. Melhuish,
Leicester
L. M. Middleton, Toot-
ing
W. O. Miller, Finchley
P. Morris, Nelson
G. T. Mullins, Hamp-
stead
K. E. Newrick, Sun-
derland
K. B. Nixon, Stock-
port
C. C. G. Osborne,
Bournemouth
G. E. Owen, Orford
F. C. Papworth, March
H. F. Paterson, Shel-
field
N. B. Paxton, Paisley
H. G. Phlippen, Clifton
C. S. Picton, New
Cross
B. S. Pullan, Harro-
gate
A. F. Purvis, London
F. Raiman, Liverpool
A. A. Rayson, Hamp-
stead
W. J. Reed, Blaydon
on-Tyne
J. Rickatson, Market
Weighton
H. Roberts, Bangor
W. L. Roberts, Bred-
bury
D. Robertson, Glasgow
R. Robertson, Calder-
cruix
O. A. Roff, Cambridge
C. G. J. Schumann,
Highgate
L. H. Shattock, Wim-
borne
F. L. Shaw, Hull
M. Shewin, London
M. Shields, Bradford
C. W. Smith, Cam-
bridge
T. S. Soorma, Liver-
pool
A. T. Spence, Clapham
J. A. Steadman, Edin-
burgh
P. E. Stephens, Pen-
zance
C. Stuart, jun., Kirk-
caldy
E. W. Tattershall,
Hale
C. Taylor, Dronfield
H. E. Todd, Clifton
G. Urmacher, Dalton
W. Valder, Croydon
C. W. Vergette, Swan-
sea
W. C. Von Berg, Croy-
don
A. J. Wakerley,
Leicester
F. H. Waple, Stroud
Green
J. G. Warwick, Peter-
borough
L. J. Williams, Pen-
zance
J. A. Woodgate, Rams-
gate
P. M. Woodhouse,
Wimbledon
W. W. Young, Ab-
broath

The Intermediate.

The Intermediate Examination, qualifying for registration as Student R.L.B.A., was held in London and the undermentioned provincial centres on June 10, 11, 13 and 14. One hundred and nineteen candidates were examined with the following results:—

Centre	Number Examined	Passed	Rele- gated
London	82	42	40
Cardiff	5	4	1
Glasgow	4	2	2
Leeds	8	4	4
Manchester	15	4	11
Newcastle	5	2	3
	119	58	61

The passed candidates are as follows, their names being given in order of merit as placed by the Board of Examiners:—

W. E. Foale, London
J. C. Rogers, London
R. S. Wilshire, Fins-
bury Park
G. Shuffrey, Ealing
A. F. Kallenbach,
Hornsey
H. E. Rolley, Kensing-
ton
F. C. L. Toye, Wood
Green
W. Alison, Glasgow
S. Rubery, Wolver-
hampton
H. P. R. Atchison,
Kensington
E. A. L. Martyn, Red-
ruth
A. L. Horsburgh, Lon-
don

J. Macpherson, Not-
tingham
W. J. Durnford, Ken-
sington
J. O. Thompson, Shef-
field
S. J. H. Pryne, Ken-
sington
E. M. Parkes, North-
wich
W. S. Foster, East-
bourne
J. C. Farrer, London
G. H. Gray, North
Shields
W. V. Lawton, Knares-
borough
P. Whitehead, Alnwick
D. E. Cruickshank,
High Barnet

C. H. James, Cardiff
H. M. Woodhouse,
Queenborough
W. J. Knight, Cardiff
A. O. Kersey, St.
Beolings
A. F. Purvis, London
R. C. Arnold, Ilford
P. Stoner, North-
ampton
E. H. Child, Hamp-
stead
P. Skeiding, Bristol
L. A. Elsworth, Leeds
A. Nisbet, Portobello
V. Bain, London
C. A. R. Barry, West-
minster
H. J. Binetingsl, Ken-
sington
C. K. Blyth, Canon-
bury
M. C. Broad, London
A. D. Clare, London
H. E. Crossland, C.
Sutton-in-Ashfield

The following table shows the number of failures in each subject of the Intermediate Examination:—

I. Classic Architecture	30
II. Medieval Architecture	43
III. Renaissance Architecture	44
IV. History of Architecture	39
V. Theoretical Construction	35
VI. Descriptive Geometry	22
VII. Applied Construction	29

Exemptions from the Intermediate.

The following Probationers, possessing the certificates required under the regulations, were exempted from sitting for the Intermediate Examination and have been registered as Students, viz:—

A. S. G. Butler, Ken-
sington
B. F. Gaymer, London
R. McKay, Edin-
burgh

L. D. Martyn, Stock-
well
G. M. Mayhew, Hitchin
D. Robertson, Glasgow
C. W. Rogers, Putney
M. Shewin, London

The Final and Special.

The Final and Special Examination, qualifying for candidature as Associate R.L.B.A., was held in London from June 20 to 28. Of the 118 candidates examined, 46 passed, and the remaining 72 were relegated in various subjects. The passed candidates are as follows:—

A. G. W. Allen, Round-
hay
H. J. Arden, Hornsey
T. J. Banson, Wake-
field
F. R. Barry, jun.,
Richmond
T. P. Bennett, Kilburn
S. R. Bhegwar, London
A. Booth, Barnsey
G. B. Bradman, Khar-
town
H. J. Brownlee, London
J. A. Cheston, Sutton
A. Cooper, Slough
K. Dalgleish, London
C. G. Evans, Neath
O. Gaunt, Hitchin
T. G. Gilmour, Glas-
gow
H. Goldstraw, Hanley
J. W. Green, Sheffield
J. C. Harvey, North-
ampton
P. E. Holland, Bexley
E. H. Honeyburne,
Southport
R. J. Hughes, Llanfair-
fechan
T. F. Ingram, London
J. W. Kay, Edinburgh
J. R. Maughan, New-
castle-on-Tyne
P. W. Moore, Keighley
R. G. Muir, Gerrards
Cross

The following table shows the number of failures in each subject of the Final Examination:—

I. Design	53
II. The Principles of Architecture	20
III. Building Materials	19
IV. Principles of Hygiene	39
V. Specifications	27
VI. Construction — Foundations,	39
VII. Construction—Iron and Steel	54
etc.	

The Hon. Examiners, June Examinations, 1912.

PRELIMINARY EXAMINATION.
VII. Freehand Drawing: Mr. H. P. Burke Downing.

INTERMEDIATE EXAMINATION.
I. Classic Architecture: Messrs. Arthur E. Henderson and John A. Marshall.
II. Renaissance Architecture: Messrs. C. Wontner Smith and P. Leslie Waterhouse.
III. Renaissance Architecture: Messrs. Henry Tanner, jun., and Arthur T. Bolton.

IV. General History of Architecture: Messrs. W. A. Forsyth and D. T. Frye.
V. Theoretical Construction: Messrs. Garbutt and H. A. Newton.
VI. Descriptive Geometry: Messrs. Barrow and Alan E. Munby.
VII. Applied Construction: Messrs. Ashbridge and W. R. Davidge.

FINAL AND SPECIAL EXAMINATIONS.

I. Design: Messrs. Harry Redfern and Rickards.
II. Principles of Architecture: Messrs. Spooner, C. Harrison Townsend, and Troup.
III. Properties of Building Materials: Messrs. H. D. Seales-Wood and A. H. Kersey.
IV. Arrangement of Buildings in Relation to Health: Messrs. Albert W. Moore and White.
V. Specifications and Estimating: Messrs. Matt. Garbutt and Edward Greenop.
VI. Construction—Foundations: Messrs. Corcor and W. E. Vernon Crompton.
VII. Construction in Iron and Steel: Messrs. Arthur Ashbridge, Bernard Dickes, and L. Solomon.

The Final Examination: Problems in Design.

The Board of Architectural Education approved the designs submitted by the mentioned below who are qualifying for the Final Examination:—

Subject I. (b).—A Terrace of Five Houses.
Mr. K. Glover.

Subject II. (a).—A Monument to an Architect.
Mr. K. Glover.

Subject III. (a).—A Detached House for a large Country House. —Messrs. F. E. H. C. Bradshaw, R. S. Dixon, H. A. Gee, T. C. Lawrence, R. A. Barber.

Subject III. (b).—A Landing Stage on a Lake, with a Restaurant. —Mr. Liddetter, E. Prestwich, W. H. T. R. W. Walter, W. E. Woodin.

The designs of Messrs. K. Glover, Charleswood, and C. J. K. Clark in Su-
have also been approved.

Newly-elected Licentiate.

At the Council Meeting of June 1910, the following candidates were elected L.R.B.A. in accordance with the provisions of By-law 12:—

W. J. Abra, Ottawa, H. A. Coldman
F. B. Adams, W. G. Wellington
D. L. Allan, Dundee, W. V. Cook
J. A. O. Allan, Aber-
deen, S. N. Cooke
E. G. Allen, C. J. Corbett
F. R. G. Badger, Liver-
pool, J. H. Cosser
A. A. Cowan, N. A. Cowan
J. J. Baigent, B. Cratney
W. Baillie, Glasgow, on-Tyne
H. G. Baker, Aldershot
W. Barclay, Glasgow, on-Tyne
E. G. Barker, Liverpool
F. M. Barker, Van-
couver, B.C.
W. H. Barton, izes
D. W. Baxter, Dundee
W. A. Baynes, Hanley
A. Belcher, F. J. Daniel
G. Bell, Newcastle-on-
Tyne, T. B. Dams-
ton, Canada
A. N. Bembridge, J. Davidson
D. B. Bethell, C. F. Dawson
W. M. Bishop, Mother-
well, J. Day, Wake-
field, H. A. C. Deek
A. B. Black, Adelaide, A. Dicken
W. A. Blackett, Mel-
bourne, H. A. Dyer
W. Blackshaw, Stock-
port, E. W. Drson
L. M. W. Bladen, Gold-
Coast, F. R. L.
H. D. Blessley, Cardiff, Manchester
J. P. Bond, Norwich, J. P. Edwards
M. Botting, Blackhill, Birm-
ingham
F. R. Bradford, ham
E. H. Bray, Evans
O. A. Bridges, Bognor
W. F. Bright, L. Falconer
C. E. Brooks, Brisbane
J. Brown, Stranraer, Oban
T. Brown, Liverpool, A. C. Fare
W. H. Browne, Cal-
cutta, R. K. Fearns
H. Le C. Browning, diif
H. Burgess, Brighton, W. Ferguson
S. E. Burgess, Middle-
brough, Canada
E. R. Ferry, E. M. Field
E. W. Burnett, Colwyn
mouth
R. W. Caldwell, Glas-
gow, A. Filly
J. H. Cammack, Liver-
pool, F. L. H.
J. B. Campbell, Govan
H. Cano, J. H. Flowers
F. Cannon, T. K. Foggie
F. H. Chalmers, W. H. Ford
F. W. Chapman, Shef-
field, R. A. Forth
C. W. Christian, Lei-
cester, borough
W. Clark, Dundee, field
F. W. Cockle, G. Foster

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 Ontario, G. Macintosh, Edin-
 Freeman, G. Macintosh, Inver-
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 Galbraith, A. J. Madgin
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 er, Mon- O. H. Mark, Durham
 k, Staly A. J. Marshall, Edin-
 burgh
 J. E. Martin, Montreal
 C. Maey
 F. N. D. Masters, Don-
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 R. V. Mayell
 E. Meek, Wellington,
 N.Z.
 A. E. Meldrum, Aber-
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 A. C. Moston
 J. Miller, Glasgow
 J. H. H. Mitchell
 W. Mitchell
 J. Money, Glasgow
 H. B. Moore, Middles-
 brough
 G. G. Moorhouse,
 Liverpool
 G. J. Morris
 W. R. Morris, Reading
 R. J. Mules, Rosyth,
 Fife
 W. A. Nash
 P. P. Nathan
 C. H. R. Naylor, Not-
 tingham
 F. W. Newby, South
 Shields
 T. Neill
 W. Newlands, Kil-
 marnack
 P. P. Newton
 F. Nicholls
 W. H. Nicholls, Midras
 A. Nicholson,
 Preston
 J. P. Nicoll, Wellin-
 gton, N.Z.
 F. E. Nun, Colchester
 C. Oliver, Hull
 G. M. Page
 W. M. Page, Wellin-
 gton, N.Z.
 F. M. Palmer, jun.,
 Burton-on-Trent
 F. E. Parsons, Bir-
 mingham
 F. Peake, Manchester
 N. F. Pearce, Edmon-
 ton, Alberta
 J. Percival, Manchester
 J. Phillips, Wakefield
 J. S. Pluck, Colchester
 E. Frairie, Montreal
 A. G. Prentice
 O. E. T. Prescott,
 Wigan
 H. O. Prestwich,
 Leigh, Lancs.
 B. D. Pritchett, Dar-
 lington
 S. S. Purdie
 A. A. Pyrie, Dundee
 W. Rankin, New York
 H. T. Richardson,
 Shrewsbury
 W. P. Riddle, Hull
 C. H. Roberts, Inver-
 cargill, N.Z.
 J. M. Robinson, Edin-
 burgh
 O. A. M. Roe
 H. McG. Ross
 H. E. Rosier
 E. Rothwell, Hastings
 A. J. Rowley, Canada
 A. F. Royds
 T. J. Ruahon
 O. T. Ruthin, Swansea
 T. Salkeld, Kendal
 L. N. Sanderson, Scar-
 borough
 J. T. Saunders
 A. H. Scholle, South
 Africa
 G. G. Schwartz, Wel-
 lington, N.Z.
 A. E. Seaman
 R. V. T. Sewell, Teim-
 mouth
 W. Shanks, Johannes-
 burg
 D. Sharpe, Dundee
 H. V. Sheboere
 E. H. Smith, Walsall
 G. H. Smith
 V. V. C. Smith, Dublin
 W. C. C. Smith
 S. M. Spoor
 L. R. Stains
 J. E. Stearns, Kinross
 P. E. Stenning
 S. J. Stephenson, New-
 castle-on-Tyne
 W. C. Stevenson, Devon
 J. E. Still
 W. Stirling, Colombo,
 Ceylon
 T. T. Story
 J. Strong, Liverpool
 A. A. Symon, Arbroath
 E. Taylor
 H. Taylor, Barnsley
 W. A. Tebb, Alnwick
 G. F. Thomas, Cardiff
 E. J. Thomas, Bristol
 O. T. Thomas, Haver-
 lewest
 A. Thomson
 A. J. Thompson
 A. H. Thomson, Air-
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D. Thomson, Dundee
 J. Thomson, Bo'ness
 J. M. Thomson, Airdrie
 T. P. Timley
 M. Tobias
 S. E. Tomkins
 W. Tomlinson, Leeds
 C. T. Tomlinson, York
 A. H. Tucker, Worthing
 H. P. Tufnail, Bognor
 J. M. H. Vasey, Sun-
 derland
 J. Y. Vincomb
 F. G. Waddell-Dudley
 W. Wade, St. Anne's-
 on-Sea
 R. Wainwright, St.
 Helens, Lancs.
 J. C. Walker, Liverpool
 W. Walker, Leven,
 Fife
 J. Walsh
 C. J. Ward, Cardiff
 F. J. Ward
 A. C. H. Watkin
 D. Water
 H. B. Watson, Van-
 couver
 J. Webb, Ipswich
 Y. Webb, Calcutta
 D. Webster, Saskatoon
 F. N. Weightman
 H. J. Welch
 R. Wemyss, Glasgow

S. I. Weston
 T. K. White, New-
 castle-on-Tyne
 S. W. Whitmore, Pre-
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 R. Whyte, Helensburgh
 W. McN. Whyte, Glas-
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 G. William
 H. P. Williams, Hal-
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 J. St. C. Williamson,
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 J. H. Wills
 W. F. Wills, Derby
 R. H. Wilson, Aber-
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 A. V. Wilson, Mother-
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 A. G. Wilson, Canada
 J. Witte, Elgin
 F. H. Witts
 F. W. Worrow
 H. J. Worrow
 J. E. Wrathmell, Stock-
 port
 J. K. Wray, Middle-
 brough
 C. H. C. Wright
 T. T. T. T.
 J. Young
 W. C. Young, Cardiff

ARCHITECTURAL SOCIETIES.

The Architectural Association.

The forty-third annual excursion of the Architectural Association will take place in the neighbourhood of Shrewsbury in the week August 12 to 17. The party will visit—on Monday: Allbrigh House, Grinshill, Preston Brookhurst, Moreton Corbet, Batfield Church; on Tuesday, Worcester Church, Shipton Hall, Wilderhope, Broncroft Castle, Church Stretton; on Wednesday, Madeley Court, Shifnal Church, Tong Church and Castle; on Thursday, Stokesay, Ludlow, Ludford; on Friday, Plais Hall, Preen Manor and Church, Langley, and Pitchford.

ARCHÆOLOGICAL SOCIETIES.

Surrey Archaeological Society.

As announced in the *Builder* of the 12th ult., the annual excursion of this Society took place on Thursday, July 18. The rendezvous was Chertsey, where the members and their friends—numbering upwards of 170 persons—were met by Mr. Philip M. Johnston, F.S.A. In describing the venerable church, Mr. Johnston said it was originally dedicated to All Saints, but afterwards to S. Peter. This was a link with the remote past when Christianity first became known to the Pagan Saxons of Wessex. In A.D. 666 Erkenwald founded a monastery on a site near the present Chertsey Bridge, and from that centre evangelised the north-west parts of Surrey. In the Norman period a magnificent abbey was built on the banks of the river. The church dated from the early part of the XIIIth century, when a rude stone structure apparently replaced one of timber, which was erected in the XIth century. It was rebuilt, as far as the body was concerned, in 1808. The western tower was much patched; the chancel had some very interesting features, dating mainly from 1340.

Passing from the church, the party proceeded to the Abbeymeads, where Mr. H. E. Malden, M.A., described the remains as shown in the old wall and adjacent barn. He said that in the adjoining meadows there were the traces of certain foundations, but the two comparatively small pieces of wall were the principal parts of the abbey which remained, while the granary wall adjacent appeared also to have belonged to the abbey. Mr. Malden said that not only had the abbey gone, but that a house, which was erected from the materials, had also disappeared.

The famous abbey fishponds were next inspected by kind permission of Mr. G. Boyce, J.P., the owner. He said there were other fishponds, but he asked them to note the one they were inspecting, as it was the only one which still retained its original form. A sluice gate could be raised and the pond drained dry, so that the fish could be obtained at any time.

Mr. Malden, who showed a charter of the town and a plan of the abbey site, which had been left for the inspection of the members, said that there had been a large system of ponds, with a moat around them and intersecting water-

courses. The pond referred to by Mr. Boyce was made by Abbott Rutherford, and was practically as he left it, except that the alders which grew there were not to be seen now. Water was supplied by means of a sluice in the moat, by working which, too, the pond could be lowered.

Many ancient tiles have been found at Chertsey, but the best ornamental ones, illustrating incidents in the life of King Mark King of Cornwall, are now deposited in the Royal Architectural Museum at Tufon-street, Westminster.

The party next visited Thorpe, where they assembled in the church, and Mr. P. M. Johnston gave a description of the edifice. He said it was situated in a picturesque neighbourhood, and the whole parish abounded in domestic antiquities, humble, of course, but all having great interest to them as Surrey archaeologists. He deplored the unchecked growth of ivy over the church. The damage it did was inevitable, and they could view with nothing but concern the stout stems that had a very strong hold upon the buttresses of the tower. Mr. Johnston remarked that although there was a good deal of modern work there was also in the chancel arch an undoubted relic of the Norman period. There were also elaborate chancel squints, no doubt introduced about the XVth century, and unique in Surrey. They were introduced no doubt to give a clearer view of the sacred mysteries performed at the altar, and Thorpe was to be congratulated on their preservation. As in the case of Chertsey, the interesting XIVth-century canopy over the rood had hitherto escaped notices in the various records. It was more interesting because they had a parallel instance at Pyrford.

The journey was then resumed towards "Great Posters," a Tudor mansion on the Strand-road, and close to the well-known London Stone. Here, by the kindness of the Right Hon. Lord Dudley, the party were permitted to perambulate through all the apartments of the house, which, being empty and under repair, was easier to examine. Mr. Ralph Neville, F.S.A., architect, said this house was an important one, and the occasion from an archaeological point of view was equally important inasmuch as it had not hitherto been open for inspection. There was not a single word about it in any of the county histories. It dated from the latter days of Queen Elizabeth or the early days of King James I., and was further interesting as the birthplace of the late Dr. Furnivall, the Shakespearian scholar. Mr. Nevill, then described the building, and Mr. Frederick Turner, of Egham, read a paper on the history of the building. Milton Park, the residence of Baron de Worms, F.S.A., was next visited. Here the party were invited to inspect some curious stone doorways in the garden.

NEW SCIENCE SCHOOLS, BLUNDELL'S SCHOOL, TIVERTON.

At Blundell's School, Tiverton, on July 27, Mr. John Coles formally opened the new science buildings. This additional block of buildings has been built by the governors of the School from the designs of Sir Ernest George, A.R.A., and Mr. Alfred B. Yeates. It comprises a laboratory and three lecture-rooms, also a small museum and balance-room.



New Science Block, Blundell's School, Devon : Plan.

The design is the traditional Tudor architecture of the old Blundell's School, founded by Sir Peter Blundell in 1604, the local stone being used for the walling, with Douling stone dressings. The roof, like the remainder of the School buildings, is of grey Cornish slates. The interior walls are lined with white



Blundell's School, Tiverton, Devon: New Science Block.

Messrs. Ernest George & Yeates, Architects.

glazed bricks. The floors are constructed of hollow bricks reinforced with steel rods, and are finished with maple wood blocks or Terrazzo marble.

The chemical fittings have been ably arranged by Mr. Pidge, one of the resident masters. The woodwork is of teak, with apparatus of the most recent design.

The contractors were Messrs. J. Grater & Son, of Tiverton, and Mr. R. Bathgate, the resident clerk of works, superintended the erection of the building.

THE NATIONAL COMPETITION, 1912.

ONE wonders, after visiting such an exhibition, what will happen to the young artists when they leave the shelter of studenthood—that small kingdom of generous enthusiasm and high ideals. For here, certainly, is the work of artists—artists chiefly in little things, precious ornaments, and jewels with which to bedeck beauty, stained glass and textiles, and book-binding. In many ways the work of the young men and women who study the applied arts gives one *furieuxment à penser*. The passing of *l'art nouveau* has sent the designers back to traditional motifs, experience has given the hand the cunning of a good workman, and the result is some delightful work. But why is this material not organised? It seems such a pity that all this talent should be neglected, should become asphyxiated for want of a proper air to nourish it. All the prizes of the world go to those who practise the arts of painting, sculpture, and architecture; they enjoy a certain reputation, they have a social position, they have a goal, an *Ultima Thule*, in the Royal Academy. So the majority of those who are inclined at all to art choose what they imagine to be a path through life strewn with flowers. Now, with some encouragement, the craftsman would flourish again. As students the few who adopt the less showy way undoubtedly do. But what happens when they become workmen? On the whole, the most entrancing work in the Exhibition is the jewellery and metalwork. It is, at any rate, infinitely superior to anything one sees in shops.

There are two really splendid necklets, the various parts of which, though small, are well

conceived, and the whole are daintily executed by Miss Madeline Hutchins, and Mr. Bernard Instone. These both gained silver medals. Another scarcely less beautiful, by Miss Edith Tasker, was awarded a bronze medal. A gold medal was given for an enamelled silver cloak clasp to Miss Dorothy V. C. Munro for its beauty of design and fine workmanship. A copper cup decorated with silver and enamel, by Miss Amy Upson, and a little silver horn, by Miss Selina L. Scott, are as fine as old things. They are excellently made, and quaintly conceived as to design. These are a few of the really delightful things shown which make one realise the talent there is for this kind of work scattered up and down the country.

None of the furniture or woodcarving is good. It all lacks suavity of design and looks common. There are a few pieces of stained glass, all of which are only fairly good, but they are all above the level of the usual stained glass one finds in churches. So with the bookbinding, which is good, but without anything of outstanding merit. Fine lettering has, to some extent, been taken over by advertising firms, so that there is at least a market for this form of craftsmanship. Perhaps the best example is a small slate tablet with a short inscription; it is legible to those who run, and is beautifully designed. It is the work of Mr. George R. W. Starkey, and is equal to any old inscription. Miss Ethel C. Liggins has done "Te Deum" in gilded letters upon paper or parchment with great reserve and dignity. And there are several quite noble pages of lettering in the Exhibition. Again, there are designs for chintzes that make one long to see them printed, and some fine designs for modern costumes by Miss Helen S. Oliver. Nothing seems to be too small to be the object of loving care; witness a design in needle-point lace of a child's shoe, by Miss Florence A. Davy, for which a gold medal has been given.

A bronze medal has been awarded to Mr. Stuart Earl for his design for an iron grille. In actual workmanship it leaves nothing to be desired, the wrought foliage and groups of flowers being splendidly made. The foliage, instead of being in *repoussé*, is beaten out of the heavy iron, and certainly looks very well, although it must have entailed much additional work. As one walks round the Exhibition one

is struck by the beauty of much of quite impossible to pick out everything from the mere number of exhibits. The outlook for the arts and applied arts is hopeful. When the public awakens to the fact that art is an integral part of life, the artists are ready. The painting and the sculpture from the life shows nothing of great although a fairly high standard of work prevails. The painting from still life is interesting, and one or two good ones are the result, but in no case has the attempt to paint light been quite successful. A painting in monochrome a silver vase has been awarded to Miss Annie Watson for a splendid rendering of an egg and a vase ornament. It is drawn with extreme care and painted with a fine appreciation of values. Indeed when one considers a dreary waste of energy it seems fatuous painting and modelling from nature and *Antique*—the same yesterday and apparently for ever! The sculpture is uninspired work, uninformed by a sense of grace or beauty. New methods of work need to be inaugurated to take the place of the slough of despond into which the architecture is poor, or two exceptions. Mr. Stanley design for a central courtyard of Exchange is conceived on broad lines, and a large and dignified scale is throughout. The ballroom and ball hall by Mr. J. Lewson, is also good, but carefully considered with regard to proportion as the former. There is also a fine measured drawing of St. Mary's Church, Astbury, Cheshire, a beautiful late building.

The Exhibition, as a whole, presents points of interest, and is well worth a visit to those who are interested in the future of the arts and the applied arts. But one is driven to the conclusion that many of the students of the former would be better in the latter. This is no disparagement; doubtless it will be conceded that it is to make a beautiful box or a piece of metalwork than a beautiful picture or statue or a detail of the household beautiful perpetuate a bad picture or statue.

VAL ARCHÆOLOGICAL
E AT NORTHAMPTON.

long interval of thirty-five years is holding its annual meeting this year at Northampton, the headquarters of the county town. The proceedings began on Tuesday, July 23, in the Town Hall, Mayor, Dr. Lee F. Gogan, formally welcomed the members to Northampton, and their visit would be full of interest.

Stockford Sackville, the President of the Society, spoke a few words on behalf of the county. Sir Henry Villiers replied as President of the proceedings ended.

The next made to St. Peter's Church, described by the Vicar, the Rev. Canon. It consists of a chancel and nave, with a north aisle, and a south aisle, a north porch, and a south porch. The east end is a modern addition. The nave and clearstory date from the third quarter of the 13th century, and are characterised by the richness and excellence of the carved work. The aisles were rebuilt on the old foundations in the 14th century, but the windows date from the reign of Edward I. The tower was carefully rebuilt, and to a large extent with the old materials. The only ancient furniture is the 14th-century work.

St. John Hope pointed out the position of the pillars of the nave arcade and compound piers, and suggested shafts on the fronts of the former, carried up to the wall plate of the nave roof, were indicative of an outstanding the thinness of the walls to cover the nave with a barrel vault, a suggestion which was supported by the fact that the compound piers in similar shafts that had once carried arches to counteract the thrust of the vault.

When the party reassembled in the Church, which was also described by Mr. M. Serjeantson. It was, as he pointed out, as being one of the two churches (the other being at Cambridge), the circular nave and aisle, to which they had been attached a chancel of three bays apparently in an apse. This had been given in 1116 to the Cluniac monks of Northampton, and therefore before the foundation of the Order of the Temple into a north aisle had been added to the church in 1170 as a chapel in honour of St. Mary. A second north aisle was added in the 14th century. The south porch was taken down, a new south porch and the present western tower added. The church was considerably enlarged by the new chancel with aisles in 1801-2. It followed with some remarks on the history of the church, which divided themselves into four classes, being the purely parish churches at Northampton and Cambridge; the next, churches at London and others at Dover and Dover, which could be traced to the Templars; a third class of churches built by the Knights of the Order of St. John, as at Clerkenwell and St. Andrew; and a fourth group which included the well-known chapel in

Ludlow Castle and the destroyed *capella rotunda* in King Henry III.'s Manor of Woodstock. Mr. Hope was inclined to regard these round naves as belfries, and instanced that formerly surmounting the nave at St. Sepulchre's at Cambridge and the one still to be seen at Little Maplestead, and he suggested that the building of the western tower in the present instance was due to the threatening collapse and subsequent taking down of the belfry that surmounted the octagonal nave. Sir Henry Hope suggested an analogy between these round churches in England and the circular baptisteries which are so common in Italy.

St. Giles's church, which was next visited, was originally an aisleless cross church with middle tower, of 12th century date, with enlargements and additions of the 13th century, but is not otherwise a building of special interest. The Rev. R. M. Serjeantson pointed out its most noteworthy features, including a tablet on the north wall of the nave recording that

"ROB SEITHORPS CARE
TO GODS TRVE FEARE
THIS DOWNEFALLE
CHURCH GOT
HELPE TO REARE
1616
WILL DAWES MAYOR."

It is a little uncertain what damage was done by the fall here recorded, presumably of the tower.

After tea at the Town Hall by invitation of the Mayor, when the five corporation maces were also exhibited, a journey was made to the famous Eleanor Cross at Hardingstone, which was described by Mr. W. H. St. John Hope.

This cross, he pointed out, was one of a number that had been set up between 1291 and 1293 at certain points on the road between Harby, near Lincoln, where Queen Eleanor, the consort of Edward I., had died in November, 1290, and the abbey church of Westminster, where eventually she was buried. A cross, built by John of Stowe, was set up at Lincoln, where the Queen's bowels were buried in the Minster, and another, of special magnificence, at Charing, within sight of Westminster. A third was also set up in Cheap, in the City of London, presumably to mark a station of the Queen's body in St. Paul's. A fourth cross was set up at Waltham, which still remains, and the Northampton cross was one of a group, the others being at St. Albans, Dunstable, Stony Stratford, and Woburn, which were contracted for by John of Battle. Of this group the Northampton cross seems to be the only one that was finished, and Mr. Hope thought that the disappearance of the other four was due, not to a later destruction, but to their removal on account of their incomplete state. The four images of the Queen on the Northampton cross were the work of Master William of Ireland, who also worked upon the shaft and cross (now gone) of Purbeck marble supplied by Robert of Corfe. The images and cross were wrought in London and brought down to Northampton by William of Barnack, mason. Mr. Hope referred to the difficulty of separating from the entries given in the Queen's executors' accounts the cost of each cross, but the group contracted for by John of Battle seem to have cost about the same as the Waltham cross, namely, about 95*l*. each. The Lincoln cross apparently cost 124*l*., the Cheap cross (which was contracted for by Master Michael of Canterbury) 300*l*., and the Charing cross nearly 800*l*.! The accounts do not mention any other crosses. The Northampton cross underwent

more than one "restoration" in the 19th century, but still retains, and in wonderful condition, part of the work of Master John of Battle and of Master William of Ireland.

At the evening meeting a paper was read by the Rev. R. M. Serjeantson on the history of Northampton.

Wednesday, the 24th, was devoted to excursions to Boughton House, Geddington, Rushton, and Rothwell.

Boughton House was described by Mr. J. A. Gutch, who acted as guide, as an extremely interesting example of a house of a great noble of the time of William and Mary, which retains much of the furniture and painted and other decorations of the period. The old house at Boughton was built about 1640 by Sir Edward Montagu, Lord Chief Justice, and added to by his successors. But about 1700 the house was largely reconstructed and rebuilt by Ralph, first Duke of Montagu, who had been Ambassador at the Court of Versailles, and became imbued with ideas of imitating that great palace in his own new home. The front of the house, with its projecting wings, is entirely his, and of two stories, with characteristic dormer windows in the roof. But behind this, and enclosed by more of the Duke's work along the west front, are incorporated the remains of the older house. Of the unusually large and elaborate lay-out, of which there is ample record, but little is now left.

From Boughton House the journey was continued to Geddington, where there is at the entrance of the village a good 14th-century bridge, with the usual cutwaters on the upper side (p. 135) and, just beyond it, the Eleanor Cross. The church, which stands a little farther on to the east, is an interesting structure, which was described by Mr. A. Hamilton Thompson.

The nave walls have later arches pierced through them, and are surmounted by a 14th-century clearstory, but are otherwise of pre-Conquest date, with curious triangular-headed wall arcades on their outer faces, now visible under the aisle roofs. A north aisle, overlapping the chancel, was added in the 12th century, but rebuilt later, and in the 13th century a south aisle was added and the chancel reconstructed with a large chapel to the south. Further alterations to the chancel were made in the 14th century, to which date belong the fine tower and spire. The church contains a remarkable late 13th-century wooden screen, originally across the south aisle, but now placed under an arch of the chancel, while its place is occupied by an equally curious screen of pre-1618 that down to a recent restoration filled the upper part of the old chancel arch, which was then raised and filled with a new screen. The 14th-century reredos of the high altar, with one large and twelve smaller niches for images, remains, and along the base of the walls of the presbytery is a slightly projecting ledge with the inscription:—WILLELMVS GLOVERE DE GATTYNGTON CAPPELLANVS FECIT SCABELLA DEVS ARE ET PAVIMENTARE ISTVM CANCELLVM AD HONOREM DEI ET BEATE MARIE QVI ORIT IN FESTO CORPORIS CHRISTI ANNO DOMINI M CCC LXIX CIVIS ANIME PROPICIETVR DEVS AMEN. A similar inscription runs along the altar step of the south chapel:—ROBERTVS LAVNCELYN DE GATTYNGTON FECIT ISTVM CANCELLVM CIVIS ANIME PROPICIETVR DEVS AMEN.

The well-known cross which stands in the middle of the village was described by Mr. Hope, who called attention to the beautiful diaper work on the three-sided base and the veiled images of Queen Eleanor in the upper stage, in contrast to the images with flowing



Geddington Bridge.



Kirby Hall.

hair on the Northampton cross. Although obviously a memorial to the Queen, as shown by the heraldry and imagery, there is no record of its construction, nor any other evidence that Geddington was one of the stations where the Queen's corpse rested. No other cross, moreover, is known certainly to have existed between here and Lincoln, and Mr. Hope much doubted whether any had ever been erected. It was singular, too, that a cross differing so markedly from what is known of the rest should have been set up at Geddington.

After luncheon at Kettering, the church of which town has one of the finest towers and spires in Northants, the journey was continued to Rushton Church, which was described by Mr. Hamilton Thompson. It is architecturally of little interest, but has on the south of the chancel a small added vestry of the XIIIth century with a stone roof and three elaborately canopied sedilia. In the north chapel is a fine XIIIth-century effigy of a cross-legged knight in mail sheathing his sword, of Purbeck marble, and the alabaster tomb and effigy of Sir Thomas Tresham, last prior of the Order of St. John of Jerusalem in England, who is shown in armour, and over it a long gown charged on the breast with the cross fleury of the Order.

Rushton Hall was next visited and described by Mr. Gotech, who pointed out the remains of the hall, etc. of an earlier house, built by a John Tresham about 1500, but added to by his great-grandson, Sir Thomas Tresham, in 1595. In 1619 the estate was sold to Sir William Cockayne, who made further additions, and converted the house into one forming three sides of a rectangular court, with the corridor closing in the fourth side. The exterior of the house is extremely picturesque with its many gables and oriels, but the interior has lately been partly gutted by fire, and contains few ancient features; the south face is also entirely modern. A curious representation in plaster of the Crucifixion in a small oratory upstairs deserves notice.

A short distance from the house, in a secluded corner of the grounds, stands the remarkable triangular lodge built by Sir Thomas Tresham in 1593-5, which was also described by Mr. Gotech. It is three stories high, with three niches in each side on every floor, and three gables above; the chimney-stack is also three-sided. The building now stands in a clearing which might with advantage be enlarged so as to show more of it, but the structure itself can only be regarded as a freak, and though it retains all its floors and roof it could hardly be made into a habitable dwelling.

The journey was next continued to the village of Rushston, where the market house was first inspected. This was shown by Mr. Gotech to be another of Sir Thomas Tresham's works, of a date about 1570. It is practically cruciform in plan, with a vice in one angle, and was planned to form an open market space below with a chamber above. The exterior is decorated with heraldry and characteristic inscriptions. The building seems not to have been finished until it was roofed in and otherwise converted into offices for the District Council and a free library in 1895. The work of conversion has been carefully carried out by Mr. Gotech, and has ensured the preservation of what was till lately a roofless ruin.

Rothwell Church was also inspected and described by Mr. Thompson. It is a very puzzling building, and apparently began as a cruciform XIth-century church, with a tower over the crossing and arcades opening into the nave aisles. The chancel was much altered, and aisles added to it, in the XIIth century. The middle tower was taken down and a new tower and spire built at the west end. The arcades of the nave were also raised and the pillars doubled in height and various other changes effected in the plan of the building. The church contains some good brasses and other features of interest, including some of the chancel stallwork with misericordes, and under the south aisle of the nave is a large bone-hole, containing bones found in digging graves, and here stored, as usual, below an altar.

The return journey was afterwards made to Northampton, where at the evening meeting Mr. Hamilton Thompson read a paper on "Church Architecture in Northamptonshire," with lantern illustrations.

The first building visited on Thursday, the 25th, was the charming old bed-house at Liddington, founded as such by Thomas, first Earl of Exeter (ob. 1622). It was, however, as pointed out by Mr. Hamilton Thompson, originally a manor-house of the Bishops of

Lincoln, and Bishop Burghersh had licence in 1331 to enlarge and wall his park here, and in 1336 licence to crenellate or fortify his house. The existing building seems to have been built by Bishop Russell (1480-94) as a hall with great chamber and other lodgings, all on the first floor, as was usual, with kitchen and offices below. To Bishop Smith (1496-1514) is due the fine wooden ceiling to the hall, as well as the lodgings in its roof, and other minor changes. Little harm has been done to the building by its conversion into a bed-house, and at the back the lower openings are covered by a pentice, which may be of the XVth century.

Liddington Church, which was next visited under Mr. Thompson's guidance, is a good example of a Northamptonshire church, with a good rood screen retaining much of its old colouring. The chief feature is, however, the arrangement of the altar, which stands within a quadrangular railed enclosure, Puritan fashion, of the date 1635. Very few such examples, unfortunately, now remain. Mr. Hope called attention to the low side window, with its rebate for a wooden shutter, and cited a number of examples at Ely (in Prior Crauden's chapel), Caerphilly Castle, Little Wenham, and Leeds Castle, all on upper floors, and in the last-named example looking out over a most full of water, as proofs of the absurdity of the confessional theory, which has lately been urged with much persistence in certain quarters, and of the equally ridiculous "leper" theory. The concurrence of opinion at present was all in favour of such openings having been made to ring the sacring bell at, to remind those who were without of the moment of the elevation of the Blessed Sacrament.

Kirby Hall was the next objective, and its beautiful remains were rightly described by Mr. Gotech as the romantic ruins of one of the most beautiful of Elizabethan houses. The house is disposed about the sides of an irregular quadrangular court, planned by John Thorpe, who laid the first stone in 1570. The building was erected for Sir Humphrey Stafford, of Blatherwyke, and finished about 1575. Sir Humphrey died almost directly afterwards, and the house was then bought by Sir Christopher Hatton, who made some additions to it. It finally assumed its present form about 1638-40, when certain changes were made in the north end of the court and elsewhere, under the direction, possibly, of Inigo Jones. The admirable detail of both the XVth and the XVIIth century work is of unusual interest. The house was occupied down to the thirties of the last century, when it was dismantled to pay the racing debts of the owner, and is now, with the exception of the great hall, which retains its beautiful ceiling, and part of the south-west wing (p. 135), a hopeless ruin. It is much to be hoped that arrangements may be made for bringing this magnificent structure within the scope of the Ancient Monuments Act. Mr. Hope called attention to the heraldic beasts, examples of which still surmounted some of the pinnacles and gables, and showed that a continuous series had once existed about the great court. He also pointed to the free treatment of heraldry as a decoration in other parts of the building.

After luncheon in the great hall the journey was resumed to Rockingham Castle, where the party was received by the Rev. and Mrs. Wentworth Watson. Mr. Hamilton Thompson described the castle, and quoted the evidence of the Domesday Book in proof of its foundation by William the Conqueror, on land that had been waste, as a fortress of the well-known mount-and-bailey type. Part of the mount may still be traced, but the rest was overthrown during the Civil War, and the other earthworks obliterated through the substitution of masonry defences for the first timber palisading. The masonry defences, which include the present gate-house, the east curtain wall, and the shell of the great hall, belong to the end of the XIIIth century, when much rebuilding was done under King Edward I. Important changes were made in 1585 and in 1690 which have converted the mediæval buildings into a comfortable residence. Mr. Hope referred to the Domesday entry as proving that the Castle was then a new one, and claimed that it had originally included a large outer bailey to the south. This would have placed the Castle among those of the first rank in point of size, but by the time that it was decided to substitute walls of masonry for the timber defences the original purpose of the fortress, as one of the great series planted all over England by the Conqueror to hold down a hostile population,

had passed away, and it was possible the outer bailey and forty only tower and inner bailey.

The party afterwards returned to Northampton, where, at the evening meeting, with lantern illustrations, was read by Mr. Reginald Smith on the famous finds from Hunsbury Hill, near Northampton Museum.

(To be continued.)

THE ROYAL SANITARY INSTITUTE: YORK CONGRESS.

THE Congress of the Royal Sanitary was this year held at York, where there was very large attendance of delegates, representatives from Japan, the Commonwealth of Australia, Victoria, Queensland, Australia, Tasmania, the Admiralty, Council, H.M. Office of Works, the Sanitarians in Lunacy, the Royal Institute of Architects, the Architectural Association, the Concrete Institute, the Sanitary Institute of London, the Institution of Civil Engineers, the Institution of Municipal Engineers, the Institution of Municipal Engineers, the Institution of Water Engineers, Royal Institute of Engineers, the Rural Housing Association, Sanitary Inspection Association, Society of Architects, Sanitary Engineers, Surveyors' Institution, and a number of the chief municipal bodies of Britain and Ireland.

On Monday the Congress was inaugurated by a luncheon at the Guildhall, presided over by the Lord Mayor of York. The Archibishop of York proposed the toast of the Royal Sanitary Institute, and said it was twenty-six years since the Institute had visited York. The Institute was engaged in work which, if continued, it almost certain that they might at the time when all the ranges of public disease would have been removed from the lives of the people. Public opinion stimulated by the Institute, which has 9,727 certificates to persons who have knowledge of the conditions which the combat, and whose work had caused vision of ample light and air, pure water and dwellings.

The toast was acknowledged by the Lord Mayor.

Colonel Lane-Nottor subsequently proposed the toast of "The Lord Mayor and the City of York."

President's Address.

On Monday night, in the Festival Hall, the Archbishop of York delivered his Presidential Address, in the course of which he said that his election as President was regarded as the visible symbol of that close relationship between body and soul, between spiritual and physical environment, which science has demonstrated, and which religion, he hoped, would learn to accept. At the outset he expressed in the name of the whole Congress their deep and infinite satisfaction in progress which had been made by science during the last forty years. Times when they turned with wistful eyes to other ages in the history of their country, when they knew, of course, that golden age never existed, and if it did, wise they would always believe that it was in the times which they lived were the best time in which they lived were the best time in. In spite of that, however, the themselves looking back somewhat to the Middle Ages of English life, seemed to see in them traces of a more and merry England than they could at the present time. If, however, their history they found that if mediæval was beautiful it was also plague-ridden. Certainly, if they went through the streets of York and examined the buildings there, never doubt that in times past it must have been a place extraordinarily picturesque, full of many indications of a width of vision and skill of craftsmanship which much wished they could reproduce, but the Middle Ages they had the ravages of black death, malignant fevers, and blights which devastated the population. Gently and steadily, sanitary reforms entered the city, but he supposed that it was not until 1830, when the great sewage scheme was in hand, that the tide began to turn. The result was that, mainly through sanitary

chairman, in opening the meeting, his position and character of sanitary practice in the light of present-day

From the point of view of a local authority (which includes the departments of the Medical Officer of Health and the Surveyor, as well as that of the ratepayer) town planning is in theory the only thing: there is no alternative.

Finally, it must be remembered that the dreams of the idealist must be transmuted by

the alchemy of common sense into something practical before they can serve as a basis for town planning and the laying-out of garden cities.

Mr. F. W. Spurr (City Engineer, York) communicated some notes on the paper, and said he felt sure that economies could be brought about in street construction varying in amount with the particular form of construction now adopted. In York the method of private street construction consisted of laying the footways with 3-in. Yorkshire flags, 12-in. by 8-in. kerb, and paved channels 14 in. wide, whilst the carriageway was constructed of either 9-in. stone pitching or 6-in. concrete finished with 3-in. tar macadam the full width between channels. By adopting the following method of construction a saving of about 30 per cent. could be made, and the Corporation had agreed to the amended method of construction, provided the width of the street was not less than 42 ft., and the distance between the houses themselves 62 ft.—Footways constructed of tar paving composed of limestone chippings in place of 3-in. Yorkshire flags, 10-in. by 3-in. kerb in place of 12-in. by 8-in., and channels 8 in. wide instead of 14 in. With regard to the carriageways in residential streets, he did not advocate any alteration in the form of construction beyond reducing their width to about 16 ft., the remaining width being grassed and planted. With regard to economies in cottage construction, he did not think much could be done unless some other form of construction was adopted, but there could be no doubt that to build at the least possible cost cottages must be erected in blocks of not less than six. Some saving in cost could be effected where by-laws provided for carrying the party walls through the roof, a precaution which he thought was unnecessary, and something might also be saved by an alteration in the thickness of walls of two-story cottages.

Mr. Moulding (Exeter) said he agreed with the suggestions of Mr. Spurr, and he further agreed that all these things must be considered in relation to the different towns they were dealing with. In Exeter the standard of streets was much lower than in York. In certain streets where there was not much traffic they allowed a gravel footpath, and they used granite chips because they got them cheaply. They were well rolled in and tar-painted, and they lasted a considerable time. In the carriageway it would be a good thing if they could get landowners to put 6 in. of concrete, having regard to future upkeep; but it was rather a big thing to ask the owner to do. He thought that the cost of houses could be cheapened if the outbuildings could be built as suggested by the author, and in Exeter the by-laws in that respect were modified.

Mr. Matthews (Bridlington) said his district was a residential one, and he had been trying to imagine as he sat there how very much it differed from a manufacturing city, where the town-planning area was purely an industrial one. It was incumbent on them as surveyors to make the best they could of the district each had to deal with, and not to be influenced to too great an extent by what was being done in other towns. He did not quite agree that a house occupied by two or three families would become a slum. At Doncaster recently they submitted a housing scheme to the Local Government Board, and at the local inquiry it appeared that the tenants for whom the houses were intended had been accustomed to pay rents of 3s. or 3s. 6d. a week. The charge for the new houses would be 6s. a week, and the inspector said he could not approve of that, and that fresh plans must be drawn up for houses to be let in tenements to two families at rents of 3s. a week. He saw no reason why a person inhabiting half a house should not be inclined to keep it in a sanitary condition as if he occupied a whole house. He also saw no reason why a road on which there was to be no heavy traffic should not be less than the ordinary road in width, and in Bridlington they allowed a width of 30 ft. for such roads.

Mr. Munce (Belfast) pointed out the difference in the practice at Belfast with regard to the terms for letting land for building purposes. The land on which his own house was built was on a lease of 9,999 years less one day. A man bought land and laid it out, and leased the land at a rent varying from 3s. to 4s. a foot frontage to the street, and as the houses were from about 13 ft. frontage the ground rent would run from 39s. to 52s. per annum. When the land was covered with houses the ground rents were sold at from fourteen or fifteen to as many as twenty

years' purchase. He rather deprecated grass plots along a street, for the constant playing by children on them soon destroyed them. He would prefer that awkward corners and so on should be laid out for play. The longer he lived the more he was convinced that the best thing to do was to spread a town out and bring the people into the centre to the factories and works by tramcars, even if they ran the tramways free.

Mr. Cass (Farnham) considered there were many illusions with regard to housing, and one of these was that houses should always face a street. He saw no necessity for every house and cottage to face a street, which resulted in houses being placed back to back, and also enormously increased the cost of roads. He had now in his mind a plan of laying-out twenty houses on 2 acres, and he found by making a little square the cost would be greatly reduced. He agreed that carriageways should be made fairly strong, but there was often a great waste in the kerbs. In suburban districts where nothing heavier than a furniture-van went down they found 10 by 12 kerbs, and from both the engineering and aesthetic point of view this was absurd.

Mr. Munce said he would like to add that in his view 150l. for a working-class house was absurd. They could build a first-class house for 100l. if they went the right way about it.

Mr. Whyatt, in reply, said they might build for 100l. in Ireland, but not in England. A house with two rooms up and two rooms down could not be built much under 140l. in England, and if they had three rooms upstairs, as was certainly necessary, the cost would be 165l. or 170l. Personally, he was inclined to think that the 3-ft. strip between the road paving and the footway was a mistake, as coal and milk carts would get on to it, and in the course of a few years they would get a nuisance to everybody. He agreed with Mr. Cass that it was not necessary for every cottage to face a street, but the point was that, if they were going to build them in pairs or singly, the cost of the gable walls and the extra fencing had to be added on, and the capital cost was increased. It was true that in theory two or three families in a house need not make it a slum, but in practice it generally did become a slum.

Sewage Disposal in Rural Districts.

Mr. Asenough Rodwell (Engineer and Surveyor Skipton Rural Council) submitted a paper on the above subject, and described what was done in the case of a district with which he had acquaintance. He contended that there ought not to be the same rigid requirements as to the standard of purity of the effluent from small rural villages (where the quantity of sewage effluent is, comparatively speaking, "a mere drop in the bucket") as is necessary for towns where the quantity discharged into the stream is much greater. When, however, the effluent has to be discharged into a small stream (which in summer-time is probably dried up), the standard of purity should, of course, be higher.

The modern methods of dealing with sewage by tanks, bacteria beds, etc., has enabled disposal works to be placed much nearer the houses than was permissible when the method of treatment was by broad irrigation, or even intermittent filtration over land. Also the area of the land required for the works is much smaller. The Council have just recently completed disposal works for two villages, the combined population being over 600. The works consist of sedimentation tanks, percolating filters, storm-water tanks and filters, sludge beds, humus tank, and tool-house, and the whole area, including fence walls, measures less than half an acre.

Mr. F. E. Crutchley (Gloucester) remarked that they were developing a kind of plateau in his district on which a number of villas were being erected, and there were no sewers within a long distance. They were using as far as possible septic tanks. The depth of soil was only 10 in. or 12 in., and then they came to rock. The medical officer did not like to discharge even the effluent into the river, because they did not know what building might take place in the immediate neighbourhood hereafter.

In the absence of the author the paper was not further discussed.

Sewage Treatment.

A long and interesting discussion followed a paper read by Mr. John Manley on "Sewage Treatment: Advantage of Land over Artificial Schemes." As the result of experience and

inquiry, the author strongly advocated a system.

Colonel Jones said that the Army having found out that he was over eight of age, had retired him from the management of the Aldershot Camp Farm. He was advocate of land treatment, but was sure that the land was properly attended to.

Professor Tyndate (Scientific Advisor War Office) referred in high terms to the done by Colonel Jones, and said that the artificial treatment of sewage first of all, and then, before the public, as in all this sort, the public concerned seemed to be heading into the matter, and eventually to be biological treatment just as in any way everything seemed now to be ferocious. He supposed there was no system of sewage treatment with which he was acquainted, and there were, in his thousands of cases where artificial treatment must be adopted. At the same time, he was very glad to say that the sewage had arisen from the wreck, and there were instances where it would still prove the method to deal with sewage.

Mr. Lacey (Oswestry), Mr. Upson (head), Mr. Watson (Birmingham), Mr. Farnham, and Dr. Fowler (Manchester) joined in the discussion, and agreed that where land treatment was possible was effective, although in many cases a system was impossible.

Sludge Problem.

Arising out of a paper by Mr. Arthur and Mr. P. Holt Whitaker, considerable attention took place with regard to the disposal of sludge. At Penrith the authors described a system of sludge treatment. The drying beds are four in number, each 2 by 10 ft. wide by 6 ft. deep; they are composed of brickwork, backed on the outer side with concrete; the floors are made of concrete with proper falls in the direction of the slope. Each bed is provided with doors, consisting of sections, extending the full width of the bed, the lower end, which can be raised or lowered at will as the material in the beds increases. Cross walls are formed of perforated bricks laid in grooves, so as to be easily adjusted. When the sludge is about emptied from the sedimentation tanks of straw, litter, dried weeds, or the like laid in each tank or compartment in such a manner that the whole surface of the tank is covered; the litter is also drawn slightly to the sides of the beds or compartments, and round the vertical, perforated pipes are placed. These perforated, vertical pipes are about 12 in. in diameter, in lengths of about 2 ft., with sockets and spigots so that they can be built up in continuous shafts from the top of the bed as it is being filled. The sludge, to the depth of 4 in. to 6 in. is run on to the litter, which acts as a filter, allowing the liquid to filter through, and find its way to the perforated pipes, turn are connected to drains laid on the surface of the beds. This operation of filling and filtering the sludge is continued until the bed or compartment is full. The operations are transferred to the next bed, and so on, until the sludge has been run to a well, and is then pumped into a channel of the tanks for retreatment. The beds are being filled the increasing amount of sludge and litter, thus after proper settlement, a firm bed of sludge is easily handled and is very strong. A layer of litter is always placed on the surface of the sludge to obviate any nuisance, small which one usually expects to attend open sludge beds or lagoons. The sludge is sold by public tender every year, the price obtained being 1s. 9d. per cart-load. Mr. Cass mentioned that at Farnham, made walls of the ordinary domestic material, which they poured the sludge. The sludge, drained off back into the tank and then refuse made good manure, which was no difficulty in disposing of.

Blackpool Outfall Sewage.

Mr. J. Brodie (Borough Engineer and Surveyor, Blackpool) described the method adopted by him in extending seawards the outfall sewer. The present extension is made by means of a continuous steel tube of internal diameter of solid welded pipes, 18 in. in length, formed of open heart steel riveted together with cover straps 10

thickness, with a double row of $\frac{7}{8}$ -in. rods 3 in. centre to centre. The foundation, which was taken part in by Messrs. (Bridlington), Mr. Whyatt (South), Mr. T. W. Stainthorpe (South), Mr. Brownridge (Birkenhead), and Mr. (fast), to a large extent dealt with the of using steel tubes instead of cast-iron. Mr. Brodie said that the cost was and Mr. Munce endorsed his view experience he had in Belfast that they satisfactory.

UNION BANK OF CANADA, TORONTO.

The home for the Union Bank of Canada, the latest tall buildings in Toronto, has been completed recently. It is located on the corner of King and Bay streets on a lot on King-street, the principal front, on Bay-street. It is a five-story building, covering up to a height of 90 ft. The walls of the building, 6 ft. in height, is of granite from Crotch Island (Maine). The walls are faced with semi-cotta manufactured by the Leeds Company (England). The design is in the manner suitable for the material. The architects are Messrs. Darling & Pearson, Toronto. The construction is of the steel skeleton with reinforced concrete floor slabs and terra-cotta partitions, making the building thoroughly fireproof. The steel frames and sash were manufactured by Henry Hope & Sons, Birmingham. The building is entered through a set of double doors which lead into the entrance hall, 14 ft. The walls of the entrance hall are lined with polished Botticino marble and lead to ceiling. An Otis-Fensom elevator in the basement to the fifth floor, and on staircase with Tennessee marble runs up around the elevator. The entrance hall leads directly into the

banking-room, 33 ft. by 70 ft. and 25 ft. high. Around the walls there is a marble dado 4 ft. high composed of Escalette and Botticino marble. The walls and ceiling are plaster, treated in the French Renaissance style. The walls are jointed up and painted with a water paint to imitate French Caen stone. The ceiling is left in the white. The marble counter is made of Escalette and Botticino marbles, and the floor is of Tennessee light grey marble, with a border of different other kinds of marble. The grills above the counter are cast-iron, bronzed, manufactured by the Ornamental Iron Department of the Canada Foundry Company, Toronto. In a wing carried out at right angles to the banking-room is a battery of vaults used by the bank, and on a mezzanine are located the stenographers, rest-room, and lavatory. The clerks' lavatory and locker-rooms are in the basement. In the basement are also located the stationery and packing rooms, the book vaults, machinery-room, boiler-room, etc.

The bank manager's private office, finished in mahogany, and lavatory are located in the front of the building with an exit into the entrance hall.

Over the manager's office and the entrance hall there is a mezzanine floor comprising a suite of two offices.

The second, third, and fourth floors are subdivided into offices to suit tenants. There is also a battery of five vaults on each floor.

The fifth floor is occupied by the head office of the Union Bank. It is composed of a series of private offices, a board-room, with fumed oak panelling 8 ft. high, a president's office, treated similarly, a spacious general office, two large vaults, men's lavatory, and a separate gallery for the women's lavatory.

Above the fifth floor there is an attic space averaging 6 ft. in height, for the distribution of the low-pressure gravity circulation two-pipe heating system, with wet returns. One large fan exhausts the foul air from the banking-room and a small fan ventilates the lavatories.

The general wood finish throughout the upper floors is fumed oak.

GENERAL NEWS.

The Royal Institute of British Architects: Board of Architectural Education.

The following names are those of candidates for the Final Examination whose designs submitted under the various subjects of the Revised Testimonies of Study have been approved by the Board:—Subject II. (b) Mr. F. Radcliff. Subject III. (a) Mr. F. Radcliff.

The following is a further list of names of candidates for the Final Examination whose designs submitted under the various subjects of the Revised Testimonies of Study have been approved by the Board: Subject III. (a), Mr. E. H. Gibson; Subject III. (a), Mr. Wm. Voelkel; Subject III. (b), Mr. Geo. Crossley.

Candidates who propose applying for admission to the November Final and Special Examination should at once submit, for the approval of the Board of Architectural Education, the subject and titles of their theses. Candidates may select one of the following:—(1) Historical Architecture, implying as far as possible the direct study of actual historical buildings. (2) Science as Applied to Building; by this is intended a special study of an application of science to definite problems of building. (3) Design, including Decoration, such as a study in civic, monumental, decorative, or other branch of architectural design. The subject selected for the thesis is to be notified for the approval of the Board four months before the date of the Examination, and the thesis itself is to be submitted four weeks before the same date. The thesis, which may be either an illustrated essay or a design with a detailed report, will be assessed by examiners specially appointed for the purpose, who will also examine the candidate orally in his thesis. It is open to candidates to obtain distinction in the advanced work, such special distinction to appear in the *Kalendar*.



The Union Bank of Canada, Toronto.
Messrs. Darling & Pearson, Architects.

University of London: University College.

The following awards have been made in the School of Architecture at University College:—The Donaldson Medal to Mr. Oliver Gaunt; the Carpenters' Company Travelling Studentship to Mr. S. Miller; the First Prize in the Advanced Design Class to Mr. W. G. Whincop, and the Second Prize to Mr. H. S. Taylor; the Prize for Measurements and Sketches also to Mr. H. S. Taylor.

In connexion with the arrangements for the Carpenters' Company Classes for next Session, the Classes in Design will be continued on Mondays and Wednesdays, the visitors being Mr. Leonard Stokes and Mr. E. P. Warren. Mr. W. H. Ward, M.A., will give a course of ten public lectures on "Renaissance Architecture in France."

The Institution of Civil Engineers.

Under the will of the late Sir James Inglis, a former President of the Institution of Civil Engineers, the Institution has just received a legacy of 5,000*l.*, to be applied to its new building, which is now in course of erection in Great George-street, Westminster. This legacy testifies to the marked interest which Sir James Inglis took in the scheme for the rebuilding of the Institution, towards the cost of which he had also, during his lifetime, contributed liberally, regarding the occasion as an opportunity to promote the centralisation, and thereby the strength, of civil engineering interests throughout the British Empire.

Northern Polytechnic.

The governors of the Northern Polytechnic have appointed Mr. J. Campbell Reid, A.R.I.B.A., as head of the building trades

department, at a salary of 400*l.* a year, rising to 500*l.* Mr. Reid is now head of the building department of the Paisley Technical College.

W. H. Hornby Memorial.

Mr. Albert Bruce-Joy was the sculptor of the statue which has just been erected in Blackburn to the memory of the late Mr. W. H. Hornby, M.P., first Mayor of the borough, who died twenty-eight years ago. The cost of the memorial is delayed under the will of the late John Margerison, foreman in Mr. Hornby's mills, who left the whole amount, exceeding 3,000*l.*, as a tribute to his master and benefactor, in whose works he and his father before him were employed for fifty years.

Vigo-street, W.

The Royal Geographical Society having taken Lowther Lodge, Kensington, the building hitherto occupied by them at the corner of Vigo-street and Savile-row has been sold. No street widening will take place at this point, and the present building will be adapted for commercial purposes. One landmark will be removed, however, namely, the shop of Mr. Elkin Mathews, the publisher.

A New Hotel near Piccadilly-circus.

The Strand Hotel Company, Ltd., have issued their prospectus for raising capital to an amount of 300,000*l.* in respect of the proposed erection of an hotel upon the island site bounded by Air, Brewer, Sherwood, and Glasshouse streets, whereof a lease of eighty years from next October has been obtained from H.M. Office of Works at a ground-rent rising to 6,000*l.* per annum for the residue of the term after the third year. Mr. W. J. Ancell and

Mr. H. Tanner, jun., are the architects of the undertaking.

Commons and Footpaths Preservation

The monthly meeting of the Commons Footpaths Preservation Society was held at 25, Victoria-street, Westminster, on August 1st, Mr. P. Birkett, president, presiding. It was reported that Mr. Birkett had given evidence before the Select Committee on Commons, as Secretary of the Society, and had urged that in the applications for schemes for the regulation of commons under the Commons Act, 1876, the procedure should be simplified and the reduced by dispensing with the necessity of confirming Provisional Orders; he had pressed that the veto of the Lord of the Manor should be removed provided all beneficial uses were carefully preserved under the schemes. Mr. Chubb had also given evidence with a view to showing the difficulties encountered by local authorities in obtaining management of commons in order to order and prevent nuisances.

Church Building Society.

The Incorporated Church Building Society held its usual monthly meeting on August 1st at the Society's house, 7, Dean Westminster Abbey, S.W., Lieut.-Col. G. H. W. Windsor-Chive in the chair. A sum of money was made in aid of the objects, viz.:—Building first portions of churches at Aldersbrook, St. Gabriel, Kent; Chalfont St. Peter, All Saints, Bucks; Sandycroft, St. Ambrose, Hawarden, 75*l.*; and Siddal, St. Mark, Halifax, 7*l.* towards enlarging or otherwise improving accommodation in the churches at Bedd St. Aldhelm, Bristol, 35*l.*; Dearnley, St. Andrew, near Rochdale, 50*l.*; Groombridge, St. Kent, 23*l.*; Little Steeping, St. Andrew, 30*l.*; South Northwood, St. Alban, Surrey, 10*l.*; Oringbury, St. Mary the Virgin, Norfolk, 10*l.*; Swansea, Christ Church, Glamorgan, 10*l.*; Withycombe, St. Nicholas, Somerset, and Woolcombe, St. Sabinus, Devon. Grants were also made from the Special Buildings Fund towards building churches at Stanley Common, All Saints, 40*l.*; Swansea, St. Martin, Glamorgan, 30*l.*; Westcliff-on-Sea, St. Michael and All, Essex, 50*l.* The following grants were paid for works completed: Bishopwear, St. Gabriel, Sunderland, 250*l.*; West Stratford, St. James, Surrey, 175*l.*; Woolacombe, St. Sabinus, Devon, 100*l.*; Branscombe, St. Winifred, Devon, 50*l.*; Speenhamland, St. Berks, 150*l.*; Gyeallion, St. David, 30*l.*; Loughborough, St. Peter, Leicester, 30*l.*; Plymouth, St. Mary, 140*l.*; Kingston, St. Paul, Surrey, 50*l.*; Southend, St. John-the-Baptist, 50*l.*; Hoole, All Cheshire, 60*l.*; Somersham, St. John the Baptist, Hunts, 5*l.*; Abercrave, St. Brecons, 100*l.*; Frintley Green, St. Andrew, Surrey, 50*l.*; Rotherhithe, Clare College, Kent, 35*l.*; and Bishopham, St. Stephen, 40*l.* In addition to this the sum of 81*l.* paid towards the repairs of fourteen churches from trust funds held by the society.

COMPETITION NEWS.

A list of current Competitions is printed on page 137.

Central Market, Melbourne.

Advices just received from Australia inform us to the effect that a competition is limited to Australian architects, is proposed to be held by the Victorian Government for the erection of a Central Market at Melbourne, the cost of which is estimated at 200,000*l.*

City Hall, San Francisco.

H.M. Consul-General at San Francisco, A. C. Ross, C.B., reports that the price of 25,000 dollars (about 5,135*l.*), which was offered for the best design for the New City Hall to be erected in San Francisco, has been awarded to a firm of architects in that city (Messrs. Arthur Brown, jun., & John Bakewell), who will probably be employed as the architects for the building.

Civic Enterprises.

Town planning competitions are in progress at Huddersfield and at Dunkerque, France. It remains to be seen whether the proposed extension of Nottingham will involve opportunities for architects.



The Union Bank of Canada, Toronto. (See previous page.)

Messrs. Darling & Pearson, Architects.

Holding Housing Scheme.

tion with the Spalding Housing Scheme. The Urban District Council, J. B. Corby, F.S.I., of Stamford, has been selected from three to prepare the plans. Instructions given to have the plans prepared for submission to the Local Board, and as soon as the proper obtained the work will be com-

Children's Home at Barnet.

meeting of the Barnet Guardians Committee submitted a recommendation to effect that competitive designs be invited from ten architects for the new home for children, to accommodate more than thirty girls and thirty boys. Baughen, Chairman of the Committee, did not agree with the recommendation. He felt that the better way to employ an architect to prepare plans, which could be sent to the Local Board for approval. The matter, however, was adopted, might be settled, being partly erected by the time plans were sent in. Mr. Sweet's designs were required for a time, not a town hall or some other building. The design should be so any architect should be able to be wanted. The Chairman said it arose from the fact that the not decide upon a single architect interview and be advised by the architect. Mr. Jukes said that the difficulty was that he understood the Local Government Board were against recommending. It was mentioned that the instructions to the architects included the clause, "The style of and the materials to be employed the discretion of the competitors, and that the building should be of a substantial character without any embellishment. Economy is essential." The Committee's recommendations by sixteen votes to two.

safety of a garrison beleaguered within the keep depended upon the length of time it could hold out before it was relieved. The line of advance in military architecture concentrates itself upon the outer defences, of which the curtain was the chief, so rendering the *enceinte* or enclosure impregnable. In other words, a concentric plan of defence was the objective. The keep was dispensed with. Flanking and intermediate towers were introduced into the wall, such points of vantage being no longer square in plan, but circular, thus avoiding the point-blank of attack. The wall was thus protected by a flank fire from the engines of destruction directed against it. The fortified gate-house became a feature protected by a barbican, the name given primarily to an outwork covering the entrance, and later to what was virtually an outer and secondary gateway. Minor constructive improvements lay in the crenellation and machicolation of wall and tower, affording by the first cover for the archer, and by the second opportunity for the vertical discharge of missiles. Within the substantial defence created by these conditions, adequate buildings could now be erected in the bailey of the castle, for the comfort and convenience of its occupants, and the Edwardian type of castle may almost be called a little township, with its many offices and chapel. Indeed, the influence of the dwelling became more and more important, and the castle gradually gave way to the fortified dwelling-house. The growth of power among the people of England, moreover, offered no further opportunities to the builders of castles. Indeed, the history of the castle is written in the history of our constitutional development. It belongs to the story of our Norman conquerors, of the rise and fall of the Barons, of the growth of the Guilds and popular government. But this military architecture excites our admiration. It represents the age of our nation's youth. It is impetuous, daring, and resourceful, and the careful survey of this period which Mr. Thompson offers us is well worthy of attention.

The First and Chief Grounds of Architecture.

By JOHN SHUTE, Paynter and Architect. First printed in 1563. A Facsimile of the first edition, with an Introduction by LAWRENCE WEAVER, F.S.A., Hon. A.R.I.B.A. Published by Country Life, Ltd., Covent Garden, W.C. 1912.

MR. WEAVER has furnished us with an interesting notice of John Shute, together with a shorter notice of his printer, Thomas Marshe, and a "Bibliographical Description" with some notes and references. He has done this well, and ably made something out of little, for, as he says, "Shute's claim to architectural fame rests solely on his authorship of the first English book on architecture." Certainly nothing definite is known of John Shute's practice of the art, and the emphasis which he lays on the acquirement of the arts and sciences from "the true instructions and meanings of them that have written thereon" might well denote the amateur rather than the builder.

Tradition gives his birthplace at Cullompton, in Devon. The hamlet of Shute and its fine mansion are not far distant, and, since place names are the common derivative of surnames, there may be truth in this, although it lacks authentic confirmation.

"The First and Chief Groundes" is scarcely a treatise. It belongs rather to the curiosities of literature, and to retain its interest as such it demands the most careful reproduction, and the employment of the most adequate methods. The original plates are refined in their execution, though they lack technical skill; the remarkable caryatides, introduced as an alternative to the columns, even appear to possess a certain rudimentary grace. We cannot detect any refinement in the reproduction, for, owing to the process adopted, any defects in the originals have been intensified, and the reproductions of both text and plates are unworthy of the occasion.

The Main Drainage of Towns. By F. NOEL TAYLOR, Civil Engineer. (London: Charles Griffin & Co., Ltd. Pp. 313. Illustrations 350. 12s. 6d. net.)

THOSE who are familiar with Mr. Taylor's "Civil Engineering Practice" will be interested in the publication of a new book by the same author, and described by him as a companion volume to that work; it is, in fact, an elabora-

tion of some of the chapters in that encyclopædic achievement dealing exhaustively with one of its most important sections, and repetition has been allowed only in so far as it has been necessary to make the new work complete in itself.

After three chapters containing the needful information on such preliminary subjects as Maps, Procedure, Hydraulics, and Calculations, the author proceeds to deal in considerable detail with the more practical problems connected with such subjects as the various methods of trenching, tunnelling, shaft-sinking, the construction and qualities of numerous types of sewers, the much-disputed question of ventilation, storm overflows, outfalls, and pumping systems. The chapter which is included on House Drainage would seem to be somewhat outside the scope of the work, and shows evidence, in one or two references to practices not usual in England, of the author's large experience in Dublin.

The theoretical side of sewage disposal and the design and construction of disposal works are adequately considered in the later part of the book, and the last chapter is devoted to the special construction necessary in conducting sewage across rivers. There are four useful appendices and a full index; the illustrations and text descriptions are ample and clear, and the book as a whole deserves as warm a welcome as was accorded to the larger volume referred to above.

Iron and Steel Constructional Work: A Concise Handbook with Examples for Practical Application. By KARL SCHINDLER. Translated by CHAS. SALTER. (London: Scott, Greenwood, & Sons. 1912. 3s. 6d. net.)

THIS little book of 115 pages of text, and a further twenty-five of tables and index, deals with the calculation of columns of cast-iron and steel, beams and floor construction, roofs and staircases, skylights and glazed roofing.

It is a translation from the German, and will be useful to draughtsmen and others who have already some elementary acquaintance with the subject—the formula adopted as a basis in dealing with columns is Euler's, and the mathematical knowledge demanded from the reader is very small.

In addition to the theoretical matter, a few practical notes are given, and these are not invariably in accord with good English practice. For instance, the interposition of sheet-lead between machined faces "to ensure an equal distribution of load" would not now be tolerated in fairly good work, but is twice mentioned in the chapter on cast-iron columns. There is also mention of the desirability of rounding the angles of the core in a square column "lest in the casting the sharp edges of the core should be damaged by the molten metal, which might thus give rise to flaws," but no general warning is given against the use of sharp angles in castings, with the possible internal planes of weakness arising therefrom. The importance attached by the author to allowances for expansion of girders is far beyond that which the daily practice of engineers in England will support.

Safe loads for use in calculating the carrying capacity of floors and roofs and the bearing capacity of foundations are given, but it should be borne in mind that there are now a few figures of this kind sanctioned by insertion in the London County Council (General Powers) Act, 1909, and while some of them would be very hard to defend upon any basis of experiment or theory, yet so long as they are upon the Statute Book it would be well that they should be borne in mind and quoted by writers of books like the present.

These points, however, do not affect the main argument of the book, which is simply, clearly, and consistently put, and is illustrated by numerical examples that will greatly assist the student.

BOOKS RECEIVED.

REPORTS ON RATING APPEALS. By E. M. KONSTAM and Harold R. Ward. (London: Butterworth & Co.)

STAIRCASES AND GARDEN STEPS. By Guy CADOGAN ROTHERY. (London: T. Werner Laurie. 6s. net.)

FORCES AND FONTS. By CHARLES WALL. (London: Wells Gardner, Darton, & Co. 10s. 6d. net.)

BOOKS.

Architecture in England During the 15th and 16th Centuries. By A. HAMILTON THOMPSON. A. Illustrated by 200 photographs, and plans. (Henry Frowde, University Press, London. New York, and Melbourne. 1912.)

THE author has made an interesting contribution to the subject of military architecture. "The Fortresses" of Viollet le Duc is a time the standard work in this time that have our opportunities have been enriched by Mr. C. T. Harvey, and others, including of various archaeological societies. The book is a new and well-arranged presentation of the subject is welcome. The book is a survey of the hill fortifications, and the defences of prehistoric time, and so prominent a part in the landscape—cyclopean in their mass—of Sarum and Maiden Castle. But a history are scarcely forthcoming. "The Normans" to walls; their strength, after they in the country, lay neither in earth-stonework, but in the boundary of marsh that extended round their "The dominating feature of the castle was the keep or donjon, a square rising upon a mound and surrounded by a ditch." Natural formations of ground were and utilised with the greatest skill, but a mound was, if possible, built. But the object of the castles the Conqueror most often being a particular town in subjection, as could not always be chosen at official earthworks were necessitated. A curtain wall surrounded an enclosure containing such buildings as might be a garrison, and abutted upon the a system of constructive defence made in its conception to continue to be a true square tower was by a more complex plan, but this simple curtain did not afford protection to the enclosure. The

CORRESPONDENCE.

Signing Buildings.

SIR,—Referring to your "Note" in this week's issue, entitled "Credit to Whom It Is Due," may I emphasise your closing remark on "the excellent practice of signing buildings."

It is often deplored that the general public show so little interest in architecture. One reason for this is that our buildings are given to the world without a personality associated with them. There would be little appreciative interest in literature without the author's name, and a picture is not judged without the painter, so why should not the architect and his work be likewise inseparable!

A visitor to Paris finds every building branded with a name, too loudly, perhaps, but he becomes aware that there are beings called architects. The natural outcome of signing buildings will be an enhanced interest of both the author and the public, by which the quality of our work will be influenced.

A. T. BRADFORD.

The Further Road Improvement at the Marble Arch.

SIR,—The ill-founded rumours that shops were about to be erected at the Oxford-street end of Park-lane has entirely overshadowed the fact that an important road improvement is about to be carried out there through the generous manner in which the Grosvenor Estate has agreed to set back the new building line of the proposed block of buildings at that corner.

In the original plan for the Marble Arch Improvement, published in 1905, the rounding off of the north-east corner of Park-lane and the demolishing of the unsightly stables there formed part of the scheme, not only on account of the traffic, but also on aesthetic grounds. Although for a time I had to withdraw that portion of the scheme on account of existing leases, no opportunity has been missed during the past seven years in pressing home its importance.

Oxford-street will now be widened at this point by 16 ft., and Park-lane at its north end by 10 ft., the junction of the two thoroughfares being thrown off by an additional 27 ft. being thrown into the public thoroughfare, which is exactly the extra space at this point that was asked for in the original improvement scheme. North-row, leading out of Park-lane, will also be widened by several feet. The ground the Grosvenor Estate is thus giving to the public is no less than 5,139 sq. ft., and I am advised by competent authorities that its freehold value is well over 60,000.

Although everyone that has the slightest knowledge of town planning will regret that the interested public authorities have not availed themselves of this opportunity to acquire further land at this point in order to give symmetry to the Place at the Marble Arch, yet I am sure all Londoners will desire to express their gratitude to the Grosvenor Estate for this generous gift.

F. W. SPEAIGHT.

INTERCOMMUNICATION COLUMN.

Skylight in a Roof.

SIR,—I have been interested in a case which has come under my observation, the circumstances of which are as follows:—

Is a skylight in the opening of a roof a window the glass of which is to be kept in repair by the tenant, or is it part of the roof, to be kept in repair by the landlord? The lease stipulates, the lessee to do all internal repairs, including the glass of the windows. There is a fixed skylight in one of the roofs, about 3 ft. square, with two panes of Hartley's plate-glass, to light a staircase, having lead flashing and gutter outside and casing inside to stop plaster of ceiling, and one of the panes was broken with a blow, and, of course, the rain comes in. The lessee wrote to lessor to repair same, being part of roof. The lessor writes it is the lessee's place to repair the glass of windows, referring to dictionary, which describes skylight as a window in roof lit from above, and defines it as a window in the opening of a roof, as a sash and frame is a window in the opening of a wall. The lessee goes to his lawyer, who contends it is a glass tile in a roof. He can find no test case in law books, and it was open for legal argument.

Being a matter of only a few shillings it was compromised without the lawyers. J. E. D.

[*] Your query is one of interest, and as we know of no case covering the exact point we publish it, as possibly some of our readers may be able to throw light on the question. Of course, to determine the liability of the particular tenant it would be necessary to know the exact covenants as to repair, and how the blow was struck which broke the skylight; but treating the case simply as a lease in which the lessee covenants to undertake the internal repairs, including the glass of the windows, but the landlord undertakes the external repairs, including the roof, and the damage not to have been caused by the tenant's negligence, we should imagine that a court would construe both words in their ordinary accepted meaning. If the roof was a covering of any sort of material and the windows as the ordinary openings in the walls. It is to be noted that the liability to repair the windows is an exception on the tenant's obligation only to undertake internal repairs, and as such the exception would be strictly construed. The covenant to repair the roof relates essentially to an external matter, and it would appear straining the language of the lease to except the skylight as a window. We can, however, express no definite opinion on the point, especially without knowing the terms of the lease and the precise terms of the covenants.—Ed.]

Undervaluing Property.

SIR,—My attention has been called lately to the great number of property owners who have suffered probably through depression in trade and directly or indirectly by recent land legislation. In several cases owners have lost their all, having invested their small earnings in equities, and mortgages, hoping in so to secure their money or asking the mortgagees to reduce where they have not the money to meet it. Unfortunately there are many surveyors called in to value property who have never served their articles in a surveyor's or an architect's office; this may account for some of the low valuations.

Can a property owner recover any loss which he or she may sustain from the valuer through a low valuation? The surveyor will be careful to secure a good margin for the moneyed man or mortgagee; on the other hand, ought not the surveyor to study the interest of the owner as well as the mortgagee? If a surveyor over-values a property, the mortgagee can recover the loss from the surveyor. Why cannot a building owner recover his loss also from the surveyor through a low valuation?

Is the valuation to be based on the net rentals? If so, this is not always fair, especially where the buildings are well and studiously built; consideration should be given to the actual cost of the buildings which one would take as the true value. **FAIR PLAY.**

[*] We are afraid we do not exactly fall in with the point you wish to make. If a value is placed too low for the purposes of a mortgage, we do not quite see how the owner can be damaged. If the mortgagee calls in his money, the property owner has abundant security and could raise a new loan, paying off the old mortgage. If, however, the mortgagee could show that he had suffered damage from a value being placed too low, we presume that the valuer could be made liable on the same principles that apply to a case of over-valuation if the loss was directly due to negligence on the part of a valuer engaged by the property owner; but, of course, a mere error in judgment would not suffice, and any loss would have to be traced directly to his negligence. With reference to your second query, neither the net rental by itself nor the cost of the building alone forms the basis of valuation, as many other considerations arise, and we can only refer you to text-books on valuation. In Mr. Webb's work on "The Valuation of Real Property," an instance is given at p. 53 where surveyors were held liable for having valued a property, relying too much on the cost of building. In the first part of your letter you give instances where owners of property have suffered loss owing to the depreciation of property through depression of trade or increased taxation. These appear to be cases where over-valuation, in the light of subsequent events, has been the cause of foreclosure. Over-valuation rather than under-valuation is likely to be the cause of loss to both mortgagee and mortgagee.—Ed.]

Cost of Schools.

SIR,—Can any reader state where figures can be obtained showing the cost of schools (a) elementary, (b) secondary, and (c) any other type, per head, exclusive of cost of site?

CHRISTOPHER.

ILLUSTRATIONS.

Port of London Offices.



E illustrate herewith the design by Messrs. Bowden & Wallis for the new head offices of the Port of London Authority. To which we referred as follows in our issue of June 14th:—
"Messrs. Bowden & Wallis produce a design on very different lines, the square frontage being squared and the Offices occupying a rectangle lining Savage-gardens and running through Crutched Friars. In this design the have tried to carry out the suggestion of a large hall containing the departmental central portion of which forms an immense 100 ft. in height, top-lighted, round, arranged the remaining accommodation on four floors with an upper floor at the roof of the hall. An entrance-hall at each end gives access to a wide vestibule at either end of which are placed the stairs, and beyond this corridor is a hall previously mentioned. At either end of the central hall are corridors cutting the vestibule corridor at either end, and at outer blocks and corridors repeat on each side of the central hall. The Port Rates Office occupies a large space in the centre. It is the treatment of the office, divided into two portions and from an immense height, which forms a doubtful feature of the design from a view of plan. The scheme is generally conceived, but the detail and features of immense scale, and would, we imagine, much reconsideration to render such a scheme satisfactory. The sides of the central hall in particular show evidence of wide consideration and care in designing. The details are well conceived, but here a detail is somewhat coarse and heavy, which surmounts the tower being like 30 ft. high, and every part of the building on an equally enormous scale. Its main proportions there is little fault with the design, the front to Trinity being on dignified and architectural lines."

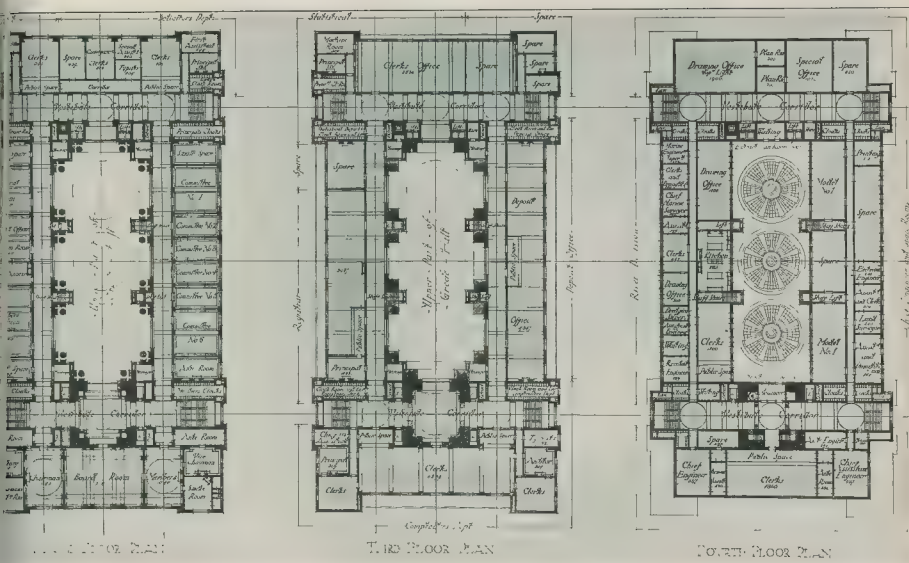
Regent's Quadrant Competition.

ILLUSTRATIONS have been given since our issues of July 12, 19, and 26, on the Regent's Quadrant, and one of this week is devoted to the schemes of Messrs. Drysdale, A.R.L.B.A., and Messrs. C. Gibbs.

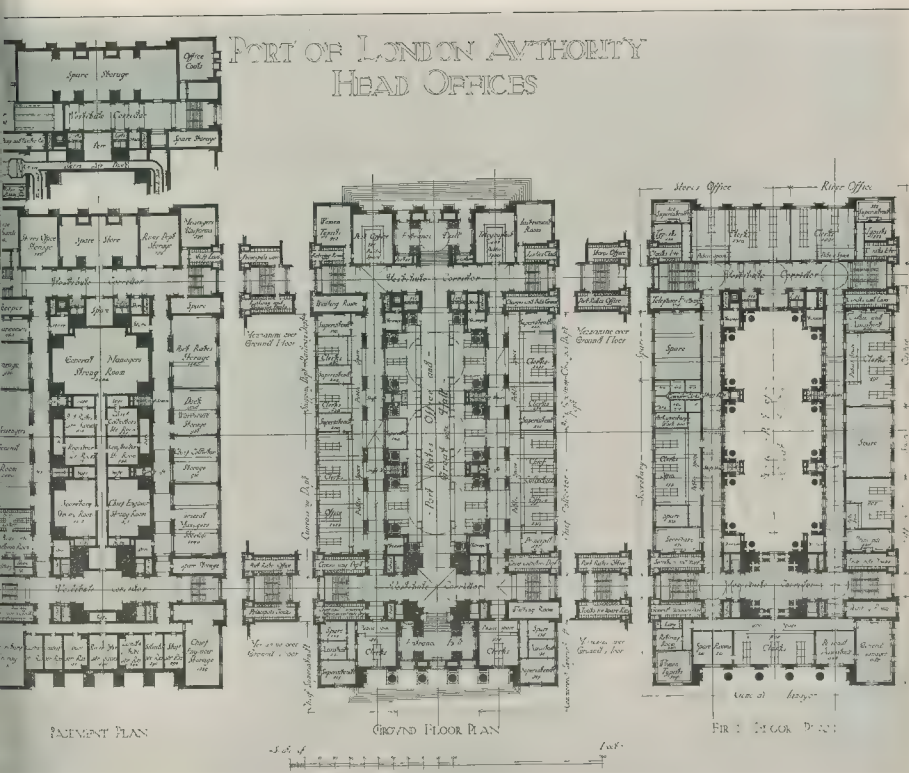
Mr. Drysdale writes:—
"My desire in this design was, first, to obtain an abundance of plate-glass; secondly, to keep the main horizontal lines, to get more scale into the existing facade of a more classical intercolumniation, while the mezzanine was designed continuous beam for the columns to support."

Messrs. Cromie & Gibbs send the notes to accompany their design. Naturally the dominating factor in their minds was the line upon which the competition was formulated. A definite problem was set down for solution, invited to regard the existing hotel as a *fait accompli*, and, except in regard to the western bay, to set to work to see if could not be produced that would fit with the present block and at the same time, within reasonable limits, to demands of the lessees.

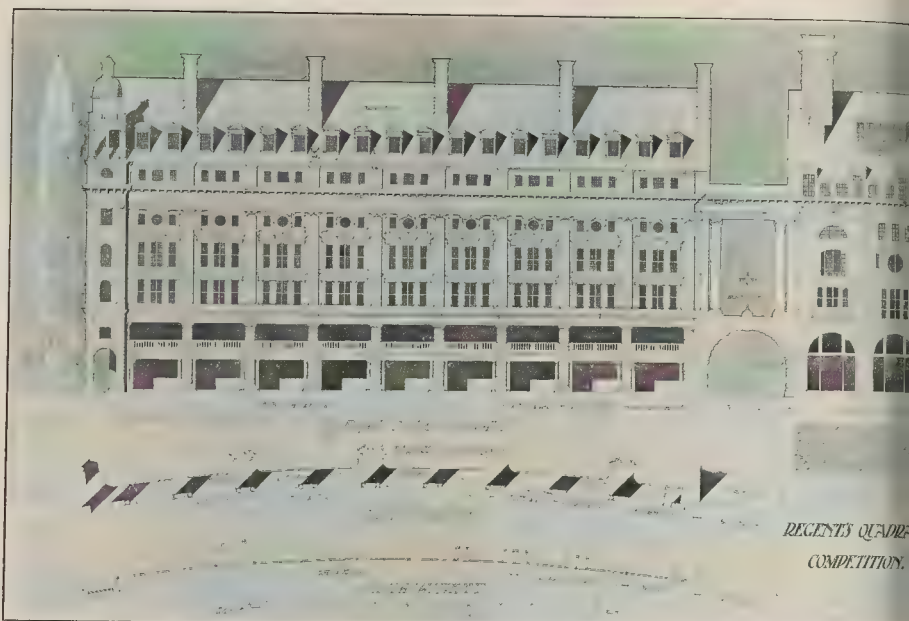
Agreeing that any proposal to "improve" the situation of the hotel would be "unthinkable," we at the time realised that anything in the nature of reproduction would not be eminently for either retail or showroom purposes that even the desirability of doing away with the uncomfortable circular windows and giving more lighting area generally tended to a somewhat different treatment. The and coupled columns had to go in fact the leaseholders insist upon an structure of best British plate the employment of even single columns or pilasters inadmissible. Such an extreme view commend itself to us, hence our endeavours to continue the present facade in shape, and line, to make the detail subservient respects to the usual requirements of tenants, and in others to a rather more ideas of architectural design, besides to mind the desirability of working on that might be acceptable to the Comm-



Port of London Offices : Design by Messrs. Bowden & Wallis.



Port of London Offices : Design by Messrs. Bowden & Wallis.



"The Builder" Regent's Quadrant Competition: Design by Mr. Moritz R. Martin, A.R.I.B.A.

of H.M. Office of Woods and Forests, not without some thought for the commercial necessity of obtaining as much space as possible in plan and window area. While fully recognising the force of recent arguments in Parliament and Press anent the "perfect proportion," etc., of Regent-street and the overwhelming (*sic*) scale of the hotel, we cannot suppress the opinion that a somewhat false impression of the true proportions of the street is obtained owing to its sharp turn into the open area of Piccadilly-circus, and a decided tendency to magnify the scale of the hotel owing to the juxtaposition of the small-fronted shops with doll's-house windows on either side.

Complete Mr. Norman Shaw's quadrant in perspective and compare it, with due courtesy to all concerned, with any other scheme, it is high above the rest.

We do not think that Regent-street would suffer enormously if it were all some 97 ft. to the ridge. We agree that there should be a limit to the height of street buildings, but, beyond a quite legitimate sense of conservatism, there seems little enough to recommend a mere rebuilding of the Quadrant without any attempt to put the property upon a financial basis capable of automatically realising its cost (as has been done in Waterloo-place), and at the same time falling into skyline with, and completing, a very dignified conception. We have therefore, like many others, striven to achieve the *juste milieu*.

On this page we illustrate also the design of Mr. Moritz R. Martin, A.R.I.B.A., who writes—

"The author's *motif* has been to produce a design as little out of harmony with Mr. Shaw's façade as possible, and treated in a restful and orderly manner suitable to the contour of the frontage and the consideration of future extensions. While embodying the main architectural lines of the Piccadilly Hotel, the adjustment of the frontage line as shown on plan tends to produce the following advantages: (1) Both aesthetically and practically satisfactory means of support for the superstructure, entirely independent of the window treatment; (2) identically the same amount of glass area in shop windows as now exists; (3) a shopping promenade well lit from above and below, with tea balconies over approached from mezzanine floor level; (4) gain in floor area of upper stories; and (5) the slight set-back would accentuate the individuality of the hotel and Air-street treatment in its plainer setting. The materials would consist of ashlar facing to

match the hotel, green Italian tile and copper roofing, and bronze casements and enrichments. The promenade and the same treatment generally is intended to continue along the Circus façade, with a similar campanile at the Piccadilly corner: the upper colonnaded stories of the latter being illuminated at night time with bronze tripods and flambeaux. The subdivision into bays is effected by Ionic pilasters embracing three stories, and adjusts the tenants' apportionments practically as they now exist."

FIFTY YEARS AGO.

From the *Builder* of August 2, 1862.

On the Spirit of Modern Work.

ALL good work in the present day must be a protest against the triviality, money-worship, and machine regularity of our time. It does not follow that such should be the spirit of work in another age; but in ours it is plain that art must fight the ease, elegance, and sensuality of modern society, because in themselves they are detestable traits of character. Designers are now chiefly occupied in drawing patterns for articles to be made by machinery—not a very noble occupation for human minds; and their designs never can be anything but geometrical patterns or symmetrical foliage—also not a lively prospect. Now, surely, a wall with a flight of birds painted on it, and half a dozen of them having a good fight in the Japanese manner, is more interesting and contains more life than a million diapers. But this work cannot be done by machinery; you cannot throw life into anything made by machinery; a hanging or carpet, with some violent grotesque dragons, animals, fish, doing something, not in a state of modern lethargy, is more amusing than the incipient, chilling, flat patterns one is treated to now. The spirit of Japanese work is right—full of life, vigorous, and severe.

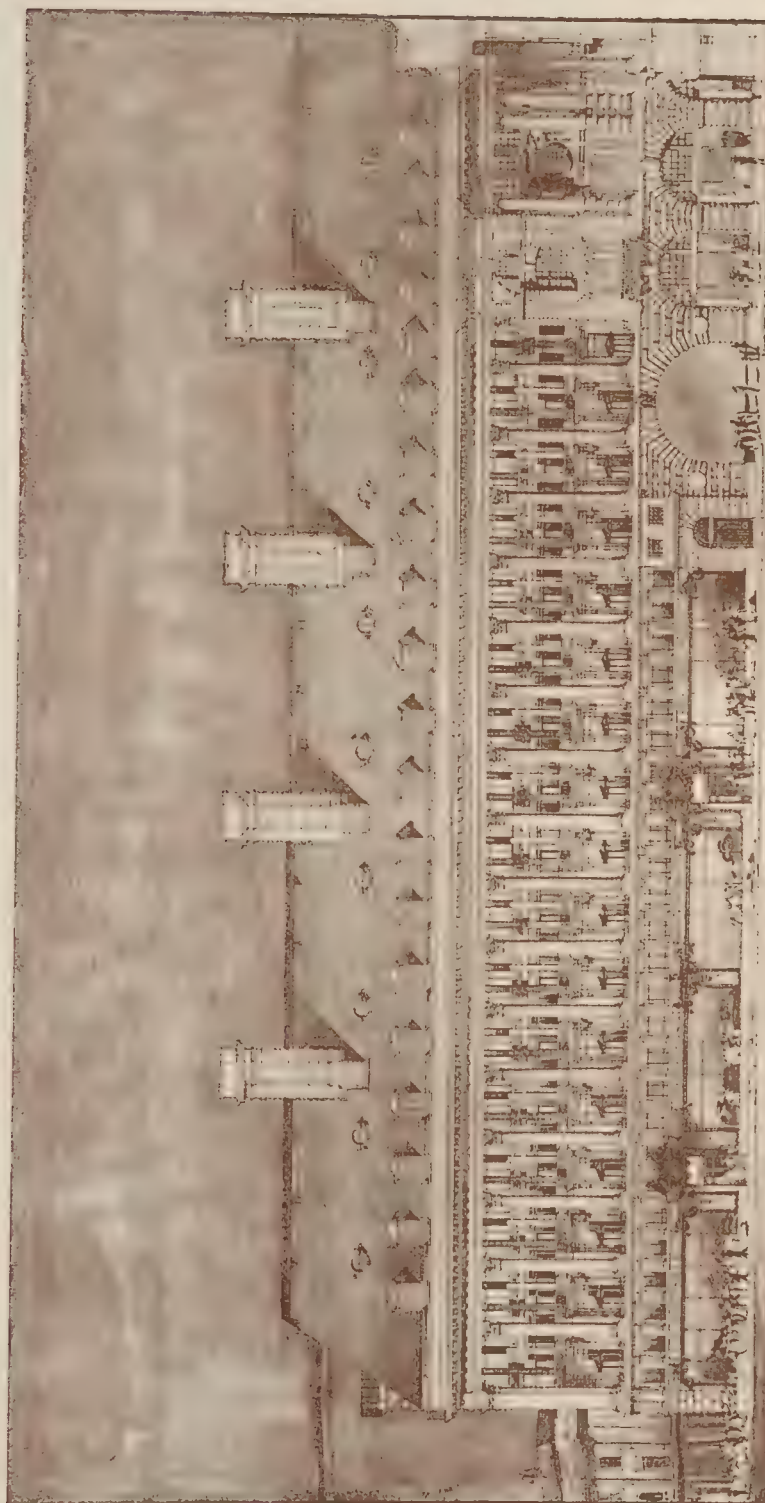
** Fifty years ago Alfred Stevens was employed in designing ornament to beautify cast-iron grates of an impossible style. One might imagine that no finer opportunity for achieving an artistic success was ever offered to commerce, yet no more signal

instance of failure was ever known. But another co-operative example of work which has done more than almost else to further the progress of our design. In 1861 the firm of Morris, Faulkner, & Co. was established, and showed that it was possible to make fittings and materials to designs which satisfied the demands not only of the Public as well, and they were nevertheless, to dispose of their product at a profit. Other firms were not slow to take advantage of this discovery, and sequence to-day, although it would be easy, we fear, to point to plenty of commercial designs that are as bad as well be, yet at the same time it is admitted that the general advance in direction has been very marked in recent years. From what one sees in the showrooms of the better-class manufacturers in the galleries of exhibitions, and in the rooms of many a private house, it is that scarcely any article of everyday has been neglected by the designer, and that good furniture and materials may be had by going to any way about obtaining them.—ED.

CRYSTAL PALACE SCHOOL OF ENGINEERING.

Sir Maurice Fitzmaurice, C.M.G., Engineer to the London County Council, entered on Tuesday the certificates won the summer term by the students at the Palace School of Practical Engineering, a course of an address: he stated that the school had maintained its reputation for many years. He had had some of the old students on his staff, and he was glad to say they were been quite satisfactory. In the course of subsequent remarks he said the man got a good engineering education had pulled over all the others. Particularly the case with men who went abroad, pressed upon them the necessity of learning foreign language, and, if possible, two languages. He knew they would make mistakes, but those who had a good education in the fewest mistakes. They should not try to correct their mistakes, but go and tell them they had done. He would think all of them for doing that. They would learn more from mistakes than from successes.

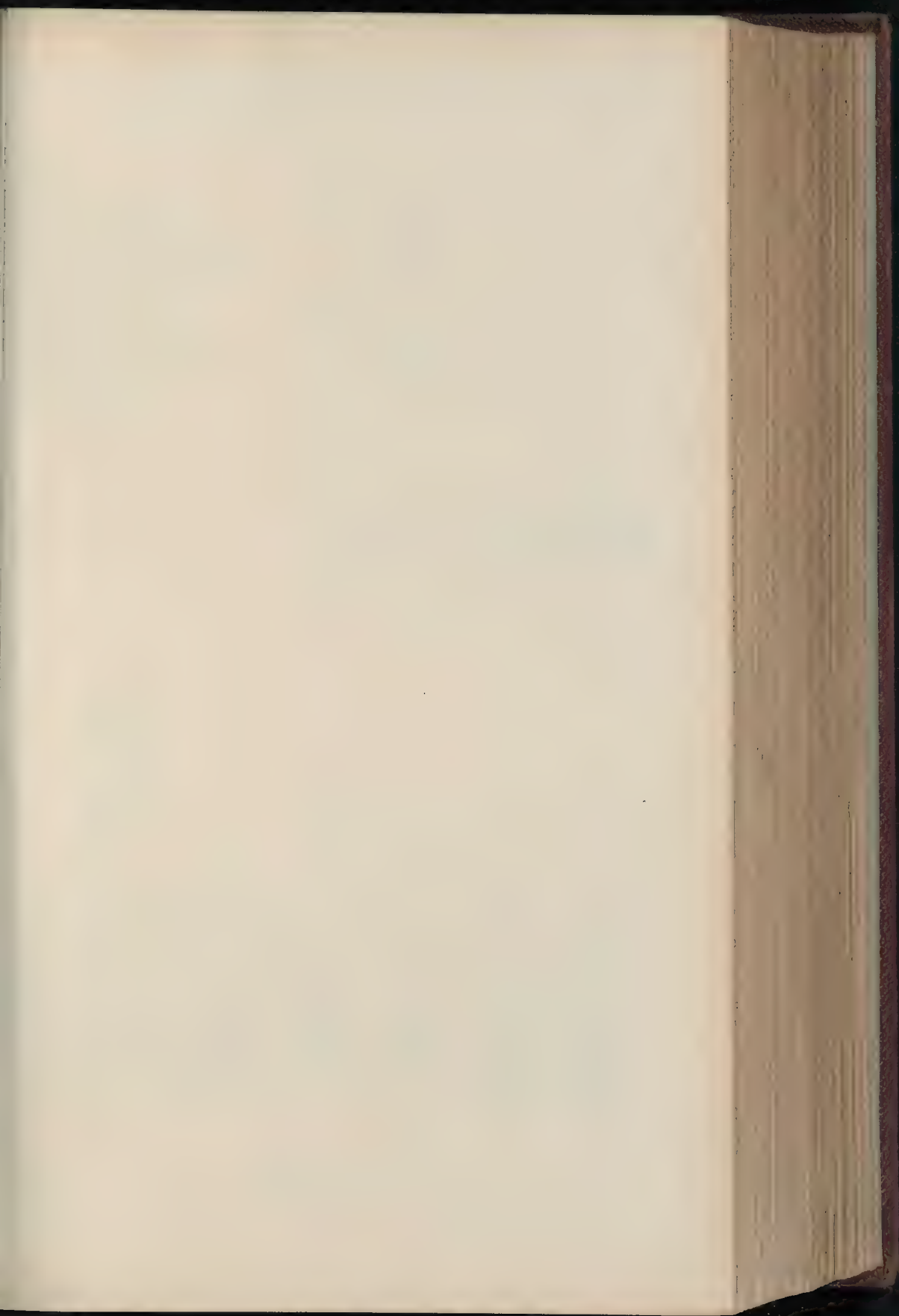
THE BUILDER, AUGUST 2, 1912.

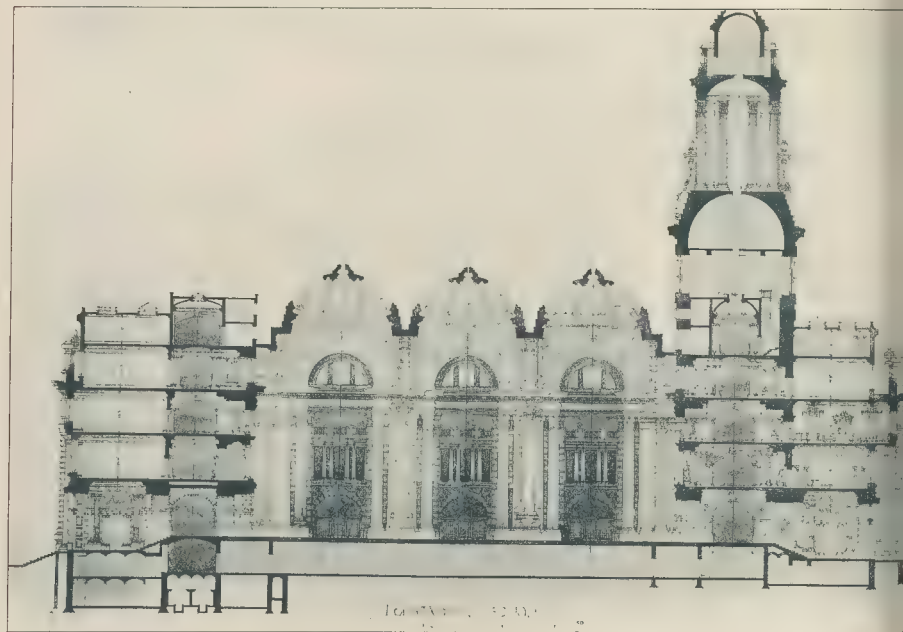
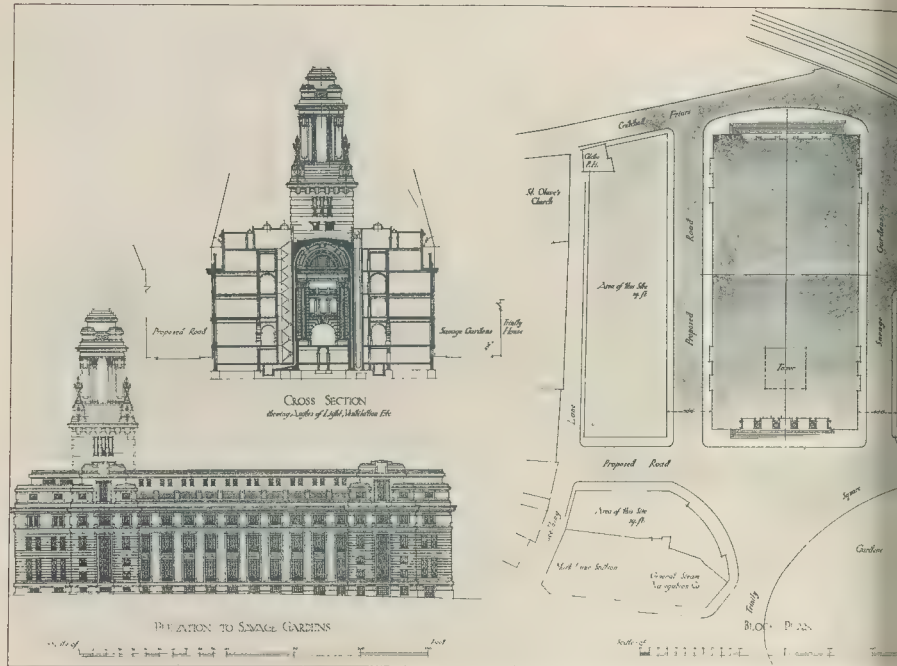


Regents' Building Competition

Arch. 1912

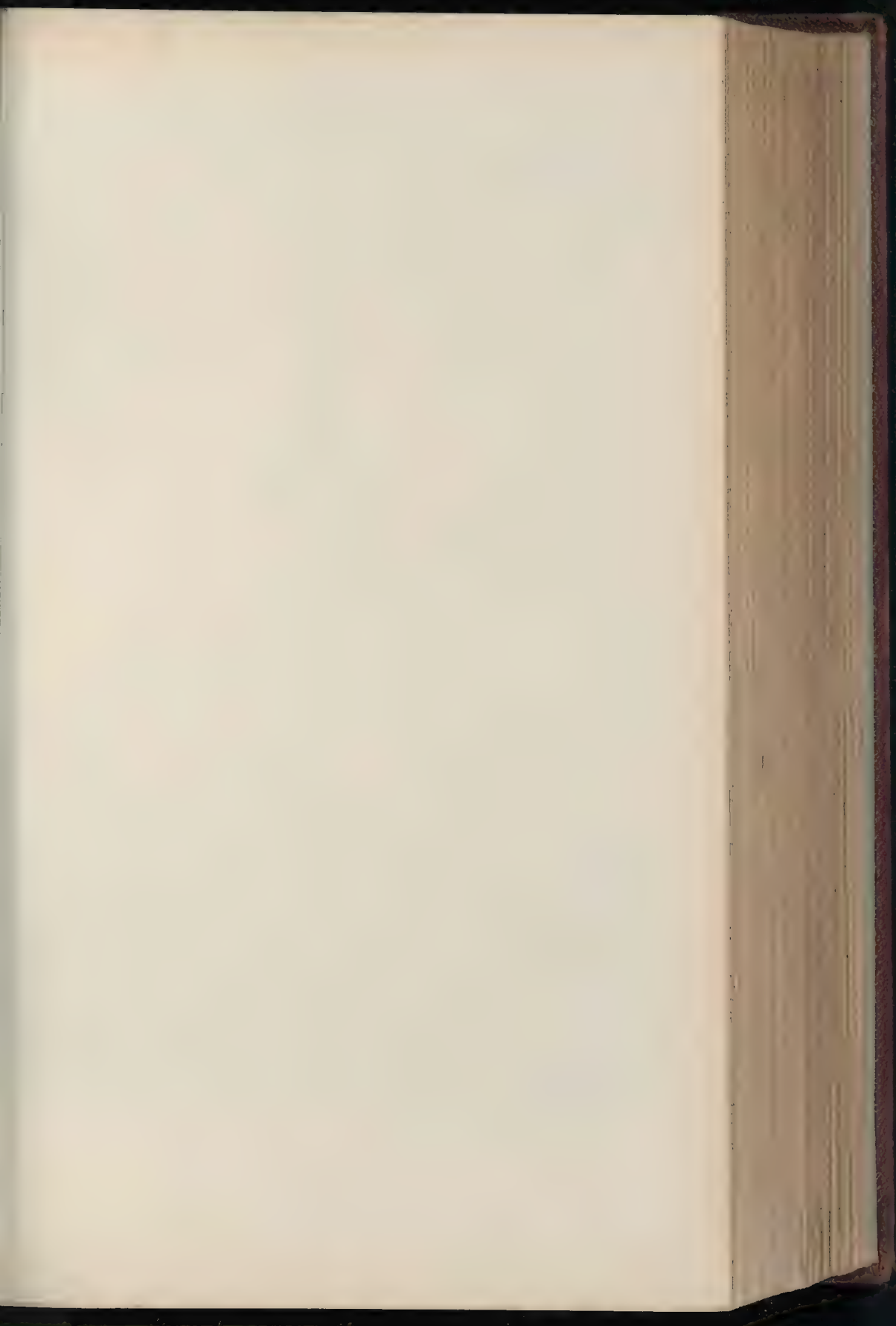
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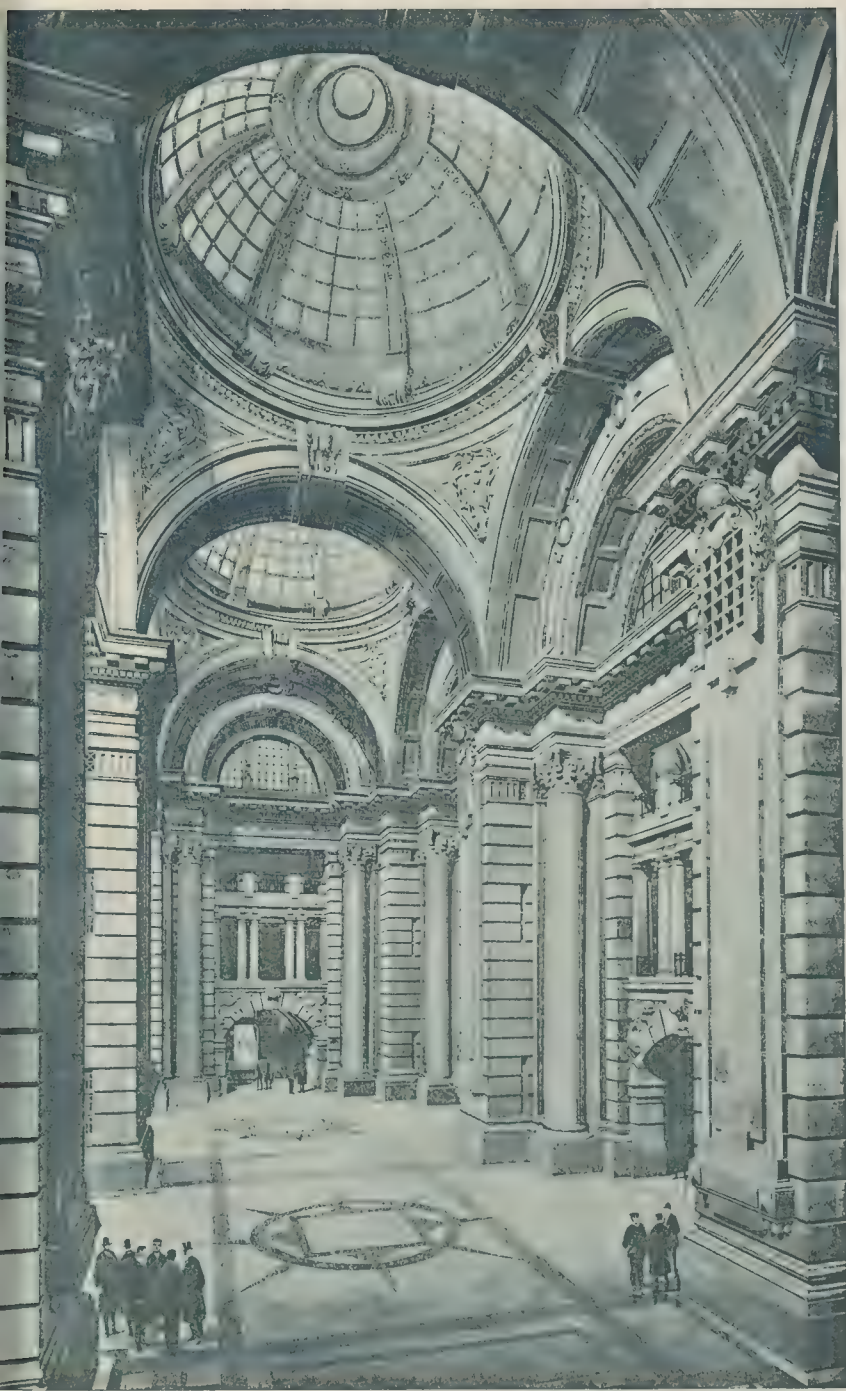
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PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.
By MESSRS. BOWDEN & WALLIS.



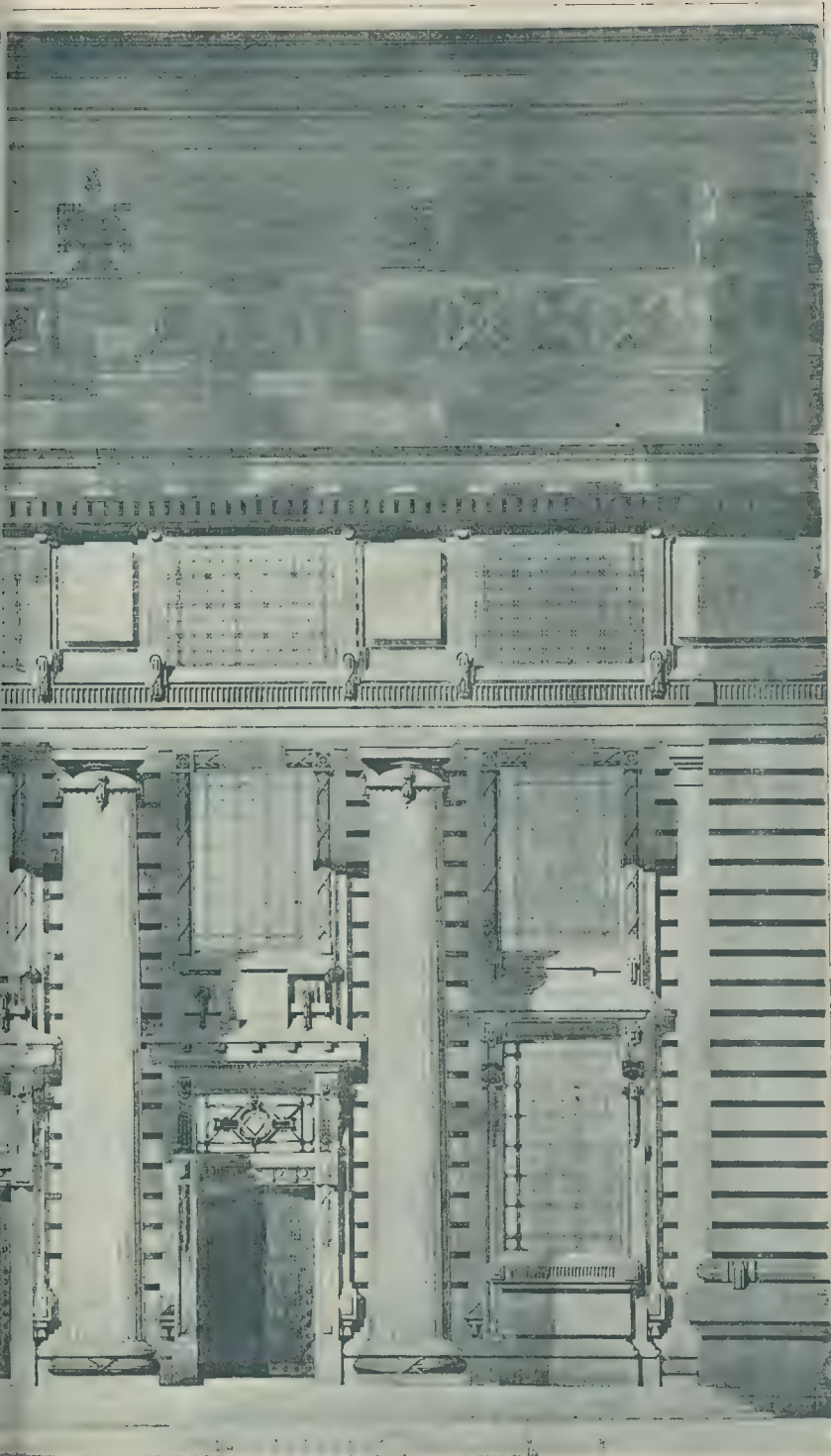


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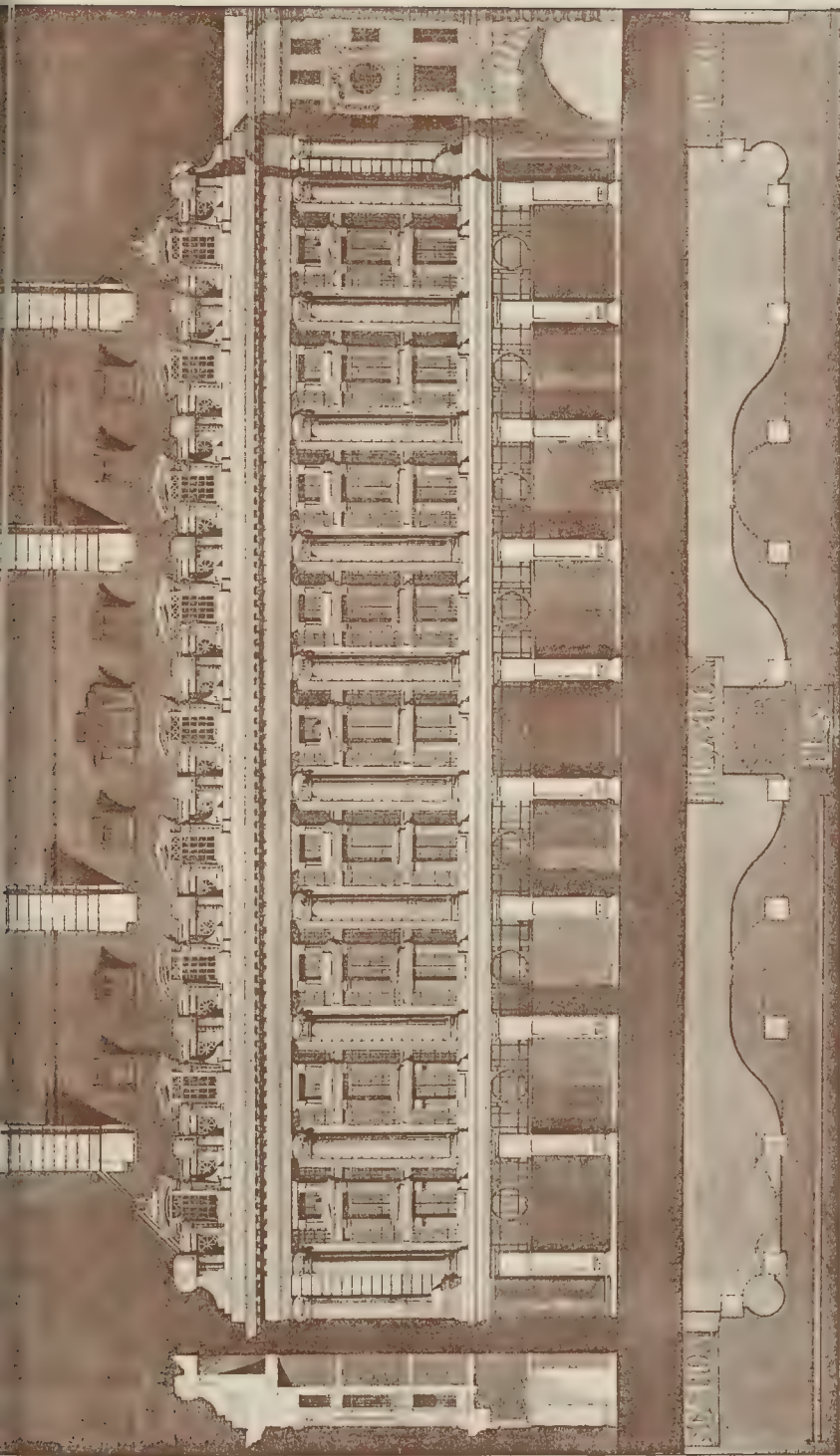
By MESSRS BOWDEN & WALLIS



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PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.

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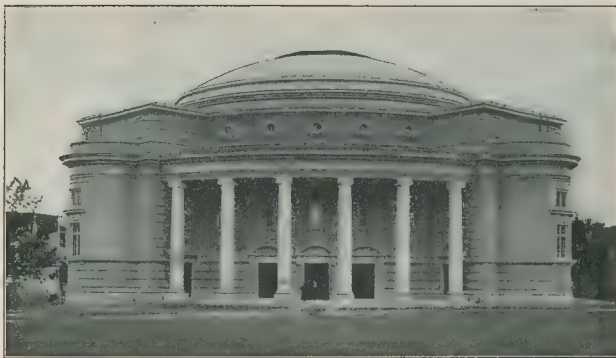
"THE BUILDER" REGENT'S QUADRANT COMPETITION.—DESIGN BY MESSRS. ROBERT CROMIE & T. H. GIBBS.

MONTHLY REVIEW *of* CIVIC DESIGN.

TORONTO.

TORONTO, the capital city of Ontario, and the seat of the Provincial Parliament, is situated on the north shore of Lake Ontario, some 40 miles from its end. Long before the conquest of the country by the white races, Toronto, as the name signifies, was the terminus of the principal Indian trail which connected Lake Ontario with Lake Huron. It was a position of great importance, and a trading post was first established here by the French in 1749, and named Fort York. Its position on the lake shore is marked by an obelisk in the present city grounds. This fort was deserted by the French in 1759, when the French forces were withdrawn to meet the English attacks on Quebec and Montreal.

At the termination of the American War of Independence many families left America, and, settling in Canada, were known as the United Empire Loyalists. Many of them found their way to the site of Toronto and became the original founders of civilisation in a city which has eventually grown into one of the largest cities in the Dominion. This is, no doubt, due in the first place to the selection of this spot by the Imperial Government as a safe and convenient site for the capital of the Province. America having become an independent country, it was decided that Newark, the old name for Toronto-on-the-Lake, was too near to the water to be suitable for this purpose. The site of Toronto having been surveyed in



Convocation Hall, Toronto University.

1788 and found to be capacious and well sheltered, Lieut.-Colonel Simcoe, the first Governor of Upper Canada, laid out a small rectangular town, which he called York. Under this name it was taken by the Americans in 1813, when the Parliament House and records were destroyed. In 1834, with a population of 10,000 and a rateable value of three-quarters of a million dollars, the town became a city and reverted to its original Indian name of Toronto—"a place

of meeting," York being retained as the name of the county. The first mayor was William Lyon Mackenzie, the reformer, who inspired the rebellion with which his name is associated.

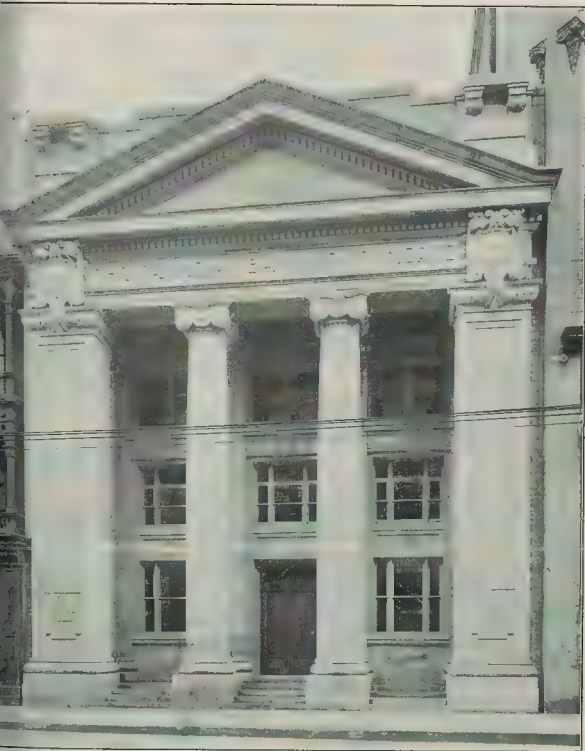
In spite of an outbreak of Asiatic cholera, which carried off one in twenty of the population, the newly-created city started on a career of prosperity which has raised it to a population of more than 250,000, with an annual revenue approaching 7,000,000 dollars. Its present prosperity as the largest wholesale distributing centre in the Dominion is, no doubt, due to its advantages for cheap freightage both by rail and lake, and to the fact that the best purchasing market in Canada lies close to its door. More than 200 freight trains enter the city every day, and in 1909 the harbour was used by some 2,900 vessels amounting to a tonnage of 1,480,000.

Apart from its manufacturing and distributing activity, Toronto has many attractions as a place of residence. It possesses some delightful residential quarters, 1,700 acres of parks and gardens, summer suburbs east and west along the lake shore, and in Toronto Island, enclosing the harbour, it has a summer pleasure-resort within a few minutes of the business centre of the town.

But for all its prosperity and natural charm of position, Toronto lacks the one thing needful—a reasonable and comprehensive city plan. Efforts have been made from time to time by the Civic Guild of Art to overcome this difficulty, but hitherto without success. It is, however, well recognised, we believe, that the most pressing need is for diagonal thoroughfares and for some relief to Yonge-street, which is the principal or only direct tramway route from the northern residential quarters to the business centre.

The destruction of the charm of the harbour and lake front by the railway is also greatly deplored. It has been suggested that this line be removed and the through traffic be taken on the northern line, which runs east and west at a distance of some 2½ miles back from the lake front. A union station for both the Canadian Pacific and the Grand Trunk Railways would then be placed in the centre of the city in connexion with this line, while railway communication with Ashbridges Bay and the harbour could be retained in the valley of the River Don.

There is no doubt that the lake front, at present so disfigured, should be the principal asset of Toronto. Early paintings and drawings now preserved in the City Hall give some idea of its original charm, and of the possibilities which were eventually wrecked by the construction of the railways. In the more modern towns of the West the railways



Canadian Bank of Commerce, Toronto.

Messrs. Darling & Pearson, Architects.



Sketch Map of Toronto, showing Railway System and Principal Streets carrying Electric Tramways.

arrive first, and, as they create the towns, they naturally have the first choice of position; but this was not the case in Toronto, and it seems now to have been a short-sighted policy which allowed them to appropriate and disfigure the lake. It is to be hoped that this matter will be taken in hand without further loss of time, as in all probability it will never cost less than at the present moment.

A glance at the sketch map will show that, although building has spread to the east of the River Don, the principal part of the city is contained between the two rivers Don and Humber, and between the lake front and the railway to which we have already referred. This railway runs along the foot of a rise which was once the shore of the lake, but now forms a high plateau intersected by ravines created by the two rivers and their tributary streams. This district is being rapidly extended and laid out as a high-class residential quarter, efforts, however, being made to preserve the rural charm of the wooded ravines. Although there is still much to be done in the direction of preserving the natural beauty of the outskirts of the city, the inhabitants are quite alive to the necessity. On the eastern bank of the Humber, High Park, a large tract of beautifully wooded and undulating ground, secures its amenities for a considerable distance back from the lake front, and we understand that negotiations are now in progress for preserving the western bank in a similar way.

The valley of the Don is unfortunately disfigured by the railways, and as far as the southern part is concerned there is not much beauty to preserve, but in the northern part of the city some still remains, and we are glad to see, by the rejection of the proposed Bloor-street viaduct, that public opinion is not indifferent to the advantages of preserving it. The proposal to create a garden suburb on the eastern side of the city is another indication that it should not be difficult to rouse public interest in a general town-planning scheme for dealing with both the city and its surroundings in a thoroughly comprehensive manner.

CONCERNING SHOPS.

THE competition recently promoted by this journal for the rebuilding of Regent's Quadrant calls attention to the whole question of the relative positions of shops and other buildings as incidents in the corporate life of the city. As was pointed out in a leading article, the question of town planning lies at the root of the whole matter. This applies not only to the placing of shops on an angle site that might be thought too important for them, but also to the position of the Piccadilly Hotel. Though this neighbourhood seems to have been

considered by those interested in this branch of commercial enterprise a suitable one for a large hotel, yet it is very questionable whether the actual site itself is in any way ideal, even from the point of view of the hotel itself. From the point of view of the city as a whole the hotel should not have been allowed to thrust itself into a quadrant of shops, thus creating a difficulty which no amount of ingenuity appears able to overcome. It is not perhaps sufficiently realised that if buildings are to harmonise with one another when executed they should have some harmony of underlying idea, and that those that will not harmonise naturally should not be placed in immediate juxtaposition. If they are so placed they will either compete and clash with one another, or modifications entailing some loss of efficiency and character must be made to bring them into proper relation. It is not contended that it is impossible to harmonise shops and hotels. It has been done, with perhaps no more loss of character and efficiency to either than civic design entails on every building. Where, however, there is a quadrant to be treated as a whole, the problem appears to be simplified when all the buildings in the sweep are of the same nature. If it is necessary to provide for buildings that differ in character, it would seem more reasonable to place them as terminal features or pavilions at either end of the curve. If it be true as a general principle that things are only beautiful when in their right places, then this question of the right placing of buildings of different requirements and character is one of the greatest importance. Indeed it is probably no exaggeration to say that from the point of view of the whole city it is far more important to make restrictions as to the position of buildings than as to the character or features of the actual buildings themselves.

All buildings of whatever nature tend by both economic and architectural laws to assume certain definite characteristic and well-recognised forms. They would still tend in this direction, whether restricted by by-laws or not. A row of buildings all of the same nature would probably tend to produce a satisfactory harmony of general effect, without the need of restrictions. If this view is correct it would seem probable that better results would be obtained by admitting only buildings of a suitable character to any given street, and then leaving them to develop naturally rather than by admitting buildings of opposite characters and endeavouring by harassing restrictions to reconcile things which in themselves are fundamentally different.

Restrictions of both sorts may be necessary, but the point seems to be that it is futile to trust to restricting such matters as heights and materials, while the speculative citizen is permitted to place a building of any description on any site from which he hopes a profit may be derived.

Public sentiment, no doubt, is for giving private enterprise a free hand, but it must be

remembered that the speculator is not right in his choice of position even as far as profits are concerned. Every building of financial success, although it would probably be an exaggeration to say that when a building such as a theatre or an hotel, has been a failure, such a result is in every case traced to an inappropriate site, yet perhaps be considered as a contributory cause. Reasonable town-planning restrictions in such a direction would, in many cases, we think, prove a blessing in disguise.

The same line of argument might be applied to the buildings themselves. It may have a good general idea of the building that best serves their purpose, but may be apt to concentrate on and exaggerate certain features to the detriment of others equally important, but not so obvious, and may not see the desirability of varying the general rule to suit the particular instance. In the case of Regent's Quadrant it may be that the shopkeepers are a little too insistent on necessity for so much light and plate glass, considering that the street is some 40 ft. wide. Were it a 40-ft. road or a 20-ft. lane the position would be different. It would demand a front entirely of glass for every shop, and aspect and for every class of shops such that the shopkeepers' ideal is a green wall, whereas it is evident that goods require to be seen from the sun, and that some class of goods will be damaged or lose their colour from overlight, and that the amount of light required depends largely upon the nature of the trade.

It is noticeable also that the methods of retail trading vary. Some do not put all their goods in the window. Many shops are seen where a few choice specimens only are put out to excite the interest of the passer-by, and tempt him to enter in order to see the still perfect specimens that may be supposed inside. This method does not require so much an expanse of glass, and if it is on the whole we may well pause before we accept the demand for unlimited glass as the last word in the subject.

The point is of some interest in view of the increase of traffic in our main thoroughfares and the nuisance caused by the crowds of loiterers. If the shopkeeper requires a large expanse of showcase before which the can loiter without necessarily entering the shop, it might be thought that such loitering should be provided at the expense of the shopkeeper, and not at that of the traffic, by things are now the shopkeeper, by bringing showcases out to the pavement, utilising it for his own purposes. It becomes a part of the area of his shop, for which he does not rent. The fact that many shops are putting up recessed entrances and showcases suggests that a certain amount of loitering space recessed from the traffic is valuable to the shopkeeper as to be



War Memorial, Toronto.

and that further development in this may vary the architectural problem of the public pavement by the trader of the town is a matter which consideration—from the fashionable who renders the West-End pavement to the cheap butcher in the suburban roughfare who hangs up carcasses out-top projecting over the narrow pavement carries them on his shoulder across the busy hours of the day.

the whole question of the position, of, and proper access to the various shop is an aspect of civic design to be study should be given.

SEES AT CARMARTHEN.

cheme for laying-out as illustrated on is being executed on a site just within of the town of Carmarthen. linked to the town itself by streets little or no architectural the shape and disposition of the site present the possibility of a treatment of its environment, which offered tion to be followed. As will be seen ce to the plan, the general intention the vista, as approached from either e group, should be complete in itself, cottages placed at right angles to the a forming the climax in either case, bend of the road at this culminating ets the instinctive desire for "some road." The attempt to realise these ents in practice is shown, in a measure n the accompanying sketch.

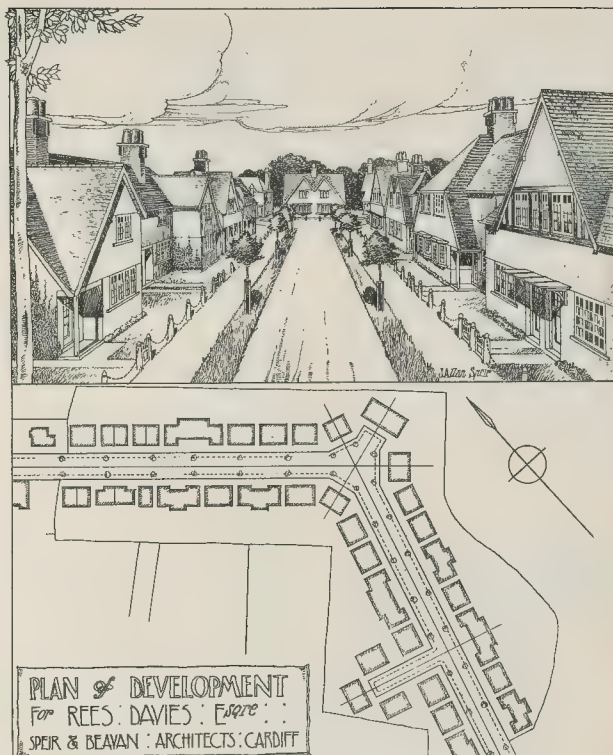
uses will be disposed generally as semi-pairs, relieved by groups of three and ere desirable, and a uniformity of will be observed throughout. The be of brick covered with rough-cast; es will have a plinth of red brick, and hey-stacks will be of brick without inish, while, of course, local traditions hat the roof shall have a slate covering, proposed to plant the grass margins s, forming the roads into "avenues," is connexion the scheme will be linked the traditions of the ancient borough adoption of the old Welsh name, n" (pronounced "Merthyn"), which, be admitted, has an infinitely softer e pleasing sound to the ear than its anglicised version, "Carmarthen."

cheme is being carried through by s Davies, a prominent Carmarthen er, and has been laid out for him by peir & Beavan, architects, Cardiff.

ROADS AND ROAD SURFACES.

nd construction to-day the chief diffi- of obtaining at a reasonable material which will stand all kinds e equally well. A splendid surface obtained for motor-cars and light traffic, but it is too expensive eal use, and it will not stand heavy ated loads. On the other hand, ag usually adopted for the heavy loads, urable, is too noisy to be universally t. Hence it is necessary to adopt materials for the varying classes of Street traffic may be divided into moderate, and light. By heavy traffic e the more or less continuous loads e from docks, stations, and warehouses, can only be safely borne by granite sett For light traffic the existing macadam tion is quite ample.

s with moderate traffic carry all sorts e light and heavy, fast and slow, horse- and power-propelled. For such streets paving of some kin', such as asphalt, ost desirable, but even if asphalt could satisfactorily the loads put upon it without e annual repairs its first cost would its adoption by most, if not all, of icipal and county authorities charged maintenance of roads. Laid on a good concrete asphalt in some parts of the costs about 13s. per square yard at the price which is in excess of that paid nary granite setts. As the ordinary thority is limited in its expenditure, it elled to do the best it can with the e and resources at its disposal until the ad surface is introduced. The ideal must be dustless and noiseless, must



Houses at Carmarthen.

possess wearing qualities of no common order, and—most important of all—it must not cost more than 1s. 6d. per square yard.

One of the best systems of inexpensive road construction, the invention of Mr. J. A. Brodie, City Engineer, Liverpool, is a material called pitchmac. The construction of a pitchmac road may be described as follows:—A layer of 2-in. dry macadam is spread evenly on the existing foundation to a depth of 3 in. and rolled dry. This is grouted with a mixture of hot pitch and sand and again rolled in order to thoroughly consolidate the mass and reduce the interstices. A second coat of stone 1½-in. gauge, to give the required thickness, is then spread, preferably whilst the bottom layer is still hot, rolled to an even surface, grouted as before with the addition of a little Portland cement to the grout, and well rolled immediately after, the surface being blinded with whin or granite chippings. A considerable mileage of pitchmac streets has been laid in Liverpool and other towns, and after a lapse of half a dozen years it is still standing the heavy traffic well. It may be put down to a depth of only 3 in. in existing streets. The cost per square yard works out at 2s. 9d. and 4s. for depths of 3 in. and 4½ in. respectively. This is more than can be spared in many quarters, and there are the further disadvantages of using semi-skilled labour and endeavouring to avoid moist weather.

Satisfactory results have been obtained at less cost with the familiar tar macadam, which, so far, is the only proved material which satisfies the conditions required for streets with moderate traffic. The construction of a street surface with tar macadam is simplicity itself. A coat of 2-in. or 2½-in. tarred stone is first laid down and rolled, and upon this a second coat of the same material broken to a ½-in. size is imposed and rolled into the voids. A final coat of ½-in. or ¾-in. tarred chippings is then laid down and rolled to a true camber, giving an even surface. Later on the surface is painted with a coat of tar, on the top of which fine broken stone or dust is thrown. This gives a road not unlike asphalt in appearance at a cost of from 1s. 6d. per yard upwards, and if the

work is well done to begin with an additional coat of tar paint and dust once a year will be all that it requires for some time in the way of maintenance. To lay roads of tar macadam satisfactorily in a variable climate like ours one must be ready to accept such spells of fine weather as may arise and be able to draw in a good supply of well-prepared material on very short notice. This implies that the material must be conveniently placed for ready handling. These conditions are possible of attainment only where a mechanical mixer of some sort is in use, and preferably when the mixer is the property of the road authority.

In this connexion it is interesting to note that the Holborn Borough Council are proposing to pave about 200 yds. of main road between Bury-street and Kingsway with granite setts as an attempt to deal with the new problem created by the great weight of the motor vehicles now put on the road. Tradesmen on the route have protested on the ground of increased noise, but it has been pointed out that Tottenham Circus, the junction of Tottenham-court-road and Oxford-street, has already been paved in this way, and, although protests were made before the pavement was laid, none have been made since it was finished. This may be due to the improved form of the granite setts. The ordinary ones are narrow and deep; these are wide and shallow, and have a fine squared joint filled with bitumen, which gives as close a joint as a wood block flooring. Of course, the question of cost is the main consideration. The following figures show the saving—With granite setts the estimated cost over this space for fifteen years is 3,122l., or 1s. 6d. per square yard per annum. With asphalt, for eleven and a half years the cost was 4,644l., or 2s. 6d. per square yard.

TOWN PLANNING IN SHEFFIELD.

SINCE the passing of the Housing and Town Planning Act, 1909, the work of town planning has received considerable impetus in Sheffield, where about 12,000 acres of land are at present

available for development and for inclusion in a comprehensive town-planning scheme.

Having decided not to deal at once with the whole of the undeveloped area, the City Council selected three areas for treatment in the first instance, with the intention of taking in hand other sections from time to time as convenient and necessary.

The points to which the Town Planning Committee thought it desirable to give immediate attention were the width of existing main roads, the lines and width of new main and secondary roads, the set-back of the main building line, the provision of open spaces, and the number of houses to the acre.

Arrangements of a satisfactory nature have been made for securing the co-operation of land and property owners, and it has been settled that the road and street widths shall be as follows:—Existing main roads, 80 ft.; secondary roads, 65 ft. and 60 ft.; and subsidiary streets, 40 ft.

Speaking generally, it may be taken that in residential and good class districts the number of houses to the acre will be limited to twelve, and in areas adjoining working class districts to from twenty to twenty-four.

The set-backs agreed upon are:—Existing main roads, 15 ft.; proposed new main roads 15 ft.; secondary main roads, 15 ft.; and subsidiary streets, 10 ft. Since the Local Government Board inquiry of January last the Corporation have received permission to proceed with the preparation of their schemes, the details will be considered at a subsequent inquiry.

After the preliminary plans had been prepared the Committee decided to proceed with two further sections, bringing up the total area of the town-planning schemes to 4,260 acres, which is more than the combined area of the adjacent towns of Barnsley and Doncaster, and greater than the area of some towns with populations of approximately a quarter of a million.

THE DUAL ASPECT OF ROADS.

If we could imagine that our great cities could have grown to their present size without railways, and that the whole of their present-day traffic was by road, we could hardly suppose that they would be satisfied now with the state of the roads as we find them to-day. We should have to imagine a great alteration in the character of the intervening country; main roads widened and straightened, inns and forges and other conveniences of travel more frequent and more conveniently arranged.

But the improvements to these roads, which will probably be soon brought about by the needs of motor traffic, will have to be considered equally from other points of view. Since the introduction of railways our civilisation has undergone a great change. The existence of our large towns has created an indoor population that hankers after fresh air and needs to seek its recreation out of doors, and the public roads and commons are the only public recreation grounds of the common people. Our ancestors, who lived a strenuous outdoor life, regarded walking, riding, or driving as means of locomotion; we who live sedentary indoor lives value them for their own sake as forms of exercise and recreation.

From this point of view every road, whether in town or country, may be considered in two aspects, either as a means of communication between two points or as a public promenade and place of recreation. Every road is used more or less for both purposes, either of business or pleasure, but the degree to which one purpose or the other predominates varies with its position and character, and this variation produced different results in the towns to those produced in the country.

When we walk on business we seek our destination. When we walk for pleasure we seek pleasure in our surroundings. In the town we seek colour, life, and movement and the interest of human surroundings. We avoid the dull, back streets, and find it in the crowded traffic of our main thoroughfares. In the country we seek solitude and rest. We avoid the dust and traffic of the highways, and find it in the lanes and footpaths. In the country therefore there is a tendency for the two sorts of traffic to separate as being mutually antagonistic, but in the towns to combine as being mutually attractive. This is perhaps the *raison d'être* of the wide boulevard of the

continental cities, where ample accommodation is provided for both, the road taking on a composite aspect of both business and pleasure, and being not only the main thoroughfare for traffic, but the main promenade for the citizens, through which they can find not only the shortest way to their destination, but also some pleasure by the way.

It may perhaps be anticipated that as the country becomes still more thickly populated, and as the recent movement towards decentralisation and more even distribution of the population becomes more pronounced, the main roads between large cities will no longer be regarded simply as means of communication, but will be expected to show some regard for those who use them for purposes of exercise or recreation.

CIVIC DESIGN NOTES.

St. Paul's Bridge.

In October, 1911, the London County Council referred back the Joint Report of the Highways and the Improvements Committees, recommending that Parliamentary authority be obtained to carry out the arrangements entered into with the City Corporation. The Committees have now further considered the matter, and have had before them two schemes for linking up the north and south tramways by way of this bridge—one joining Southwark-street with the intersection of Aldersgate-street and Barbican, to cost 1,631,200l.; the other joining Southwark-street with Goswell-road and Old-street, to cost 1,231,200l. The Committees have also considered the suggestion made by the Select Committee of the House of Commons that a new street should be constructed along Great Guildford-street to its junction with Southwark Bridge-road and Marshalsea-road, and find that the additional expenditure would amount to about 370,000l. They consider, however, that from the tramway point of view there is no need for the widening of Great Guildford-street or for the formation of a new street. As the total cost of providing a thorough connection between the north and south tramways from Southwark-street to Goswell-road, including this new street and the provision of cars, car-sheds, sub-stations, etc., would amount approximately to 2,045,200l. by one scheme, and 1,695,200l. by the other, the Committees consider that the additional expenditure render these proposals prohibitive. They have, therefore, decided to again put forward recommendations on the same lines as those already referred back by the Council, and point out that it is desirable that the Council should come to some decision at an early date, so that the City Corporation may not be unduly delayed in making its arrangements for the construction of the bridge.

We have frequently pointed out that, in our opinion, it is a mistake to attempt to connect the north and south tramways by way of St. Paul's Bridge, that the natural route for this purpose is by Blackfriars Bridge and Farringdon-street, and that St. Paul's Bridge should end at the lower level in Queen Victoria-street. It is useless, we suppose, to recapitulate the arguments, but although further reflection only appears to add to their urgency, they seem to carry little weight with the London County Council.

Land Sale at Cooden Heights.

The estate of Sir Augustus Webster, Bart., which adjoins Bexhill, on the high ground to the west, has hitherto been somewhat prevented the development of Bexhill in that direction, as it has been used solely for agricultural purposes, and no part of it was therefore available for building. The portion of the property known as the Cooden Wood Estate, which extends to about 120 acres, is immediately adjoining the quaint old Sussex village of Little Common, and extends from the main Bexhill to Eastbourne road which runs along the summit of Cooden Downs in a southerly slope extending almost to the seashore, and in some places immediately adjoining the first-rate 18-hole golf links of the Cooden Beach Golf Club, recently formed by Lord De La Warr. As will be seen from an advertisement in another part of this issue, 147 lots will be submitted for sale by auction by Messrs. Mabbett & Edge, of Mount-street, Grosvenor-square, London, W., on August 17, at the Kursaal, Bexhill-on-Sea. The lots vary in size from about half an acre to about three acres.

St. Martin's-le-Grand Improvements.

THE proposed demolition of the old General Post Office in St. Martin's-le-Grand is a definite bearing on the question of St. Paul's Bridge, as it affords an opportunity for making provision for the great increase of traffic which may be expected at this crossing, and the tramway tunnel and station which are to be included in the scheme. There are other considerations which affect the question. The Town Planning Committee of the City have approached the Corporation with a view to a new thoroughfare from the end of Newgate-street to Moorgate-street, so connecting with Liverpool-street Station and relieving congestion of the traffic at the Bank. It would have been preferable if the new street were taken a little further north, brought out at Holborn Viaduct, thus relieving Newgate-street also, but, as Mr. Arthur points out, the erection of the new Post Office rendered this impossible. As we understand that the continuation of Newgate-street also considered impracticable, we might have expected the suggestion already put forward in these columns, that such a relief street should be taken from Liverpool-street to Charterhouse-square, and thence to Holborn-circus, to branch from Charterhouse-square to Euston-road. This would relieve the City and form a proper connexion between the three railway termini at King's Cross, St. Pancras, and Liverpool-street.

The Need for a General Plan.

THEN, again, comes the question of the opening up of a General Plan, view of Wren's spire on the Victoria Embankment, in which the Inspector is also interested. This would work into any scheme for forming an open space by connexion with St. Paul's Bridge traffic, and also see it is reported that the Corporation have arranged that the new building on the Office site shall be set back, and that improvements will be made at the entrance to Great street, but, considering the extra traffic to be expected at this spot and the advantage of a new street, it almost seems as if the whole of this site should be given up to create an open space. It is to be hoped that the Office Works and the Corporation will, at any rate, not proceed without taking into account the possible point of view, or without thinking of the needs of the future. The incident illustrates once more the imperative need of a general plan for London to which the improvements at this point can be properly related.

Hertford Castle Grounds.

THE Marquis of Salisbury, having leased this castle to the Hertford Corporation for a term of twenty-five years, has granted an annual rental of half-a-crown, has handed it over by opening some new gates, the grounds provided in a central position for the convenience of the townspeople.

Workmen's Houses.

THE Housing of the Working Classes Committee of the London County Council recommend the erection of 158 cottages and administrative buildings on the western section of the Old Oak Estate at Hammersmith. The cost is not estimated at 42,808l.

Open Space at Shoreditch.

THE grounds surrounding the old almshouses in Kingsland-road, Shoreditch, have been opened for the use of the public. One part of the ground is reserved for games, and a gymnasium is contemplated. A lily pond and fountain have been constructed, and a band will probably play once a week. The old almshouses, built in 1715 with money left to the Ironmongers' Company by Sir Robert Geffreys, are now unoccupied, and will probably be converted into a museum.

New Tube Link.

WHAT Lord Claud Hamilton described as the missing link in the railway chain of London has just been completed. This consists of half a mile of railway extending from the Central London Railway from the London to Liverpool-street, and linking up the London tube system with the Great Eastern Railway. The cost for this half-mile of railway amounted to the formidable sum of 250,000l.

At a recent meeting of the Islington Borough Council a scheme was outlined to give effect to the provisions contained in the will of Mr. Sutton for the housing of the very poor. The trustees, who are dealing with a sum of over 2,000,000, were considering the possibility of purchasing about 4 acres of land in Highbury (Loford House, Highbury) for development as a site for the erection of dwellings under the trusts of the testator's will of expending thereon a sum of over £100,000. The proposal was not to erect block dwellings, but model cottages, with gardens, and housing accommodation for between 100 and 200 individuals. Before applying to the Local Government Division of the High Court it was necessary to obtain from the local authority an expression of opinion as to the desirability of the site in view, and the necessity for further and better housing accommodation for the very poor of the locality. The matter was referred to the Parliamentary Public Health Committee.

We have received the prospectus of the Summer School of Town Planning at Hampstead Garden Suburb, from August 3 to 17, from which it appears that a most interesting and valuable series of lectures will be delivered, and that all

those interested in the subject will do well to be present. The course is planned to be of special value to architects, engineers, and surveyors, but also of interest to all other students of town planning. The fee for the course is 1½ guineas, or single lectures 2s. 6d. each. Application should be made to the Hon. Secretary, The Institute, Hampstead Garden Suburb, London. The inaugural address will be delivered by the Marquis of Crewe in the Institute Hall on Saturday, August 3. In the syllabus, in addition to courses on the Engineering and Surveying problems involved in town planning, will be found a series of lectures on the legal aspect of the subject by Mr. E. R. Abbott, Clerk to the Ruislip-Northwood Council. Professor Adshead will give a series of lectures on "Town Planning in Foreign Countries and Past Times." Mr. Raymond Unwin will lecture and demonstrate on "Town Planning in Practice."

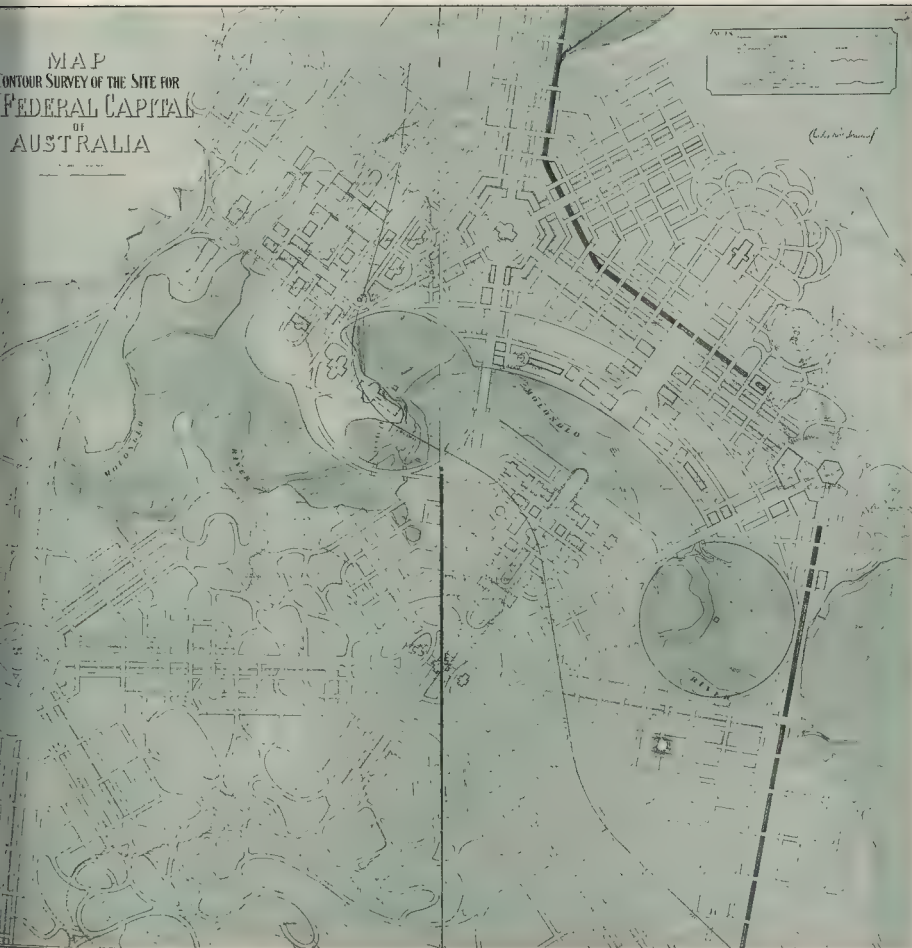
Hastings Castle.

HASTINGS CASTLE having been offered for sale by the Earl of Chichester, whose family have held it since the XVth century, it is to be regretted that the Corporation of Hastings should not have been able to see its way to acquiring it. At the sale last Friday, which was attended by representatives of the Corporation, the property was withdrawn, the reserve price not having been

reached. There is, unfortunately, not much architectural interest in the ruins that now remain; but, apart from their unique historic interest, it certainly seems most desirable that they should be preserved as an open space, and that this site should not be allowed to get into the hands of the speculator. It is to be hoped that the Hastings Corporation will be able to come to terms with the present proprietor.

Australian Federal Capital.

THE competition for the Australian Federal Capital is probably the most important event the town planning world will see in this generation, and everyone must regret most keenly that English architects were unable to compete. The circumstances which led to their exclusion are still fresh in our readers' minds and need not be referred to again except by way of expression of the hope that similar circumstances will never arise in the future. It is natural that we should have wished the prize to go to a citizen of the Empire, but if that cannot be there is none to whom we would grudge it less than to a citizen of the kindred nation which, as was well said at the Institute on the occasion of Mr. Cram's paper, we decline to look upon as foreigners. We have pleasure in publishing a plan of Mr. W. B. Griffin's winning design, which gives the general idea of an admirable lay-out.



Federal Capital City, Canberra: First Premiated Design. By Mr. Walter Burley Griffin (Chicago).

[Photo. "Topical."]

THE BUILDING TRADE.

THE AGREEMENT TO EMPLOY AN ARCHITECT.

OWING to the complex nature of the duties which have to be performed by an architect in relation to a contract for large works, it is essential to define his relation to his employer with a high degree of accuracy. To reduce the terms of the agreement into writing may not be considered essential at the outset. The relations between him and the building owner may be of the most cordial description, but it is the unexpected which often happens. What appears to be prolix and unnecessary in a written agreement may prove to be of the utmost value when a question arises as to the scope of the architect's duties.

If a written agreement is desirable and necessary where the employer is a company or private person, it is doubly so when the employer is a local authority. The members of such a body may be easy to deal with as individuals, but collectively they are ever hampered by having to consider the pockets of the ratepayers. Moreover the personnel of the committee which has works in hand may be continually changing. The conscience of one year may not be the conscience of the next. In these circumstances a certainty of statement appears to be of the utmost importance.

The formal parts which constitute the introduction to an agreement are usually in some such form as follows:—

This indenture made the _____ day of _____ between A. B., of _____, F.R.I.B.A. (hereinafter referred to as the architect), of the one part, and the C. B. Company (hereinafter called the company), of the other part.

Whereas the company are about to procure tenders for the erection of a bonded warehouse at _____

And whereas the company have requested the architect to prepare the necessary drawings and specifications and estimates for the said warehouse, and to superintend the same during its execution, the architect has consented to undertake and to carry out the same.

These are what are known as "recitals" in the agreement. Their object is to set forth as clearly as may be the chief objects which have to be effected by the agreement.

Now, these presents witness that in consideration of the payments to be made to him by the said company at the times and to the amounts hereinafter provided, the said architect agrees with the company as follows:—

Preparation of Drawings.—That he, the said architect, will prepare all drawings, specifications, and estimates of the work necessary for the said warehouse, and alter and amend the same as the company may require, and will take all levels and make all surveys that may be necessary.

While the duty of preparing drawings and specifications is by this clause cast upon the architect, he does not necessarily himself become or render his employer responsible or liable for mistakes or miscalculations to the contractor. As a general rule there is a clause specially inserted in the contract providing that the employer is not to be held responsible for any errors which may appear in the plans and specifications. Sometimes, indeed, the contract contains a clause to the following effect:—"The contractor must also go over the entire line or site of the works, and satisfy himself about all matters relating to the nature of the ground, subsoil, and strata, levels and inclinations, the means of access thereto and egress therefrom, and all other accommodation he may require, the obstacles to the excavation of the trenches, the amount of water to be pumped and diverted, the means to be employed to obtain the necessary flow of any existing water, the amount of haulage, the rights and interests to be, or which may be, interfered with by the construction, completion, and maintenance of the works, and all other matters referred to in the plans and drawings to be seen at the office of the architect, and in the conditions of contract and specification, which may influence

the contractor in making his tender. Difficulties, whether contemplated or not, which may be met with, or happen in the construction, completion, or maintenance of the works, and mistakes in the specification, drawings, or quantities shall not relieve the contractor from fulfilling the terms of his contract, nor entitle him to any extra payment or compensation over the contract amount. The contractor is particularly referred to the contracts between the employer and merchants or manufacturers for the supply of the said materials, and take all risks of delay in such supply."

Notwithstanding this clause, however, it is necessary for the architect to exercise great care in the preparation of plans and drawings, for if it should be found that he has recklessly or carelessly made false statements by words in the specifications or by intentment in the drawings, his employer may be made responsible. For instance, in a case which reached the House of Lords a few years ago, contractors undertook to construct a sea wall to enclose a sewage settling basin according to certain plans and specifications. The plans prepared by the employer's engineer indicated the existence of a certain wall which would have materially assisted the contractors, but, owing to its not being there, they were put to enormous additional expense, which they sought to recover. It was held that, although the contract contained a clause which imposed upon the contractor the duty of verifying measurements, etc., in the plans and specifications, the employers were liable. In giving judgment, the Lord Chancellor pointed out that evidence was adduced at the trial from which the jury might, if they thought right, conclude that the plaintiffs were induced to enter into the contracts by statements made on behalf of the defendants. There was also evidence for the jury that those statements were made either with a knowledge of the falsity, or which was the same thing, with a reckless indifference whether they were true or false on the part of the engineers employed by the defendants to make the plans which were submitted as the basis of the tender. Having referred to the clauses which pointed out that the plaintiffs were not to rely upon the plans, Lord Loreburn said: "Now, it seems clear that no one can escape liability for his own fraudulent statements by inserting in a clause that the other party shall not rely upon them. I will not say that a man, himself innocent, may not under certain circumstances guard himself by apt and express clauses from liability for the fraud of his agents. It suffices to say that, in my opinion, the clauses before us do not admit of such a construction. They contemplate honesty on both sides, and protect only against honest mistakes. The principal and the agent are one, and it does not signify which of them made the incriminated statement, or which of them possessed the guilty knowledge."

Recklessness in preparing plans, etc., may involve loss of fees. In one case a surveyor took no steps to inform himself of the nature of the ground forming the site of the intended works, with the result that he underestimated, and the employer was put to largely increased expenditure. The surveyor was deprived of his fees. Best, C.J., in giving judgment, said: "If a surveyor delivers an estimate greatly below the sum at which a work can be done, and thereby induces a private person to undertake what he would not otherwise do, then, I think, he is not entitled to his fees. I think it is of great importance to the public that gentlemen in the situation of the plaintiff should know that if they make estimates and do not use all reasonable care to make themselves informed they are not entitled to recover anything."

Architect to Advise the Company.—That he, the said architect, will at all times assist and advise the company in all matters relating to the design and execution of the said warehouse.

This clause raises indirectly the question: What constitutes negligence on the part of an architect? Is he to be held responsible for every error in judgment into which he may happen to fall? The principles by which the Courts have always decided the question of

negligence on the part of a professional man on the rare occasions when it has occurred, were laid down in an old case. It was stated that a person who enters into a professional undertaking to bring to the execution of his business nothing more than a reasonable degree of skill and care. He does not undertake to use the highest possible degree of skill. There may be persons who have higher capacity and greater advantages than he has, and he undertakes to bring a fair, reasonable, competent degree of skill. This is the question of negligence for the jury to decide.

Architect to Advise as to Contractor's Superintendence.—That he, the architect, agrees to aid and advise the company in entering into a contract for the execution of the said warehouse and to superintend the work of erecting the said warehouse, and means of such periodical inspections as may be necessary and to report the progress of the work to the company, and to issue certificates to enable the company to make payments from time to time to the contractor or contractors who may be entrusted with the execution of the said intended works, and to assist such contractor or contractors in the said company.

In the matter of superintendence it is important to bear in mind that the architect is not an agent of, and is responsible to, the company who employ him. In the matter of deciding upon the terms of the contract between the employer and the contractor, an arbitrator who cannot be assailed on the decision honestly given; but he may be responsible if he fails to exercise reasonable supervision in the execution of the work. He may perhaps borrow an illustration from the case of an architect which was heard in the House of Lords (1890) 1 F. 1211. In that case the defendant was an architect, employed in the usual way in connexion with a building house in part of which there was to be a basement floor. The foundations for this floor were made of improper materials, with the result that dry rot broke out in the woodwork of the house was completed. The building owner sued the architect for negligence in not passing, as sound, work which was unsound. It was held that the architect was liable, as he had failed to exercise proper supervision, and that it is the duty of the architect to give such supervision as will enable him to certify that the work of the contractors is according to contract. The duty of the architect was thus declared by the Justice Clerk: "He, or someone responsible to him, should undoubtedly see to the execution of the work before they are paid for it, and, if need be, I think he should require the contractor to give notice before an estimate is to be done which will prevent his so doing an important part of the work as to the giving his certificate upon knowledge, and the assumption as to how the work has been done." To enable him to carry out this part of his obligation, the contract for works should contain a clause providing that the architect may, if necessary, which has been closed up to be reopened.

Duty of Architect.—That the said architect will, and he hereby agrees to, exercise reasonable skill and diligence in the discharge of his foregoing duties so undertaken by him, and to act fairly as between the said company and the said company.

This clause is sometimes put in, but it is superfluous. It merely states the obligation of an architect who signs a contract which does not contain the clause. It may, however, be wise to insert it, because it states in plain terms that the architect owes a duty to the contractor as to the building owner, to whom he is to be more immediately responsible.

Remuneration.—In consideration of the due discharge by him of the duties herein taken, the said company agree to pay to the said architect the sum of _____ at the times and in the manner following:—That is to say, one payment of _____ when the contract for the said intended works has been entered into, a second payment of _____ when two-thirds in value of the said

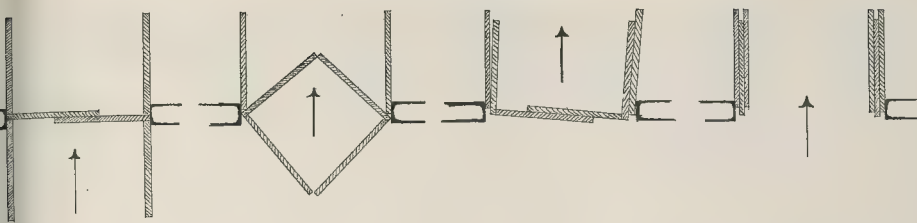


Fig. 1. Fig. 2. Fig. 3. Fig. 4.

Draught-Excluding Door.

have been executed, and a third and payment of £1 within three months the date of the issue of the final certificate to the contractor or contractors for the intended works by the said architect, and that in case the company should decline not to proceed with the said intended works they shall pay to him in consideration for preparation by him of the drawings specifications and estimates sum of 200£., and the said documents thereupon become the property of the company.

As provision is made for payment of the fee to an architect by instalments, he would not wait until the completion of the work he could recover anything. This would be a serious matter in the case of a long and expensive contract. Some provision, too, must be made for the chance of the building owners ceasing to work with the work. In that case the architect might lose all his fees; and he might even lose the plans which had taken much time to prepare and which might be useful in the future.

Arbitration.—And it is further agreed by between the said parties that should any dispute whatsoever arise between them and payment of any sum of money be claimed by the one party and such payment be refused, all such claims and counterclaims, shall be referred to the determination of an arbitrator to be nominated by the president of the Institute of British Architects on the request of either party. Upon and every such reference the cost of and incidental to the reference and award shall be in the discretion of the arbitrator, who may determine the amount of, or direct the same to be taxed as between solicitor and client, or as between party and party, and shall direct by whom to whom, and in what manner, the same to be borne and paid. This submission shall be deemed to be a submission to arbitration within the meaning of the Arbitration Act, 1889.

The witness, etc. Arbitration clause is now common form in agreements between architects and their clients. The clause does not oust the jurisdiction of the Courts, but it has the effect of enabling either party to prevent the other from proceeding with an action. For instance, if the architect were to sue for one of the clients due to him. The building owners issue a summons to stay the action on the ground that there was an arbitration clause, and a decision of an arbitrator upon the matter would be a condition precedent to the action. If, however, the employers allowed the action to proceed, the Courts would entertain the action and give judgment upon it.

A NEW "DRAUGHTLESS DOOR."

An age of haste the various patterns of draught doors now in common use are somewhat adversely commented upon because they are through them is a matter involving a more trouble than attends the mere pushing of an ordinary large door. Those who are in the habit of using them would be willing to use a draught door if one existed having the same advantages. There is sometimes a more important point, when for purposes of "panic" or other reason an absolutely free opening is required. In the ordinary types of revolving draught door an arrangement is usually made for a crowd to pass out by either allowing all the flaps to open upon a central line parallel to the line of passage or by temporarily shifting

the doors and pivots completely to one side. Almost invariably there is some preparation required if it be desired to use the full width of opening for the continuous passage of many people in one direction.

Mr. Le Croissette has devised an "inter-leaved" door which, though not yet upon the market, appears promising from each of the points of view above indicated.

The door consists of six leaves, and its action is illustrated (diagrammatically only) by the figures above. Fig. 1 shows the normal position of the leaves, each of which has a width equal to about two-thirds of the opening. A person passing from either side simply pushes the nearest of the leaves blocking the opening. If he passes in the direction of the arrow the leaves take successively the positions shown by Figs. 2 and 3, and, so soon as released from the hand, they return to the normal position shown in Fig. 1.

If, however, it is a panic-stricken crowd that demands passage, the return to normal position is not made; the continued pressure will open the last pair of doors into the position shown in Fig. 4, from which also they automatically return unless it be desired to keep them open, when all that is needed is the use of an ordinary bolt.

The action of the doors is the same in either direction. The mechanism is simple, and is fixed above the soffit of the door casing. It is claimed for the doors that by avoiding shaped joinery they effect a saving in cost, that an absolutely unobstructed exit is automatically secured in case of panic, that the absence of curved wings reduces the chance of a crowd getting jammed in the opening, that there are no projections from the floor to cause tripping, and that they act with equal freedom in either direction.

BUILDING PLANS AND BUILDING PROSPECTS.

The quarterly return of building plans submitted for approval by 100 of the urban districts, exclusive of the County of London, published in the *Labour Gazette* still show decreasing activity. As compared with the same quarter last year, the estimated cost shows a decrease of 104,694£., or 2.5 per cent. The second quarter of 1911 showed a decrease as compared with the same quarter in 1910 of 356,143£., so a decrease again follows already diminished expenditure. In this second quarter of 1912 all classes of buildings show a decrease except factories and workshops, in which there is a large increase of 550,549£., but as stated above, the decrease in other classes of buildings has more than wiped out this increase. This increase takes place only in Lancashire and Cheshire, the Midlands and Ireland. The decrease in dwelling-houses is 20.9 per cent., and occurs in all districts except Scotland and Ireland. In Scotland the increase is large, 39,353£., but in Ireland under 100£. The rumours of fresh taxation of land values are likely further to depress the building trade.

STRIKE OF BUILDERS' LABOURERS IN MANCHESTER AND SALFORD.

About 3,000 builders' labourers in Manchester and Salford and district are on strike. They demand a minimum wage of 7d. an hour. A few of the firms not in the Employers' Association have acceded to the demand, and the Co-operative Wholesale Society has effected a compromise by which their labourers, numbering 400, are to receive 6d. an hour for the present and subsequently a further increase should it be agreed to between the Employers' Association and the general body of strikers.

UNEMPLOYMENT INSURANCE CONTRIBUTIONS.

AS SOME misapprehension appears to exist on the matter, the Board of Trade wish to make it known that no stamps can be used for payment of contributions in respect of Unemployment Insurance other than the special Unemployment Insurance stamps, which are obtainable at any post-office. Health Insurance stamps and ordinary postage stamps cannot be used for the purpose, and, if affixed, do not count as contributions in respect of Unemployment Insurance. Where such other stamps have been affixed, it will still be necessary for the proper Unemployment Insurance stamps to be affixed, and the liability for affixing them rests upon the employer.

For the present, however, as a temporary arrangement, and with a view to facilitating the correction of mistakes, the Board of Trade will themselves be prepared, without charge, to affix Unemployment Insurance stamps in lieu of the Health Insurance stamps wrongly affixed, obtaining the employer's acknowledgment. For this purpose all unemployment books to which a Health Insurance stamp or stamps have been wrongly affixed, should, as soon as possible, be sent to a divisional office, with a request for the affixing of Unemployment Insurance stamps of value corresponding to the Health Insurance stamps upon them.

The addresses of the divisional offices are as follows:—

London and South-Eastern—Caxton House, Westminster, S.W.; South-Western—Canada House, Baldwin-street, Bristol; West Midlands—164, Corporation-street, Birmingham; Yorkshire and East Midlands—14, Frenchgate, Doncaster; North-Western, Lancashire, and Cheshire—Cairo-street, Warrington; Wales—Law Courts, Cathays Park, Cardiff; Scotland and Northern—Bath-street, Glasgow; Ireland—21, Parliament-street, Dublin.

MASTER PAINTERS AT CHESTER.

IN connexion with the Convention of the National Association of Master Painters and Decorators at Chester in September, an Exhibition of Decorative Art and Manufactures relating to house decoration will be held. The Association has put in the forefront of its endeavours the importance of training the young men engaged in the trade to an appreciation of the beauty of their craft. A carefully-graded scheme of education is drafted for the apprentices, commencing with boys for the first two years of their apprenticeship, which forms one section. Another section is for boys under eighteen in the middle period of their apprenticeship, and a third section is for boys in the last period of their training. The curriculum embraces plain painting in all three grades, as good, sound painting is the basis of the painting trade on which all other work is built, and the Executive attach great importance to boys being soundly taught in this part of their work. Another section common to the three grades is that of lettering and sign-writing. The arts of graining and marbling, stencilling, stencil-cutting, and lining are common to the two higher grades, and the senior division has more advanced studies set them in sketch-book studies, coloured original designs for interior decoration, and a time test for ornamental painting, so that it will be seen that a large and instructive field of work is covered.

For young men out of their time, up to the age of twenty-five, the Association has, in conjunction with the sister associations of Scotland and Ireland, established a Travelling Scholarship of the annual value of 50£., realisable in Italy. This year the competition falls due at Chester.

GOVERNMENT CONTRACTS.

The following tenders have been accepted by the Government Departments named:—
Admiralty Works Department.—Two concrete storage tanks for water, H.M. Dockyard, Rosyth.—Messrs. W. & J. R. Watson, Ltd., Iona-street, Edinburgh. **War Office.**—Pontoons.—Messrs. J. Stewart & Son, Ltd., Blackwall, E.; works services: additions and alterations to heating system, Alexandra Hospital, Colham.—Messrs. Ashwell & Nesbit, Ltd., 17, Great James-street, Bedford-row, W.C.; conversion of quartermaster's stores to sergeants' mess, Richmond Barracks, Dublin.—Messrs. McRoberts & Armstrong, Lower Windsor, Belfast; erection of additional store at air battalion offices, Aldershot.—Mr. J. Crockerell, Stanhope Lines, Aldershot; erection of annexes to married quarters, Reading.—Messrs. Boshier, Sons, & Co., Chelsey, Berks; erection of annexes to married quarters, Woolwich.—Messrs. Thomas & Edge, Anglesea-avenue, Woolwich; erection of Barrack Block, Dover Castle.—Messrs. G. E. Wallis & Sons, Ltd., Broadmead Works, Maidstone; erection of gymnasium, Castle Park Barracks, Dunbar.—Messrs. W. Finlayson & Sons, Pilrig Works, Balfour-street, Leith; periodical works services at Belfast.—Messrs. A. Bagnall & Sons, Ltd., Shipley, Yorks; Colchester.—Messrs. E. Fearnley & Sons, Trafalgar Works, St. Jude's-place, Bradford; Strensall.—Messrs. A. Bagnall & Sons, Ltd., Shipley, Yorks; Woolwich (No. 1).—Mr. S. Kendall, 6, Byram-street, Huddersfield; (No. 2).—Mr. T. Carr, 55, New Crown-street, Cardiff; repair and maintenance of War Department buildings at Bristol.—Messrs. E. Walters & Son, Ltd., Montpellier, Bristol; repair and maintenance of War Department buildings at Cardiff.—Mr. J. Thomas, Mardy-street, Cardiff; sinking borehole and erection of pumping plant, etc., Aviation School, Salisbury Plain.—Messrs. Duke & Ockenden, Ltd., Ferry Wharf, Littlehampton; supply and erection of portable hangars, Larkhill.—Mr. W. Harbrow, South Bermondsey Station, S.E. **India Office, Store Department:** Bridgework.—Messrs. Dorman, Long, & Co., Middlesbrough; Messrs. Brandon Bridge Building Company, Motherwell; tiles.—Messrs. Carter & Co., Albert-embankment, S.E. **Crown Agents for the Colonies:** Steel bridgework.—Messrs. Horsehay Company, Ltd., Horsehay, R.S.O. **Salop:** cement—the British Portland Cement Manufacturers, Ltd., 4, Lloyd's-avenue, E.C.; roof for station.—Messrs. Wm. Bain & Co., Ltd., Lochrin Ironworks, Coatbridge, N.B.; carriage, goods, and engine sheds.—Messrs. J. Lysaght, Ltd., St. Vincent Ironworks, Bristol. **Office of Works:** Builder's work, adaptation of Birmingham Labour Exchange.—Mr. J. E. Harper, 76-80, Lombard-street, Birmingham; Liverpool Labour Exchange and Divisional Clearing House.—Messrs. Haugh & Pilling, Watmough-street, Liverpool; additional story at General Post Office, South.—Messrs. Howell J. Williams, Ltd., 11-17, Bermondsey-street, S.E.; plumbing and drainage work at Sofa Legation.—Messrs. Davis, Bennet, & Co., Westminster. **Sanitary Works,** Horseferry-road, S.W.; renewal of boundary fencing, Regent's Park.—Messrs. Bayliss, Jones, & Bayliss, Ltd., 139-141, Cannon-street, E.C.; joinery work at Sofa Legation.—Messrs. Galbraith Brothers, Ltd., Camberwell-green Works, S.E.; road rolling and scarifying, Royal Parks.—Messrs. Chittenden & Simmons, Ltd., Bank-buildings, Maidstone. **General Post Office:** Laying lines of ducts in Holborn and St. Pancras.—Mr. J. A. Ewart, 21, Old Queen-street, S.W.; laying lines of ducts in High Holborn and New Oxford-street, W.C.—Messrs. Greig & Matthews, 35, Queen Victoria-street, E.C. **Metropolitan Police:** Clearing police site at Arlington-road.—Mr. F. Keen, 469, Old Kent-road, S.E. **Commissioners of Woods:** Laying on water from Hartwell to, and providing a reservoir at, Saley Lawn, Northants.—Messrs. Rowell & Sons, Chipping Norton, Oxon; new cottages for Parish Council, Bromham, Wilts.—Mr. H. Webb, Bromham, Chippingham, Wilts. **Commissioners of Public Works, Ireland:** Decoration of National Gallery, Dublin.—Mr. J. Hubbard Clark, 7, Eden-quay, Dublin.

PETERSFIELD ARGUMENTED WATERWORKS.

A Local Government Board Inquiry was held by Mr. P. M. Crosthwaite, M.Inst.C.E., on the 23rd ult., into an application by the Urban District Council of Petersfield to borrow the sum of about 2,000l. for extending the watermain into the Rural District, and the provision of hydraulic motor and steam pumping plant, and the construction of a ferro-concrete reservoir of 95,000 gallons capacity, etc. Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of Newcastle-upon-Tyne and Birmingham, are the engineers. There was no opposition.

GENERAL BUILDING NEWS.

NEW CHURCH, BRISTOL.

This church is being erected from the designs of Messrs. Gough & Sons, architects, at an estimated cost of 10,000l. The contractors are Messrs. R. F. Ridd & Sons, and the foundation-stone of the building was laid on July 20 last.

CHURCH HALL, HEWORTH.

A new church hall and school is being erected at a cost of about 1,400l. from the plans prepared by Mr. C. S. Errington, architect, of Newcastle. The hall is 54 ft. by 30 ft., and the builder is Mr. William Foster, of Pelaw.

TRADE NEWS.

Under the direction of Mr. David Henry, architect, St. Andrews, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to Strath Kinness Public School, Strath Kinness, Fife.
 Messrs. D. Anderson & Son, Ltd., have been awarded the certificate of the Institute of Hygiene for their "Marosa."

The Imperial Picture Palace, Oldham, is being ventilated by means of Shorland's patent exhaust roof ventilators and special inlet ventilators, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

PROPOSED NEW BUILDINGS IN LONDON.

Princess Club, Bermondsey, S.E.; Mr. A. W. West, architect, 3a, Lyall-street, Belgrave-square, W.; Messrs. J. Garlick, Ltd., builders, 43, Sloane-street, S.W. School, Highfield-road, Winchmore-hill, N.W. (9,967l.); Messrs. Mattock Brothers, Winkfield-road, Wood Green, N. Additions at schools, Upton Park, E. (1,000l.); Mr. R. M. Locher, Clerk, Guardians' Offices, Raine-street, Old Gravel-lane, E. Laundry, Kensal-road, Paddington, W. (2,280l.); Mr. E. B. B. Newton, Surveyor, Town Hall, Paddington. W. Rebuilding shops, showrooms, etc., Coventry-street, W.; Mr. F. G. Minter, builder, 49, Lacey-road, Putney, S.W. Alterations to shops and flats, Streatham-common, S.W.; Messrs. W. H. Lorden & Sons, 107, Trinity-road, Upper Tooting, S.W.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Deviation from Certified Plans.

Rotherhithe.—Proposed rebuilding of the "Royal Oak" public-house, abutting upon Tooley-street and Morgan's-lane, Bermondsey (Mr. E. Faux for Messrs. Courage & Co., Ltd.).—Consent.

Spaces at Rear and Alteration of Buildings.

Chelsea.—Alterations and additions at Nos. 171, 173, and 175, Fulham-road, Chelsea (Messrs. R. W. Price & Sons for Mr. G. Dancocks).—Consent.

Cubical Extent.

Chelsea.—Additional cubical extent in respect of a warehouse building upon a site abutting upon Pavilion-road, Charlotte-street, and Cross-street, Chelsea (Mr. C. W. Stephens).—Consent.

Woolwich.—Erection of a building exceeding 250,000 cubic ft. in extent, to abut upon the eastern side of Hardens-manorway and the northern side of Westfield-street, Woolwich (Messrs. Siemens Brothers & Co., Ltd.).—Consent.

Lines of Frontage and Projections.

City of London.—Illuminated sign at No. 108, Cannon-street, City (Sir Joseph Canon & Sons, Ltd.).—Consent.

Hammer-smith.—Erection of a building upon a site on the eastern side of Rowan-road and the southern side of Brook-green, Hammer-smith (Mr. D. Watson for the Governors of St. Paul's Girls' School).—Consent.

Hammer-smith.—Addition at the rear of No. 14, Shepherd's Bush-green, Hammer-smith, abutting upon Richmond-gardens (Mr. W. A. Burr for the London County and Westminster Bank, Ltd.).—Consent.

Holborn.—Two external iron ladders and a landing and handrail at Nos. 6, 7, and 8, Harpur-mews, Holborn (Messrs. Fuller, Horey, Sons, & Cassell).—Consent.

Kensington, South.—Projecting illuminated sign in front of No. 70, Kensington High-

street (Messrs. O. C. Hawkes, Ltd., for Mr. Ledger & Sons & Co.).—Consent.

Lewisham.—One-story shop in front of 55, Brookley-rise, Lewisham (Mr. A. J. R. for Miss I. Adam).—Consent.

Lewisham.—Erection of three projection buttresses to the Sandhurst-road front of the public library, Torridon-road, C (Mr. E. Van Patten for the Lewisham A. M. B. C. C. (Metropolitan Borough Council)).—Consent.

Marylebone West.—External wooden case at the rear of No. 5, Abercorn-place, Marylebone (Mr. J. Myers).—Consent.

Norwood.—Erection of bay-windows, porches and oriel windows to two houses or southern side of Sudbourne-road, Brixton (E. Green).—Consent.

Rotherhithe.—Erection of a one-story ing in front of No. 106, Jamaica-road, monsey (Mr. A. W. West).—Consent.

St. George, Hanover-square.—Additional closures to the existing porch in front of 27, Belgrave-square (Mr. A. N. Prentice for the Right Hon. Lord Greville).—Consent.

Wandsworth.—Erection of a parish hall, the northern side of Garratt-lane, Wandsworth (Messrs. Hoare & Wheeler).—Consent.

Width of Way.

Finsbury, Central.—Building abutting Aylesbury-street and Jerusalem-passages, Finsbury (Mr. J. B. Gridley for Messrs. E. P. & Co.).—Consent.

Greenwich.—Retention of boundary line at less than the prescribed distance from centres of streets on the southern and western sides (Mr. A. Griffin).—Refused.

Hackney, South.—Erection of an addition to a mission building on the northern side of High-street, Homerton (Mr. J. S. Alder for the Rev. Stanley Power).—Consent.

Norwood.—Cinematograph hall upon the No. 135, Dulwich-road, Dulwich (Mr. Harris for Mr. E. Jackson).—Consent.

Width of Way and Space at Rear.—**Newington, West.**—Bathroom addition to the rear of "The Ship" public-house, ington Butts, near St. Hubert-place (Mr. W. Bradford & Sons for Messrs. T. Walker, & Co., Ltd.).—Consent.

St. Pancras, South.—Addition at the rear of No. 34, Guilford-street, Russell-square, abut upon Lansdowne-mews (Messrs. Jos. Smith).—Consent.

Width of Way and Construction.

City of London.—Erection of external balconies at Nos. 7, 8, and 9, Bartholomew-close, City (Mr. W. F. Young).—Consent.

Lewisham.—Temporary iron motor shed at Preston Lodge, on the western side of Trevelyan-road, Lewisham, and the erection of two sheds at the rear of such (Messrs. J. Bennett & Co.).—Consent.

Width of Way and Line of Frontage.

Finsbury, Central.—One-story addition to Nos. 1 and 3, St. James's-walk, Clerkenwell, near St. James-place (Messrs. Tasker & Wright for Mr. E. J. Penny).—Refused.

Formation of Streets.

Clapham.—Formation or laying out of street for carriage traffic to lead from the northern end of Edgely-road, Clapham (H. G. Blackmore).—Refused.

Fulham.—Formation or laying out of streets for carriage traffic in continuation of Peterborough-road, Carnwath-road, and Hugon-road, Fulham (Mr. H. E. Kinto for Mr. J. Meares).—Consent.

The recommendations marked + are contrary to the views of the Metropolitan Board of Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Weaving mills for Mr. Richards, Ltd., Ann-street (5,000l.); Mr. Wilson & Walker, architects, 181a, U. street, Aberdeen.

Aberdeen.—Warehouse for Messrs. North Brothers, cotton spinners, Brook Adington.

Amersham.—Isolation hospital; Mr. Hilsdon, Surveyor, Rural District Council; architect to be appointed by petition.

Ayr.—N.B.—Weaving shed, etc., M'Clellan (1,800l.), for Messrs. W. C. G. Sons, carpet manufacturers, Ayr.

Bearpark Colliery (Co. Durham).—S. (3,000l.); Mr. W. Rushworth, Architect, H.L., Durham.

Bedford.—Discut factory, London-road, Messrs. Peak, Frean, & Co., Bermondsey, W.

Brierley.—Forty houses for the Hol Colliery Company; eighteen houses for

* See also our list of Competitions, Contests, etc., on another page.

The Roque Canal, to prevent the annual floods which have hitherto devastated a large area in the province of Matanzas, has been commenced. It is to be from 25 yds. to 60 yds. wide, and from 2 ft. to 15 ft. deep, and will cost 500,000, and it is to be completed within three years.

A concession has been granted to the Palmaira and Cruces Electric Railway and Power Company to utilise the waters of the Humana River for the supply of power to a plant. All machinery, tools, and rolling stock. All employees will be admitted free of duty. The company will build a standard gauge railway 225 miles long in Santa Clara province, passing up sugar and tobacco lands, and probably he five miles in building. Further, a concrete dam 1,000 ft. long and 75 ft. high, will be built for the storage of water. The capital of the company, which will claim no subsidies, is 4,000,000. Plant to develop 10,000 horse power will be installed. Light and power will be taken to the towns and sugar mills on its route.

MILAN AND COMO CATHEDRALS IN DANGER.

We learn that the façades of these two cathedrals are in a dangerous condition, and are considered by experts likely to collapse at any moment. The façade to Milan Cathedral was added by the first Napoleon to the XVIIIth-century edifice, who, as though realising that his power was to be of only short duration, insisted on the work being carried out with the greatest dispatch.

This, as was only to be expected, resulted in jerry building, and the great cathedral had tacked on to it a mass of unselected marbles, some so soft that twenty years after erection decay had set in, and then commenced periodical patching and clamping. Thus the hybrid Renaissance binnacle to a noble Gothic cathedral became more and more an eyesore, and for the last half-century many schemes have been proposed by the civil authorities for demolition and the erection of a façade more in harmony and keeping with the ancient Gothic structure.

A few years ago a scheme for reconstruction was actually approved by the Government, but conflicting expert opinion and public opposition rendered it inadvisable to proceed further. The prospect of a collapse has, however, now become so grave that it has been resolved to demolish the upper part of the façade immediately. It is estimated that the work of demolition will occupy four months.

The Como Cathedral, whose front is one of the best examples of Lombard architecture, is also in danger of collapse. The front, constructed of black and white marble, has been gradually bulging outwards for nearly a century, and at present one portion is nearly 3 ft. out of the perpendicular. Commissions have from time to time been appointed, and money—not inconsiderable in amount—has been expended in expert consultations, but no effective result has come of it all, and the money expended to no purpose. Perhaps at last something will be done now that the façade is likely to come down of its own accord without the permission of the powers that be, seeing that it is likely to bring down with it a large portion of the cathedral nave, to which it is attached by metal clamps.

QUESTIONS IN PARLIAMENT.

In the House of Commons on July 25 Mr. Goldsmith asked the Hon. Member for St. George's-in-the-East, as representing the First Commissioner of Works, whether there has been any increase in the clerical and architectural staff of the Office of Works since January 1, 1907, and, if so, whether he can state the additional number of officials employed. In reply, the Lord of the Treasury, Mr. Wedgwood Benn, said that the increases in the staff since January 1, 1907, have been as follows:—seventy-nine clerks, five architects, and eighteen assistant architects. Mr. Goldsmith then asked whether, in view of the fact that the annual expenditure of the Office of Works is 2,500,000, he could state how much of this sum has been spent on new buildings during the past financial years and how much on repairs.

Mr. Benn: The total amount spent by the Office of Works on new buildings, including the cost of certain sites, during the year 1911-12 was 822,476, and on maintenance and repair, 587,868.

Mr. Goldsmith again asked what was the amount of new work, excluding repairs, executed to the design of the Office of Works since January 1, 1907, and what is the amount of salaries paid in connexion therewith.

Mr. Benn: The expenditure upon new works executed to designs prepared in the Office of Works for the five years ending March 31, 1912, has amounted to 4,066,945. The total payment for salaries, etc., for the same period is 464,493, but a large proportion of this is for services not connected with the construction of new buildings.

Mr. Goldsmith: Is it a fact that the whole of this work has been done by the architect of the Office of Works, and that outside architects are never consulted and their designs never adopted?

Mr. Benn: No, sir. The statement of the Hon. Member is inaccurate. At least four modern public buildings have been carried out by architects not connected with the Office of Works.

On the same day Mr. Goldsmith asked the

President of the Board of Agriculture whether the design which has been adopted for Oxford-circus is to be continued for the remainder of Regent-street as far as the Quadrant, whether any scheme has been laid down for the rest of the street, and, if so, whether he could state the name of the architect selected. In a written reply, Mr. Montagu, speaking on behalf of Mr. Runciman, stated that a design had been approved for the Oxford-circus and the adjoining frontages along Regent-street as far as the first cross street on each. No one scheme has been laid down for the rest of the street. Between the termination of the Oxford-circus design and the Quadrant the street is divided into separate blocks by side streets and for several of these blocks designs by various architects acting for occupying tenants have been settled and in part executed. Mr. Goldsmith then asked whether Mr. Tanner's design for rebuilding Oxford-circus was selected by an open competition, and, if not, what system was adopted. Mr. Montagu, in a further written reply, said that Mr. Tanner's design was not selected by an open competition, but from designs submitted by several architects acting for tenants occupying premises in the Circus.

In the House of Commons on July 26 Mr. Newman asked the Chief Secretary to the Lord Lieutenant of Ireland if he is aware that an inspector from the Local Government Board, in Ireland, reported, with reference to the Tralee Rural District Council's cottage scheme, that of the 107 cottages contracted for up to January, 1910, ninety-nine had been proceeded with up to the date of his report, and that out of the ninety-nine cottages proceeded with thirty-seven were not in accordance with the drawings and specifications, that only thirty out of the sixty-two cottages conforming to the plans had the kitchen floor of tiles or flags, as specified, and that only twenty-five cottages had the window-sills of stone, as specified, and that out of the ninety-one occupied cottages forty-seven fire-places or chimneys, in the living-room were defective, that in seventy-seven cottages occupied or in the course of construction the floor levels were too low, and that in sixty-five of the examined cases the mortar used was bad and the masonry defective, that in twenty-four cases the mortar was worthless, that in twenty-nine occupied or completed cottages the walls were either damp or wet, and that the damp walls were partly from the use of bad mortar and partly from bad masonry work, and might also be partly attributed to the defects in the construction of the cottages, and if he will state how the matter now stands and what the Local Government Board propose to do in the matter. Mr. Birrell, in a written reply, stated that the facts were as stated. The local engineer under whom the works were carried out, and who had been in ill-health at the time of the architect's inspection, has since died, and the Rural District Council have entrusted the completion of the scheme to a competent engineer of considerable experience of this class of work, who, it is expected, will take special care to secure the completion of the cottages in accordance with the approved plans and specifications. Further inspections of the cottages will be made from time to time by the architects of the Local Government Board as the works progress.

THE BRITISH FIRE PREVENTION COMMITTEE TESTS.

THE British Fire Prevention Committee commenced its two-day summer meeting on Wednesday last week at its Regent's Park Testing Station with some high temperature fire tests on a reinforced concrete floor and on six sets of electro-glazed casements. The testing operations were conducted by Sub-Committees under the general direction of Mr. Ellis Marsland (General Hon. Secretary).

The arrangement of the reinforced concrete floor test has awakened considerable interest, as it is the first occasion that a floor of this type reinforced solely with a mesh reinforcement (a triangle mesh) has been under official review, and the question of whether for such floor with mesh reinforcement a lesser amount of protective covering would suffice is a much-discussed problem from the fire point of view. Again, the arrangement of the test with electro-glazing of the so-called "Chadrac" type has awakened much interest, seeing that the "Copperlite" type was recently tested and obtained a very high record, and that other

makers are also testing to the same standard.

The testing operations on the second day were in the hands of Mr. Ellis Marsland (General Hon. Secretary), Mr. Bertram Chadrac (Chairman of the A.M.Inst.C.E. (Insurance Surveyors)),

The fire tests were with three sets of glazing casements of the Luxfer type, fixed by a test with a double door constructed of reinforced concrete, this latter hailing from Belgium, where it had been constructed to specifications of the Chairman of the Government Fire Committee, and had been over for report.

The arrangement of holding tests on consecutive days was considered a great advantage inasmuch as it made it more convenient for members and representatives of authorities from the provinces specially visiting London, and it is to be anticipated that this arrangement will be followed in future years. The following are results of tests:—

Some of the official "short results" of testing operations at the British Fire Prevention Committee's Testing Station on July 21 have now been authorised for issue. They are summarised as follows:—

The 22-ft. by 15-ft. reinforced concrete door, with "triangle mesh" reinforcement, and admitted by the United States Steel Pipe Company, of London, obtained classification affording "Full Protection" (Class B), four-hours' fire test at temperatures ranging up to and above 1,800 deg. Fahr., followed by the application of water from a steam engine (through two branches) for five minutes, the floor being under a load of 2½ cwt. per super, during the test. This is the first time having this method of reinforcement submitted to official fire test in England and to attain high classification.

The double reinforced concrete door, submitted for test by the Chairman of the Government Fire Committee, obtained classification affording "Full Protection" (Class A) on a two-and-a-half-hours' fire test at temperatures ranging up to and above 1,800 deg. Fahr., followed by the application of water from a steam fire-engine (through one branched five minutes).

The "Chadrac" electro-glazing of window submitted for fire test by Messrs. Joseph & Sons, in panels of 2 ft. by 2 ft., and shown in a panel of 4 ft. by 3 ft., obtained the classification affording "Temporary Protection" (Class B) on a one-hour fire test at temperatures up to and above 1,500 deg. Fahr., followed by the application of water from a steam engine (through one branch) for two minutes. This is the first occasion of so large a panel of electro-glazing of 8 ft. super. having attained this classification.

The results obtained in the remaining tests with "Chadrac" electro-glazing and "Luxfer" prism electro-glazing will be announced later.

Further Tests.—The Committee announced that the reinforced concrete floor referred to above will be submitted to an additional test over and above the Committee's standard requirements by the application of a load after the subsequent cooling of the test, and that among the next tests will be a test with a non-flaming celluloid known as "Celcon", the first product of this character to be submitted to the Committee's official fire test.

THE WIDENING OF KINGSTON BRIDGE

AFTER much delay the projected widening of Kingston Bridge is within measurable distance of realisation, the tender for 64,230, of Messrs. Water, Scott & Middleton, Ltd., of Manchester, having been recommended for acceptance in respect of the constructional details after plans and designs prepared by Mr. Mott, C.E., whose estimate was for 70,000. The Surrey and Middlesex County Councils acquire the land necessary for the new wider approaches at the two ends of the bridge. This improvement will be a very great advantage, as at present the constricted way is too narrow for ordinary traffic, and nothing of translines. The present bridge, comparatively recent date, having been built in 1825 from designs by Mr. Lapidge, but has been a bridge at Kingston from very times, and much of the old-time importance of the town was due to its possessing a bridge above London. Tradition asserts

during his campaign with Cassivelaunus, bridge about half a mile before the present one, but this was probably only a temporary for military purposes, as, according to Cassius, there was only "a ford of stepping-stones" when Aulus Plautius landed in Britain in 43.

The next few centuries are somewhat shadowy, but it is not until the early Saxon period that we hear of a bridge again, and then it is made of a bridge on the site of the old one, which, however, suffered so much from Danish incursions that at the beginning of the 11th century it was reconstructed near the present bridge, and this one was in existence till its condemnation and destruction in 1828. During its long life it was a constant source of anxiety to various wardens, and in the records we find over and over again of the state of the bridge and of the money expended for its repair.

The bridge was vested in three bridge-wardens, and then one, and in 1376 the structure was handed over to the bailiffs of the town for a term of fifty-one years, with permission to let the tolls for ten years to the repairs were evidently necessary, as the lease was then gone "to ruin and decay." Grants of property "for repairs to the bridge" are also frequent. In 1565, Robert Hammond, of Hampton, made over some of an annual value of 40*l.* to the bridge, and from tolls for all time; in commemoration whereof a tablet was placed on the bridge, thus inscribed:—

"1565.

Robert Hammond gentleman
Bailiff to Kingston heretofore
He then made this bridge
Toll free for evermore."

After floods and rough usage, the old fabric was taken down in 1812, when it was condemned. The history of Kingston, published by a Mr. Mason in 1818, the bridge is thus described:—"The bridge in its present state is an airy structure of timbers, so inartificially put together as would warrant us in pronouncing whatever changes it hath undergone in its life there hath been no deviation from the plan on which it was originally built; the sters, which are more than twenty in number on each side, occupy the space of a third and twenty-five yards, exclusive of forty yards of masonry employed at the ends."

From early times the bridge used to be a place of punishment for "scolds," or brawling women, and accounts are extant for a ducking, a whipping, stool, made and used in 1572. The keys, too, of the old bridge used to be kept to the Mayor of the town after they were locked up on Sunday morning, his practice lasted till 1690.

The existing bridge was commenced in 1825, and opened three years later, and its principal dimensions are as follows:—Total length, 1,147 ft.; water-line, 334 ft.; height of centre 24 ft.; span, 60 ft.; width of road and way, 25 ft. 6 in.

There are five elliptical stone arches and two brick arches for flood water. The cost, including approaches, was 40,000*l.* This was a bridge until 1870, when the gates were removed and the tolls abolished.

THE LONDON COUNTY COUNCIL.

At the usual weekly meeting of the London County Council was held on Tuesday in the City Hall, Spring-gardens, S.W., Lord Somers, Chairman, presiding.

Finance.—The Finance Committee recommended that loans be made to Borough Councils as follows:—Camberwell, 9,166*l.* for paving works; Lambeth, 14,500*l.* for paving works; Newington, 3,250*l.* for paving works, and 1*l.* for electricity plant; Battersea 7,808*l.* for electricity undertaking; Hammersmith, 1*l.* for paving works; Shoreditch, 2,546*l.* for street improvements; Woolwich, 6,000*l.* for electricity undertaking, and 3,250*l.* for paving works.

Factories and Fires.—The Chairman of the Factories Committee, in replying to a motion, stated that 964 factories in the City were notified to the Council; 841 had been visited with a view to means of escape in case of fire, and 123 were under consideration.

Theatres, etc.—The following drawings have been approved by the Theatres and Music Halls Committee:—Battersea Palace of Varieties—new operating enclosure and improved means of ventilation of the dressing-rooms; Coronet Theatre—proposals for complying with requirements relating to sanitary and ventilating arrangements; New King's Hall, 133-139, Commercial-road—extension of premises; Princess Hall, 120, Commercial-road—re-arrangement of doors and alterations to office; Shepherd's Bush Empire—re-arrangement of seating in stalls and pit and alterations to exits and lavatory; Sydenham and Forest Hill Public Hall and Skating Rink—alterations to seating and exit arrangements.

Cinematograph Halls.—Drawings have been submitted in respect of new cinematograph hall proposed to be erected at No. 11 to 14, Salisbury-street, Jamaica-road, Southwark, and for proposed alterations to Mornington Hall 13, Canonbury-lane, Islington.

Adjournment.—The Council has now adjourned for the summer recess, and the next meeting will be held on Tuesday, October 15.

WESTMINSTER CITY COUNCIL.

At the fortnightly sitting of this Council, on July 25, the following matters were dealt with:—

Orange-street Baths.—Subject to certain conditions, it was decided to let the remainder of the Council's lease in the above baths to Mr. T. Davis, of Cooks-in-street, who proposes to convert the premises into a cinematograph theatre, and expend between 4,000*l.* and 5,000*l.* on the site.

Sewers and Drains.—The receipt of a communication from the Camberwell Borough Council was acknowledged, asking the City Council to support the Standing Joint Committee in endeavouring to secure in the next session of Parliament an amendment to the law relating to combined drainage. It was agreed to inform the Standing Joint Committee of the Metropolitan Boroughs that the Council were in favour of an amendment to the law, but were unable to decide whether to contribute to the cost of promoting a Bill before seeing a draft of it.

District Surveyor's Charges.—It was decided to support the Southwark Borough Council in calling the attention of the London County Council to the excessive fees which District Surveyors are allowed to charge under the scale fixed by the London Building Act, particularly for minor alterations in large buildings.

Australian Commonwealth Buildings.—Consent was given, subject to conditions, for the proposal for the drainage of the new Australian Commonwealth buildings in Aldwych.

METROPOLITAN WATER BOARD.

At the monthly sitting of the Metropolitan Water Board on Friday, the following matters were dealt with:—

Southwark Bridge Offices.—The tender of Messrs. J. Greenwood, Ltd., of 563*l.* was accepted for fire-protection work at the Southwark Bridge-road offices.

Enfield Supplies.—An estimate of 4,564*l.* was approved for the necessary works for providing a supply of water to Botany Bay, Enfield.

Future Supplies.—It was agreed to sanction an estimate on capital account of 1,650,200*l.* for the acquisition of land and construction of two reservoirs at Littleton, with the necessary buildings, etc., and to take steps for inviting tenders for the same; and also to incur an expenditure of 30,000*l.* in the provision of new works at Shortlands, Kent.

METROPOLITAN ASYLUMS BOARD.

The following matters were dealt with by the Board at its fortnightly sitting on Saturday:—

Joyce Green Hospital.—It was decided to carry out repairs to roads at the above hospital at a cost of 950*l.*

Laundry Works.—Plans were submitted for alterations and extensions of the laundries at Joyce Green and Long Reach Hospitals, estimated to cost 1,200*l.*, and these were approved.

Works.—The following tenders were accepted:—For cleaning and painting works at the Darenth Industrial Colony, Mr. L. Kazak, 1,739*l.*; for cleaning, painting and repairs at

the head office, Messrs. W. J. Simma & Sons, Nottingham, 953*l.* 11*s.* 9*d.*; for alterations to heating service, etc., at Long Reach Hospital, Messrs. G. N. Haden & Sons, 540*l.* 10*s.*; cleaning and painting at the Belmont Laboratories, etc., Mr. W. Hussey, 339*l.*; cleaning and painting works at Queen Mary's Hospital, 3,039*l.*; cleaning and painting work at the smallpox hospital, Mr. L. Kazak, 2,219*l.*; cleaning and painting works at White Oak School, Mr. J. W. Billingham, 780*l.*; sinks, etc., at North-Western Hospital, Messrs. B. Finch & Co., 499*l.* 10*s.*; work in connexion with ferro-concrete tanks and water-softening plant at Darenth Industrial Colony, Messrs. J. Garrett & Son, 2,270*l.*

LEGAL COLUMN.

Arbitration in Building Contracts.

The case of Colborne v. Chairman and Members of the Council of Llantrisant, reported in our columns last week, shows how undesirable it is for builders to accept contracts containing an arbitration clause which does not provide for an entirely independent person acting as arbitrator. The contract in question related to the erection of a caretaker's office and other works for the defendant Council. The work was to be done on plans and specifications prepared by the Surveyor to the Council, and also to the approval of the Surveyor in his capacity as Surveyor. The Surveyor had objected to the stone used, and a dispute had arisen, the allegation being that to conform with the contract the building would have to be pulled down and rebuilt. Very naturally in this state of affairs the builder felt it would be useless to go before the Surveyor as an arbitrator to have the very points in issue decided by him, and he brought the action in question. The Court stayed the action on the ground that the arbitration clause applied. There was nothing, Lord Justice Fletcher Moulton observed, to show that the Surveyor had performed his duties unfairly or illegally, or that he would fail in exercising his functions as arbitrator.

The case really illustrates the folly of entering into contracts which contain an arbitration clause practically appointing one of the parties to the contract arbitrator. The Surveyor to the Council was their servant in their pay, and owed a duty to them. That duty would prevent him from exercising the functions of an independent arbitrator—at any rate, to the satisfaction of the plaintiff. This fact must have been apparent to the plaintiff when he entered into the contract, if only from the Scriptural dictum that "no man can serve two masters," yet he chose to accept its terms.

The case will be of service if it draws attention to the senselessness of accepting such terms in building contracts, and, we believe, the practice of appointing a representative of one of the parties as arbitrator is practically confined to building and engineering contracts. In other business relations such a practice would be deemed an absurdity, and the stress of competition does not entirely account for its adoption by builders and contractors. A study of the "Law Reports" will show that apart from the unsatisfactory nature of the tribunal so created, litigation is nearly sure to arise as to whether, where parties have consented to the appointment of an arbitrator, who, from the very nature of his duties, cannot be an impartial arbitrator, the person appointed to fill this very difficult position has acted in any way so as to disqualify himself.

Workmen's Compensation: Liability when Orders Disobeyed.

The recent case, Parker v. Hambrook, decided by the Court of Appeal, is one of importance to employers. Where a man deliberately disobeys orders, and in consequence suffers an injury which causes death or serious and permanent disablement by sect. 1, subsect. (2) (c) of the Workmen's Compensation Act, 1906, the legislation, as we think, most inadvisably, has deprived the employer of the defence that the injury is due to the workman's serious and wilful misconduct, and enables the workman or his dependants still to recover compensation. Since this Act was passed, numerous cases have arisen in which workmen have sustained injuries or been killed in consequence of disobedience to orders, and in place of the defence of serious and wilful misconduct, more complicated considerations have arisen in determining whether the employer was liable or not.

In the case under consideration a workman was employed in a quarry getting flints. There was in the quarry a deep trench known to the employer to be dangerous, and the workman was forbidden to get flints from there. The

flints were more easy to get there, and the workman, in defiance of orders, went to the trench and was killed by a fall of earth. The Court held that in so doing he was acting outside the sphere of his employment for his own benefit, and his dependants could not recover compensation. In this decision the Court were following the case of *Wiegill v. South Hutton Colliery Company* (the *Builder*, September 15, 1911), where a man engaged to hew coal in one place, in defiance of instructions, went to another place and was killed, and his dependants were held disentitled to compensation because he was acting outside the sphere of his employment. If a man, however, acting within the sphere of his employment, disobeys orders, most difficult considerations arise.

In the case of *Harding v. The Brynddu Colliery Company, Ltd.* (the *Builder*, September 15, 1911), a collier was being employed to drill down into a working to allow gas to escape. The lower working was boarded up in accordance with special rules made under the Coal Mines Regulation Act, to show it was unsafe, and this intimation was understood by the miners. The drilling twice missed the lower working, and the man asked leave to enter the lower working, which was refused. He nevertheless went, and was suffocated. The majority of the Court of Appeal held that although this was serious and wilful misconduct, yet as the man was carrying out the operation for which he was engaged the accident arose out of and in the course of his employment, and his dependants were entitled to compensation. Lord Justice Buckley disagreed, and held that the sphere of this man's employment was to do a particular act at a particular place, and that he was out of that sphere when he left that place, and his motive in going had no bearing upon the question. This appears to us far the most logical reasoning, and to avoid much hardship under the Act. Take, for example, a builder who places at the disposal of his workmen plant suitable for every purpose and of good quality, and expressly forbids his employees to do a job with improper appliances. A man, instead of using a ladder, makes a temporary erection out of a barrel and other material, and meets with an accident. He was only carrying out the object he was employed for, and had no motive in doing what he did except to save himself trouble. Wilful misconduct he was guilty of in disobedience to orders, but, according to the finding of the majority in the Court of Appeal in *Harding's* case, the accident arises out of the employment, and compensation is payable.

It would surely be far more logical not to look at what the man was engaged to do solely, but also to consider what are the necessary risks he is called upon to take in performing the task he undertakes. If a man performs his duty in an improper way, he himself adds a risk not within the scope of his employment.

It is to be regretted that *Harding's* case was not carried to the House of Lords, for there are dicta in the case of *Barnes v. Nunery Colliery Company* (the *Builder*, January 5, 1912), which indicate that the Lords incline to the principle we have just indicated. In that case a boy met with his death by riding on a corve contrary to orders. Lord Loreburn said: "An arbitrator has to ask himself, was the injury by accident caused by something reasonably incidental to the employment, by some risk to which a workman, liable like other men to be careless and take short cuts, might be exposed in doing what he had to do?" The headnote to this case in the "Law Reports," which summarises the effect of the judgments delivered, is: "That the death was caused by an added peril, to which the deceased, by his own conduct, exposed himself, and not by any peril involved by his contract of service."

If the above rule were rigorously applied, we cannot but think that much litigation would be avoided, and that it would also tend to secure obedience to reasonable rules. It does not exclude the workman from claiming compensation, where he has merely been careless in the execution of his work, as in the case of *Hopgood v. Olive Parfittington Ltd.* (the *Builder*, July 2, 1910), but only where he adds an unforeseen risk to his employment, as, for instance, by working in an unauthorised place with unauthorised materials, etc.

Before leaving this subject we may draw attention to the curious result attained by the provision as to serious and wilful misconduct in the Act of 1906. In the House of Lords, in the case of *George v. Glasgow Coal Company* (the *Builder*, December 5, 1908), a miner who, contrary to rules, had opened a door leading to the cage before the cage stopped, was held to have been guilty of serious and wilful misconduct, and not entitled to compensation: but in this case, although he had had a

serious fall, by luck, he had not been seriously and permanently disabled. Had his injuries been serious, on any rule laid down by the cases, his employers would have been liable, as the accident occurred within the sphere of his employment. It is surely ridiculous that the employer's liability should depend upon the nature of the injuries sustained.

The Metropolitan Water Board.

Despite the high charges which have been the cause of so much complaint, the Metropolitan Water Board is confronted with a large deficiency, and the Special Committee appointed to inquire into how this should be dealt with has just issued its Report, which has been adopted. The apportionment of any deficiency under the Boards Act is to be levied upon those urban and borough areas as are for the time being entitled to be represented on the Board. The Committee do not suggest that this immunity from the deficiency rate enjoyed under the Act of 1902 by the rural districts not represented on the Board should be disturbed, but their proposals are that the deficiency rate shall be levied, not upon the rateable value of the premises supplied in each district, but according to the revenue derived from each district, and that this should include revenue derived from the supply for both domestic and non-domestic purposes.

The Committee state that if these proposals are accepted no alteration will be necessary in the Charges Act of 1907.

The Charges Act has repeatedly been characterised in the Courts as an unsatisfactory measure, and in many respects a reprehensible measure. It has necessitated an enormous amount of litigation and involved hardship and expense to many consumers of water, that necessity of life. If the Board have to apply for special legislation we can only hope that an amendment of the private Act will be insisted upon by Parliament.

Insured Persons: Contracts of Service.

In view of the uncertainty which exists as to what classes of persons are within the compulsory provisions of the Insurance Act, two cases brought before the Courts should be noted.

In the first of these, *re "Employment of Ministers of the United Methodist Church and Ministers under Probation of the Wesleyan Methodist Church"* (the *Times*, July 12), ministers and probationary ministers appointed by the Conferences of the churches, but paid by the Circuit, were held not to be employed under a "contract of service." The Court held that, even if such persons were employed at all, it would be difficult to find who were the employers, and the distinction noted in a case under the Workmen's Compensation Act, *Simmons v. Heath Laundry Company*, between a contract of service and a contract for services, was also recognised, and the ministers were held not to be employed under a "contract of service."

The second case, *re "Employment of Curates or Assistant Curates in the Church of England"* (the *Times*, July 27), both classes of curates were held exempt on the ground that they held ecclesiastical offices, and are not engaged under contracts of service, any obedience given to the Rector or Vicar being given to him as an ecclesiastical superior and not by virtue of any contract.

Seeing the difficulty the Courts experienced under the Workmen's Compensation Acts in determining what was exactly meant by a "contract of service," it seems really extraordinary that the Legislature could not have devised some clear definition of the classes intended to be compulsorily included in the Insurance Act.

LAW REPORTS.

KING'S BENCH DIVISIONAL COURT.
(Before the LORD CHIEF JUSTICE and Justices DARLING and PHILLIMORE.)

A Builder's Conviction: Rule Granted.

On Friday, July 26, the Court granted an application made on behalf of Mr. Hollidge, a builder of Uxbridge, for a rule nisi for a writ of *certiorari* to the Uxbridge Justices, calling upon them to show cause why they should not bring up a conviction recorded against Mr. Hollidge to be quashed.

Mr. Corthorpe Munro, Counsel for the applicant, said proceedings were taken against Mr. Hollidge by the Rural Sanitary District Council for an alleged contravention of the bye-laws in connexion with a building line. When the

summons was being heard Mr. F. M. M., the Chairman of the prosecuting Council, naturally had an interest in the proceedings, and sat on the Bench with the Court. Although he did not retire with them to consider the decision. There were authorities governing the point, and, in spite of that Mr. Elgodd did not retire. Justices, the fact that he sat on the Bench during the hearing of the summons was sufficient to justify the Court in setting aside the conviction, by which Mr. Hollidge was fined 40s. and 10s. costs. Counsel, pointing out, said Mr. Elgodd, during the hearing, glanced and smiled at various parties connected with the prosecution.

The Lord Chief Justice: But surely does not matter.

"If you are right," said Mr. Justice more, "one of these days it will be as a magistrate, when interested in the must not be in Court at all, or even it must not be within a hundred yards place."

The Lord Chief Justice: And, above must not smile.

Mr. Munro: In a case of this kind he not to have been on the Bench at all, was really one of the litigant parties.

The Lord Chief Justice said the rule be granted that the matter could be ventilated.

LONDON COUNCILS.

Brentford.—The Guardians have as the tender of Mr. W. J. Dickens, Esq., £2201, for carrying out extensions Works and Laundry.

Croydon.—The following tenders have accepted by the Education Committee: George Lewin, Sydenham-road North, don, alterations and improvements to Norwood School, 968l. 4s.; Mr. Edward Tamworth-road, Croydon, heating apparatus, 42l. 7s. 6d.; G. Goldsmith & Sons, Ltd., Whitehorse Croydon, heating apparatus, Boston handicraft centre, 41l. 2s. 6d.; the Flooring Company, Victoria Park, S.E. block floor at Boston-road handicraft 42l. 7s. 6d.

Croydon (Rural).—The District Council passed plans lodged by Messrs. Doby for the erection of three pairs of houses at Smitham Bottom-lane.

Hammersmith.—A loan of 3,678l. is taken up from the London County Council for the reconstruction of the works to the period of repayment being seven years. Upon a portion of Duane-road being widened it has been decided to have the road met and paved as a new street. Plans have been lodged with the London County Council by E. Matoham for the reconstruction of a Queen-street and the erection of a palace upon an adjoining site.

Hornsey.—The tender of Messrs. Stone, Sons, Muswell Hill-road, at 546l., has been accepted by the Education Committee for carrying out structural alterations at North Harrington School, as has also tenders of Messrs. Watkin & Son, Wood at 64l. 7s., for extending the heating apparatus; and at 22l. 1l. 6d., for similar at the Highgate and Campbourne Schools.

Hord.—The following plans have passed:—Mr. S. W. Bedford-Trow for a Fountain, three houses, Birkbeck-road; Mr. Howards & Sons, building at Uphall; Mr. C. U. Gurney, removal and re-erection of Baptist church and schoolroom, Cameroe.

Islington.—A letter has been received from the Borough Council from Messrs. Lamb, France, 17, Ironmonger-lane, E.C., notifying that the trustees under the will of the late Mr. W. B. Sutton, who left a sum of 2,000,000l. for the erection of model dwellings for the poor in London and elsewhere, are considering the desirability of purchasing about four acres of land in Highbury (L. House, Highbury Park) for development site for the erection of dwellings for the under the trusts of the testator's will, extending thereon a sum of over 50,000l. The proposal was not to erect block dwellings, but model cottages, some to be on the main principle, i.e. to contain two separate dwellings, one above the other, with garden, afford housing accommodation for between 400 and 600 individuals, or about 109 separate tenements. At a recent meeting of the Council it was decided to refer the matter to the Parliamentary Committee with instructions to inform Messrs. Lamb that the site proposal was unsuitable, but asking them to convey and forward to the Committee alternative sites.

LONDON COUNCILS.—continued on page 157

Measures Office. Plan and specifications and information from Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit 10s. 6d.

BUILDING—continued.

The data given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

August 22. — **London.** — **EXTENSION.** — For the alteration and extension of the boiler-house at the Workhouse, Swaffield-road, Wandsworth. Specification, quantities, and form of tender at the Guardians' Offices, St. John's-hill, Wandsworth (near Clapham Junction railway station). Deposit of 21.

August 22. — **Belfast.** — **SCHOOLS.** — For building new National schools at Lower Sydenham, Belfast, for the Strand Presbyterian Church. Plans, specification, and conditions of contract with Messrs. Fennell & Clarke, architects, 2, Wellington-place, Belfast. Quantities from Messrs. McCarthy & Brooks, quantity surveyors, Scottish Provident-buildings, Belfast.

August 22. — **Birmingham.** — **BUILDINGS.** — Erection of buildings in further extension of the Council House. Particulars from the architects, Messrs. H. V. Ashley & Winton Newman, 14, Gray's Inn-square, London, W.C. Deposit of 51. ss. Quantities from the joint quantity surveyors, Mr. Anthony Rowse, King's-court, 117, Colmore-row, Birmingham, and Mr. J. W. Watkins, of 13, Gray's Inn-square, London, W.C.

August 22. — **Chelmsford.** — **EXTENSION.** — For the extension of the fire-engine station in Market-road. Forms of tender, particulars, and plans and specification at the Borough Engineer's Office, 16, London-road.

August 22. — **Pontypridd.** — **OFFICES.** — Erection of proposed new offices in Courthouse-street, Pontypridd. Plans and specification seen, and quantities from the architects, Messrs. A. O. Evans, Williams & Evans, Court-chambers, Pontypridd, on deposit of 31. ss.

No DATE. — **Beeston Hill.** — **PICTURE PALACE.** — Erection of the Malvern Picture Palace, Beeston Hill. Mr. W. H. Beavers, A.R.I.B.A., architect, 26, Bond-street, Leeds.

No DATE. — **Briford.** — **REPAIRS.** — For renovation and repairs at Briford Parish Church. Mr. Harbottle Reed, F.R.I.B.A., architect, 12, Castle-street, Exeter.

No DATE. — **Chorley.** — **ALTERATIONS.** — For alterations to District Bank, Adlington branch. Plans seen, and quantities from Messrs. Jolly & Buckley, architects, High-street, Chorley.

No DATE. — **Coldridge.** — **BUILDINGS.** — Erection of farm buildings at South Moor, Coldridge. Plan and specification with Mr. Lutton, the tenant.

No DATE. — **Magherafelt.** — **RESIDENCE.** — For erecting a curate's residence at Magherafelt, Co. Derry. Plans and specification with Messrs. William H. Byrne & Son, architects, 20, Suffolk-street, Dublin.

No DATE. — **Osborne, etc.** — **REPAIRS.** — For repairs for the maintenance of Admiralty Buildings, etc., at the R.N. College, Osborne and Kingston. For particulars apply Superintending Civil Engineer, Portsmouth Dockyard.

No DATE. — **Pudsey.** — **SHED.** — Erection of a men's shed at Brick Mills, Pudsey, for Messrs. Clough, Ramden, & Co. Plans, specifications, and quantities from Messrs. Jowett, Kendall, & Sons, architects, South-parade, Pudsey.

No DATE. — **South Shields.** — **STAND.** — Erection of a covered grand stand for the South Shields Association Football Club, Ltd. Messrs. Renoldson & Newby, architects, King-street, South Shields.

* No DATE. — **Swansea.** — **HOUSES.** — Tenders are invited for building twenty houses at once at Cwmhydyr-cw-rhod, Morriston, near Swansea. See advertisement in this issue for further particulars.

No DATE. — **Troedyrhiw.** — **RENOVATIONS.** — For renovations, etc., to the Garfield, Clarence, and Fox and Hounds, for Messrs. D. F. Pritchard, Ltd., Western Valleys Breweries, Crumlin. Mr. C. M. Davies, M.S.A., 112, High-street, Methylth.

No DATE. — **Whitestone.** — **HOUSES, etc.** — Erection of two dairy houses, farm buildings, and alterations and additions to existing premises at Way Farm. Messrs. Ellis, Son, & Bowden, F.S.I., surveyors, Bedford-chambers, Exeter.

No DATE. — **Wombwell.** — **BATHS.** — Erection of new public baths at Wombwell. Deposit of 31. ss. Specification and quantities from Mr. Percy Mines Walker, Solicitor, Clerk to the Council, Town Hall, Wombwell. The office of the architect, Mr. Harold Burgess, Queen Anne's-chambers, Broadway, Westminster, London, S.W.

No DATE. — **Ystradeflle.** — **REPAIRS, etc.** — For repairs and partial reconstruction of bridges at Ystradeflle. Mr. Charles W. Best, County Surveyor, County Hall, Brecon.

ENGINEERING, IRON, AND STEEL.

August 7. — **Weardale.** — **BRIDGE.** — Reconstruction of Eppershields Bridge, near Edmondshers. Plans and specifications with Mr. G. W. Egglestone, Highway Surveyor, Stanhope.

August 10. — **Southampton.** — **SUPERHEATERS.** — For the supply of superheaters to be fitted to Lancashire boilers. Specification and conditions at the office of the Waterworks Engineer, 33 and 35, French-street, Southampton.

August 10. — **Stannington.** — **PLANT.** — Erection at the new lunatic asylum in course of erection at Stannington, near Morpeth, of a complete installation of electrical plant. General plans at the offices of the architects, Messrs. G. T. Hine & H. Carter Pegg, 35, Parliament-street, Westminster, S.W. Deposit of 51.

August 12. — **Malden.** — **Well.** — For sinking and obtaining a further depth of 65 ft. the well at the Wants-road pumping station. Specification seen, and forms of tender from Mr. T. R. Swales, M.Inst.C.E., Borough Engineer, Municipal Offices, Malden.

August 12. — **Martbury.** — **WATERWORKS.** — Construction of works of water supply for the village of Martbury. Plans and specifications with Mr. T. H. Harris, A.I.S.E., 1, Millbrook-place, Tavistock.

August 19. — **Auckland.** — **PLANT, etc.** — For erection at works, and delivery in Auckland, three sets of screening plant with raking gears and a belt conveyor. Specification, form of tender, and drawings at the offices of the consultants, and engineers, Messrs. John Taylor, Sons, & Santo Crimp, Carlton House, Westminster, S.W. Deposit of 51.

August 19. — **Lymington.** — **BRIDGE.** — For the building of a ferro-concrete bridge over the stream at the Mills, Brockenhurst. Particulars of Mr. J. Crittall, Surveyor, Sway.

* August 22. — **London, S.E.** — **MACHINERY GUARDS.** — The Southwark Guardians invite tenders for fixing guards to machinery at Infirmary, East Dulwich-grove. See advertisement in this issue for further particulars.

August 23. — **Boston.** — **BRIDGE.** — The removal of the existing superstructure of the bridge, the alteration of the stone and brick abutments, and the construction and erection of a new structure, consisting of steel three hinged arch ribs, verticals, longitudinals, flooring plates, etc., the construction of a temporary timber footbridge over the river, adjacent to the town bridge. Drawings and specifications with Mr. John J. Webster, M.Inst.C.E., 39, Victoria-street, Westminster, engineer for the works. Quantities and form of tender on deposit of 31. ss.

September 7. — **Dublin.** — **RAILWAYS.** — The Dublin and South-Eastern Railway invite tenders for the construction of diversion railways between Brinney and Bray and between Shankill and Bray in the counties of Dublin and Wicklow, and for the doubling of the existing railway between Killiney. Plans, specifications, and quantities, with tender forms, from the Company's Engineer, Mr. S. J. Shannon, 52, Westland-row, Dublin, on deposit of 31. ss.

October 2. — **Melbourne.** — **DREDGE.** — Construction and delivery, at Melbourne, of a twin screw sand suction hopper dredge of 1,200 tons capacity. Deposit 2001. Plans, specifications, and conditions may be seen at the office of the Agent-General for Victoria, Melbourne-place, Strand, London.

FURNITURE, PAINTING, MATERIALS, etc.

August 3. — **Bradford.** — **PAINTING.** — For external painting at the Town Hall. General conditions of contract seen, and specification and form of tender from the City Architect, Town Hall, Bradford.

August 3. — **Buckhaven.** — **PAINTING.** — For painter work in connexion with the Cameron Hospital. Quantities, etc., from Mr. W. D. Telford, Municipal Buildings, Buckhaven.

August 3. — **Isle of Wight.** — **PAINTING.** — For outside painting, etc., at the Parkhurst, Carisbrooke Council, and Gatten and Lake Elementary Schools, Sandown Secondary School, and the greenhouses at Technical Institute, Newport. Specifications seen, and particulars from Mr. S. R. Cooke, St. Thomas-street, Ryde.

August 3. — **Spalding.** — **REPAIRS, etc.** — For stripping and relaying the main building of the Workhouse. Specifications and quantities from Mr. H. Stanley Maples, Clerk, Spalding.

August 7. — **Dublin.** — **PUMPS, etc.** — Supply of Oerlikon and Westinghouse electric motors and pumps at Pigeon House Works. Specification and tender forms from Mr. Ruddle, City Electrical Engineer, Fleet-street, Dublin. Deposit of 11. ss.

August 7. — **Richmond.** — **PAINTING.** — For internal painting, cleaning, etc., at offices in Parkshot, Richmond. Specification and form of tender from Mr. Percy Unney, Clerk to the Guardians, Guardians' Offices, Parkshot, Richmond, Surrey.

August 7. — **Ryhope.** — **PAINTING.** — For the outside painting of Ryhope Asylum. Specification seen, and schedule and form of tender at the Borough Surveyor's Office, Town Hall, Sunderland.

August 10. — **Barnoldswick.** — **PAINTING.** — Painting pumping-station, waterworks; tub holders, gasworks; new offices, gasworks, etc., with forms of tender, from Mr. Thompson, Engineer and Manager, Town Barnoldswick.

August 10. — **Southampton.** — **SPECIAL.** — The supply and delivery of special steels and special for superheated steels at the office of the Waterworks Engineer, 33, French-street, Southampton.

August 15. — **Greenwich.** — **PAINTING, etc.** — Painting and cleaning works at the Inland, Venbrugh-hill, Greenwich. Specification, and form of tender from the Board of Works, Mr. Louis Jacob, A.R.I.B.A., F.S.I., Lewisham High-road, S.E., on deposit of 31. ss.

September 2. — **Margate.** — **PAINTING.** — Painting the exterior of the buildings at the Corporation's pumping-station at Uffington. Specification seen, and all particulars from Borough Engineer, 13, Grosvenor-place, M. Deposit of 21. 10s.

ROADS, SANITARY AND WATERWORKS.

August 5. — **Skipton.** — **STREET.** — For making of Bona Crag-street. Plan and specification seen, and quantities from Mr. Aldridge, Engineer and Surveyor to the Council, Skipton.

August 6. — **Cardiff.** — **DRAINS, etc.** — Construction of streets, sewers, drains, and construction of the Marquis of Bute Estate, Cardiff, for the Marquis of Bute Estate, Cardiff.

August 6. — **Carlisle.** — **SEWER.** — Construction of a 6-in. sewer at Moorhouse, Carlisle, etc., seen, and particulars from Mr. P. J. Surveyor, Council Offices, 7, Victoria-place, Carlisle.

August 7. — **Barneley.** — **ROAD.** — For dressing, flagging, and completing part of main road. Drawings and specification seen, and form of tender from Mr. J. Henry M.Inst.C.E., Borough Surveyor, Manor Offices, Barneley.

August 8. — **Atcham.** — **SEWERAGE.** — Construction of about 5,400 yds. of sewers at 11. 1s. from Mr. Asher, Surveyor, Council, 24, St. John's-hill, Shrewsbury.

August 8. — **Barking.** — **SITES.** — For survey of sites of Station-road, Barking. Particulars and quantities, and form of tender from Mr. C. P. Dawson, St. 10, to the Council, Public Offices Barking.

August 12. — **Conisbrough.** — **WIDENING.** — Widening of Station-road, Conisbrough. Plans and specifications, and form of tender from Mr. C. P. Dawson, St. 10, to the Council, Public Offices Barking.

August 15. — **Kirkcudbrightshire.** — **DRAINAGE.** — For the whole work of the new drainage scheme of the contract and forms of tender from the Borough Engineer, Mr. Wilfrid P. bis, C.E., 123, Irish-street, Dumfries.

August 19. — **Newcastle-upon-Tyne.** — **DRAINAGE.** — For drainage work at the colliery in Jesmond-road. Mr. A. Stockwell, at 11, Flim-street, Newcastle-upon-Tyne.

August 21. — **Horne Bay.** — **ROAD.** — For making-up, paving, etc., of Fleetwood. Plans and specifications seen, and form of tender from Mr. F. W. J. Palmer, Surveyor, the County Council, Horne Bay.

August 21. — **Newport.** — **GRANITE.** — For the supply of about 2,300 tons of granite basaltic granites, or granites to Newport Central Railway Station, in the Isle of Anglesey. Conditions of contract and forms of tender from Mr. H. Eldridge Stratton, Clerk to the C.R.D.C. Offices, 30, Fife-street, Newport, 11. ss.

* August 22. — **Wandsworth.** — **PLUMBING.** — The Wandsworth Guardians invite tenders for plumbing work, etc., in connection with the fixing of seventeen sinks. See advertisement in this issue for further particulars.

August 24. — **Burnley.** — **PAVING, etc.** — For the laying of kerbing, flagging, and making-up streets in Worsthorne. Form of tender and particulars from Mr. H. Pritchard, M.I.M. and Surveyor.

August 31. — **Loughton.** — **MATERIALS.** — Supply of 1,000 tons of rail-bone granite, 31. ss. of clean gravel. Particulars and form of tender from Mr. H. White, Surveyor, Lough Essex.

September 4. — **Walmer.** — **SEWERAGE.** — Construction of about 3,600 lin. yds. of 6-in. tube and stone, 6-in. pipe sewers and water drains. Plans, specifications, and quantities, and form of tender from Mr. Herbert W. Barker, Council's Engineer, Council Offices, Walmer, Dover, on deposit of 51.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	D of
*DEALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall, Winchester House, E.C.	Churchill & Sim	Aug. 2.
*FREEHOLD BUSINESS PREMISES, LANDS, Etc.—Northampton	Peirce & Thorpe	Aug. 2.

ON COUNCILS—continued from page 156.

Uxbridge.—The Joint Committee of the Councils of Middlesex and Surrey, appointed to consider matters as to the Hampton and Kingston Bridges, reports having received tenders for the widening of Kingston Bridge, which was estimated to cost £1,500. Tenderers were invited to give quotations for foundations to be constructed partly on land and partly by cofferdam, and (b) for the bridge to be constructed wholly by the "a" scheme, whichever might be decided by them on the recommendation of the Engineer, Mr. Basil Mott. The Railways Committee of the County Council has decided, subject to certain conditions, to give intimation that they are prepared to purchase 5,333 super. yds. of land at the corner of Village-road and Rush Hill-road, Green, to enable the Metropolitan Electric Tramways, Ltd., the lessees of the site, to carry out an undertaking, to provide a car shed accommodation. Subject to assent of the Board of Education, additional land is to be carried out at the Ashford School at a cost not to exceed £1,500. **Worthing.**—The Master of the Workhouse was instructed by the Guardians to prepare a plan of a building for isolation and to report further as to the modification required and the site proposed within the town. **Worthing.**—Application is to be made to local Government Board for sanction to borrowing of £5,000, the estimated cost of paving with grey Royal sets the margins of the tramway track in Hoe-street. **Worthing.**—The footway on the south side of portion of Eton-road is to be relaid with Portland slabs paving at an estimated cost of £1,000. Electricity mains are to be extended to the estimated cost of 1900. The London County Council are to be urged to take immediate steps to complete the widening of High-Eltham, in order that the Borough Council may proceed with the wood paving throughout. In the event of the Council refusing to take such action, the Corporation is to be proceeded with immediately. The tender of Mr. J. W. Elling-Broadway, Bexley Heath, has been accepted at 357l. for the erection of a canopy and tramway shelter at Abbey Wood. have been passed for Mr. J. J. Bassett, Marlborough-road, Eltham, on behalf of Lord Ellen, for the erection of four houses in Eton-road, Eltham.

PATENTS.

APPLICATIONS PUBLISHED.*

11 of 1911.—Harry Clifford Lassam and as Mathieson Thom: Glazing bars and ke.
78 of 1911.—William Taylor: Hinged and doors.
56 of 1911.—Edith Edlin and Frederick Edlin: Moulds for use in the manufacture of paving slabs and the like.
64 of 1911.—Otto Mengers, Karl Lange, Georg Lentsch: Gas heating and light-paratus.
15 of 1911.—Thos. C. Fawcett, Ltd., and Dawson Fawcett: Brick-making machine having rotary feeders.
45 of 1911.—John William Phillips: Case-windows, doors, and the like.
57 of 1911.—Sven Johan Larsson: Stone
53 of 1911.—August Buttner: Joints of radiators and the like.
2 of 1912.—William John Swain: Conjunction of reinforced floors and beams of steel, or any other fireproof or fire-resisting material.
3 of 1912.—Albert Lochert and Florozon: Door and like springs.
4 of 1912.—The Firm Kaliwerke Aachens: Flooring.
1 of 1912.—William Bell: Hinges and for retaining them in more than one position.
3 of 1912.—William Smith: Dies for forming panelled bricks.
02 of 1912.—Gebr. Friesacke (Firm of): Machine for use in the manufacture of concrete or artificial stone.

* These applications are in the stage in opposition to the grant of Patents upon can be made.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

July 6.—By H. W. & C. SPELMAN.
Waxham, Norfolk.—Waxham Hall Estate, 458 acres, f. 49,405
July 13.—By BEVELLY, HORNE, & MITCHELL.
Worcester.—Timbering Estate, 231 acres, f. 11,925
By HAMPTON & SONS.
Brooke, Norfolk.—Part of Brooke Hall Estate, 1,586 acres, f. 37,892
July 15.—By Wm. HOGUEY.
Chingford.—62, Station-rd., f. p. 850
By ROBINS & HINE.
Highgate.—2, Harborton-rd., n.t. 75 yrs., g.r. 7l. 7s., y.r. 42l. 850
Twickenham.—Richmond-rd., etc., f.g. rents 130l. 10s., reversions in 53 to 62 yrs. 2,818
By SURABIDGE & SON.
Earls Colne, Essex.—3, Kiln and Pear Tree Hall Farms, 277 a. 2 r. 3 p., f. 5,000
By BUCKLAND & SONS.
Sydenham.—60 and 62, Kent House-rd., f., y. and e.r. 62l. 400
By DRYER, JONES, & CO.
Miltonthorpe.—Westmorland.—Crug Yent Farm, 48 a. 3 r. 3 p., f. 2,800
Stanton, Westmorland.—Greenhead Farm, 222 a. 3 r. 17 p., f. 7,920
By T. E. AYRE & CO.
Hatherleigh, Devon.—Langabear Barton Farm, 459 acres, f. 3,225
London North Farm, f.g. rents 21l. 10s., n.t. 114 yrs., g.r. 134 8s. 850
By HURRY & SON.
Hemyock, Devon.—Millhays Farm, etc., 99 acres, f. 6,115
Culm Valley, Devon.—10 a. 1 r. 14 p., f. 1,025
By ECHT & BARNELL.
North Kyme, Lincs.—Farn, etc., 107 acres, f. 3,670
By BALLS & BALLS.
Hendon, Suffolk.—Bears Farm, 138 a. 0 r. 27 p., f. 1,675
July 16.—By A. LUMLEY & DOWELL.
Merton, Berwick.—Estate of Merton, 6,550 acres, f. 258,000
By CHANCELORE.
Hampton Wick, Middlesex.—Broom-rd., Longfield, f. 2,300
By DENHAM, TOWSON, RICHARDSON, & CO.
Puddington.—Westbourne-ter., f.g. rents 156l. 1 s. 28 yrs., g.r. 30l. 1,800
Chilworth, Devon.—121 a. 2 r. 10s., n.t. 26 yrs., g.r. 4l. 10s. 195
Greenwich.—Clarence-st., f.g. rents 85l. 8s., n.t. 114 yrs., g.r. 134 8s. 100
Peckham.—Hanover-st., f.g. rents 53l. 4s., reversion in 11 yrs. 1,580
Fulham.—North End-rd., f.g. 50l., reversion in 63 yrs. 1,205
Sidcup.—Chislehurst-rd., f.g. rents 133l., reversion in 67 yrs. 3,450
Fulham.—1 to 4, Carpenter's-rd., f., y.r. 30l. 250
By H. HOOKEY & CO.
Rotherhithe.—518, 520, and 522, Southwark Park-rd.; 10, 11, and 12, Arica-pl., n.t. 30 yrs., g.r. 7l. 12s. w.r. 124l. 19s. 830
By S. WALKER & SON.
Wingmore Hill.—Church Hill, Laurel Cottage, and 74 acres, f. 4,550
Church Hill, Hill House, and 1 a. 1 r. 22 p., f., y.r. 82l. 10s. 1,310
Everleigh Park-rd., piece of land, 2 a. 2 r. 27 p., f., y.r. 20l. 545
By FREDK. WARMAN.
Highbury.—58, Highbury-hill, f., y.r. 90l. 1,200
By ALFRED J. BRADGOW.
Midley, Kent.—Marsh land, 99 acres, f. 2,250
By H. & R. L. CORN.
Lympne, Kent.—Nowingreen Farm, etc., 420 acres, f. 4,825
Cliffe, Kent.—Quickells Farm, 30 acres, f. 1,440
Albhallows, Kent.—Shakespeare Farm, 48 a. 2 r. 38 p., f. 1,800
Strood, Kent.—Accommodation land, 4 a. 0 r. 9 p., f. 560
By KNIGHT, FRANK, & RUTLEY.
Birmingham, Worcs.—Birmingham Estate, 478 a. 3 r. 27 p., f. 23,070
By SEDGEWICK, SON, & WEALE.
Watford.—51, High-st. (a), f. 1,800
8, Judge-st., f., w.r. 18l. 4s. 153
Stanley-rd., The Burs, f., y.r. 80l. 415
By MOORE, GARRARD, & SON.
Clifton, Suffolk.—Hall Farm, 510 a. 1 r. 20 p., f. and c. 3,500
Frankingham, Suffolk.—Castle Farm, 48 a. 1 r. 4 p., f. and c. 720
By FRANKLIN & SON.
Thaxted, Essex.—Clay Pits Farm, 116 a. 2 r. 29 p., f. 2,380
Lowestoft, Suffolk.—Harbour Hotel, f., y.r. 790
By A. G. & A. NOTLEY.
Lowestoft, Suffolk.—Harbour Hotel, f., y.r. 423l. 8,000
Kessingland, Suffolk.—Grove Estate, 287 acres, f. 10,400
Pakefield, Suffolk.—Farm and three cottages, 17 a. 1 r. 18 p., f. 1,080
July 17.—By BISLEY & SONS.
Deptford.—149, 153 (even), Creek-rd., f., w.r. 123l. 13s. 900
By DENHAM & LAMBRECHT.
Lee.—Glendon-rd., f.g. rents 85l. 6s., reversion in 45 yrs. 1,985
Edmonton.—Leo-rd., f.g. rents 53l. 10s., reversion in 33 yrs. 1,050
Croydon.—18, Edridge-rd., f., y.r. 32l. 10s. 400
By EDWIN FOX, ROSEFIELD, BURNETTS, & BARNELL.
Sydenham.—Crescent Wood-rd., f.g. rents 80l. 14s. 7d., reversion in 26 yrs. 2,695

By HUNTER & HUNTER.
South Kensington.—79, Oslow-gdns., n.t. 39 yrs., g.r. 56l. p. 21,050
34 and 35, Cranley-mews, n.t. 39 yrs., g.r. 24l. p. 290
Brixton.—4, 9, and 11, Mostyn-ter., n.t. 34 yrs., g.r. 18l. y. and e.r. 90l. 515
By HUNTER & FLINT (with GREEN & SON).
Orsett, Essex.—Seaborough Hall Farm, 145 a. 3 r. 17 p., f. 2,700
By RIDDELL & BLENCOWE.
Lydgate, Suffolk.—Pippin Park Farm, seven cottages, and two residences, 316 acres, f. 6,505
By KNIGHT, FRANK, & RUTLEY.
Horsted Keynes, Sussex.—Highbrook and 19 a. 2 r. 3 p., f. 2,400
By WARD, PRICE, & CO.
Brompton, Yorks.—East Moor Farm, Dale Cottage, etc., 108 acres, f. 2,640
July 18.—By BREKEN & STOKES.
Leyton.—Lee Bridge-rd., White Cottage, f., w.r. 38l. 16s. 450
By C. C. & T. MOORE.
Aldgate.—67, Mansell-st., f., y. and e.r. 70l. 19s. 800
Kenilish Town.—35, Fortess-rd., f.g. 8l., reversion in 40 yrs. 220
By HARRIS STACEY & SON.
Reigate, Surrey.—West-rd., enclosure, 8 a. 3 r. 5 p., f. 1,730
By STILES & SONS.
Lambeth.—22 to 35 (odd), Grindal-st.; 4, 6, and 8, Johnson-st., f. 550
Brixton.—2 and 2a, Myatt-rd. (a), f., w.r. 62l. 38s. 420
Peckham.—41, Meeting House-lane, n.t. 24 yrs., g.r. 5l. 5s., w.r. 33l. 16s. 100
Camberwell.—54 and 58, Acorn-st., n.t. 21 yrs., g.r. 2l. 12s., w.r. 46l. 16s. 150
42 and 44, Kimpton-rd., n.t. 53 yrs., g.r. 10l., w.r. 76l. 14s. 350
By LINSLEY, LANE, & BUTTERFIELD.
Harrowden.—154 and 156, High-rd., n.t. 63 yrs., g.r. 12l., y.r. 91l. 810
By FARMER, ELLIS, & CO.
Hyde Park.—Chavon Hill-gdns., f.g. 123l., n.t. 214 yrs., g.r. 35l. 1,000
Bookham, Surrey.—Inglewood and 24 acres, f. p. 3,000
Maddox-le, three building sites, f. 375
By BALLS & BALLS.
Halestead, Essex.—Bricklayer's Arms b.h. and White Horse b.h., f. 2,100
Belchamp Otten, Essex.—Green Man Inn and house adjoining, f. 1,290
Sible Hedingham, Essex.—Half Moon b.h., f. 1,025
July 19.—By GILBERT & HOW.
Finbury Park, 16, Everholt-rd., n.t. 53 yrs., g.r. 6l. 10s., e.r. 36l. 205
By GODDARD & SMITH (with ALFRED W. TRELL).
Basingstoke, Hants.—Foyle Lodge and 6 acres, f., y.r. 135l. 2,450
By SKELDING & HOLLAND.
Camberwell.—35, 95, 97, 99, 115, 117, and 117, Crofton-rd., n.t. 54 yrs., g.r. 44l. 8s., y. 229l. 3s. 1,560
Muswell Hill.—10, Coldfall-av., n.t. 87 yrs., g.r. 7l. 42l. 295
By WHITCOMB, DIXON, & WINDR.
Walthamstow.—Chingford-rd., six cottages, n.t. 94l. 18s. 300
Catford, f.g. 74l. 12s., f., w.r. 41l. 12s. 670
By BRADY & SON.
Chesham, Cheshire.—Crookhead Farm, 93 acres, f. 8,000
By C. M. STANFORD.
West Hanningfield, Essex.—Hicks Farm, 33 a. 2 r. 39 p., f. 770
30 Hanningfield, Essex.—Three enclosures, 35 a. 2 r. 33 p., f. 760
By DRYER, JONES, & CO.
Lyonsall, Hereford.—Parkgate Farm, 372 a. 0 r. 31 p., f. 4,600
Four grassfields, 22 a. 2 r. 0 p., f. 475
Wignore, Hereford.—Bury House and Bury hope Farms, 423 a. 2 r. 1 p., f. 11,350
Kington, Hereford.—Grass and arable, 84 a. 3 r. 38 p., f. 690
Aymestry, Hereford.—Cottage and 1 a. 3 r. 12 p., f. 110
By HENRY MANLEY & SONS.
Middlewich, Cheshire.—Farm Farm, 209 a. 1 r. 13 p., f. 7,000
July 20.—By DANIEL WATNEY & SONS.
Toppesfield, Essex.—Green Man Inn, 21 cottages, and 10 a. 3 r. 19 p., f. 2,815
By SEWELL & BREKTON.
Brooke, Norfolk.—Brooke Lodge and 113 a. 1 r. 18 p., f. and c. 3,550
By SEXTON & ORMEWADE.
Dedham, Essex.—Birchwood House and 3 a. 3 r. 28 p., f. 1,425
Arable and pasture, 46 acres, f. 700
Kiddles and Rookery Farms, 59 a. 3 r. 31 p., f. 1,850
Ardleigh, Essex.—Arable, 4 a. 2 r. 29 p., f. 100
By STEPHENSON & ALEXANDER.
Coychurch, Glam.—Topped Farms, etc., 151 acres, f. 8,664
By H. W. & C. SPELMAN.
Bungay, Suffolk.—Grove Farm and 108 a. 3 r. 4 p., f. 1,085
Southminster, Suffolk.—White House and three farms, 218 a. 3 r. 36 p., f. 5,220
Starston, Norfolk.—Gillows and Thurlings Farms, 176 a. 1 r. 3 p., f. 2,650
Conventions used in these lists.—F.g. for freehold ground-rent; l.g. for leasehold ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; g. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; a. for shops; ct. for court.

PRICES CURRENT OF MATERIALS.

* Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 14 0	
Picked Stocks for Footings	2 10 0	

Per 1000, Delivered at Railway Depot.

	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed	3 15 0
Best Fareham	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed	5 0 0	Best Stourbridge	4 0 0
Ruabon Facing	5 0 0	Fire Bricks	4 0 0

GLAZED BRICKS—

	£ s. d.		£ s. d.
Best White	1 13 0	Double Headers 14	17 6
Ivory and Salt	12 7 6	One Side and two	18 17 6
Glazed Headers	11 17 6	Two Sides and	19 17 6
Quoins, Bullnose,	15 17 6	one End	17 7 6
and 4 in. Flats	17 7 6	Spays & Squills	17 7 6
D'ble Stretchers	17 7 6		

Second Quality 4½ 10s. per 1000 less than best.

Thames and Pit Sand	8 9	per yard, delivered.
Thames Ballast	34 0	per ton, "
Best Portland Cement	34 0	per ton, "
Best Ground Blue Lias Lime	19 0	per ton, "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.
Grey Stone Lime

13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at dry dpt.

STONE.

Per Ft. Cube.

BATH STONE—delivered on road waggons, s. d.	
Paddington Depot	1 7 1
Do. do. delivered on road waggons, Nine Elms Depot	1 9 1

PORTLAND STONE (30 ft. average)—

Brown Whittled, delivered on road waggons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf	2 3
White Banded, delivered on road waggons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf	2 4 4

Per Ft. Cube, delivered at Railway Depot.

Ancoaster in blocks	1 6	Closeburn Bed	2 0
Beer in blocks	1 10	Freestons	2 4
Greenhill in blocks	1 10	Red Mansfield	2 4
Durley Dale in blocks	2 4	Talacre & Gwespyr	2 4
Red Corseshill in blocks	2 3	Stone	2 4

YORK STONE—Robin Hood Quality.

Scrapped random blocks	2 10
Per Ft. Super., Delivered at Railway Depot. 10 ft. super.	2 3
6 in. sawn two sides landings to sizes (under 2 1/2 ft. super.)	0 11 6
6 in. rubbed two sides ditto, ditto	0 2 6
3 in. sawn two sides slabs (random sizes)	0 7
2 in. to 2 1/2 in. sawn one side slabs (random sizes)	0 6
1 1/2 in. to 2 in. ditto, ditto	0 5

HARD YORK—

Scrapped random blocks	8 0
Per Ft. Super., Delivered at Railway Depot. 10 ft. super.	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random dge	0 5

SLATES.

Per 1000 of 1200 at Railway Depot.

In. In.	£ s. d.	In. In.	£ s. d.
20x10 best blue	13 2 6	20x10 best Eur'ka	15 17 6
20x12 ditto	13 17 6	20x12 ditto	18 7 6
20x10 1st quality	13 0 0	18x10 ditto	13 5 0
ditto	13 0 0	18x8 ditto	10 5 0
20x12 ditto	13 15 0	20x10 permanent	11 12 6
18x8 ditto	7 5 0	18x10 ditto	9 12 6
22x10 best blue	12 12 6	18x8 ditto	6 12 6
Portsmouth	6 13 6		

TILES.

At Railway Depot.

	£ s. d.		£ s. d.
Best plain red roof	42 0	Best "Hartshill"	45 0
ing (per 1000)	3 7 0	Do. pressed (per 1000)	42 6
Hip and Valley	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley	4 0	Staircase (Hanley)	42 6
Best Knabon red	57 6	Reds or Brindled	42 6
brown, or brindled	57 6	Hand-made sand	45 0
Do. Ornamental (per 1000)	60 0	Hip (per doz.)	4 0
Hip (per doz.)	4 0	Valley (per doz.)	3 6
Valley (per doz.)	3 0		

WOOD.

At p.r. standard.

Deals: best 3 in. by 11 in. and 4 in.	£ s. d.	£ s. d.
by 9 in. and 11 in.	14 0	15 10 0
Doals: best 3 by 9	13 10 0	14 10 0

WOOD (Continued).

BUILDING WOOD (Continued)—At p.r. standard.

Battens: best 2 1/2 in. by 7 in. and 3 in.	£ s. d.	£ s. d.
Battens: best 2 1/2 in. by 7 in. and 3 in.	10 0	12 10 0
Doals: seconds	1 0	7 10 0
Battens: seconds	1 0	7 10 0
2 in. by 11 in. and 2 in. by 6 in.	9 10 0	10 10 0
3 in. by 4 in. and 2 in. by 5 in.	9 0 0	10 0 0
Foreign Saw Boards	1 0	0 0 0
1 in. and 1 1/2 in. by 7 in.	10 0 0	more than battens.
4 in.	1 0 0	
Fire timber: best mid-ask Dunsie or Memel (average specification)	5 0 0	per load of 50 ft.
Seconds	4 10 0	5 0 0
Small timber (6 in. to 10 in.)	3 17 6	4 0 0
Small timber (6 in. to 8 in.)	3 5 0	3 10 0
Swedish balks	2 12 6	3 0 0
Pitch-pine timber (30 ft. average)	5 5 0	6 0 0

JOINTS' WOOD.

At p.r. standard.

White Sea: first yellow deals, 3 in. by 11 in.	£ s. d.	£ s. d.
3 in. by 9 in.	23 10 0	23 10 0
Battens, 2 1/2 in. and 3 in. by 7 in.	17 0 0	18 0 0
Second yellow deals, 3 in. by 11 in.	19 0 0	20 0 0
3 in. by 9 in.	18 0 0	19 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	14 0 0	15 0 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	22 10 0
Do. 3 in. by 9 in.	19 10 0	20 10 0
Battens	14 0 0	15 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0	17 10 0
Do. 3 in. by 9 in.	15 0 0	16 0 0
Third yellow deals, 3 in. by 11 in.	11 10 0	12 10 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	10 10 0	11 0 0
White Sea and Petersburg	15 0 0	16 0 0
First white deals, 3 in. by 11 in.	15 0 0	16 0 0
Battens	14 0 0	15 0 0
Second white deals, 3 in. by 11 in.	11 10 0	12 10 0
3 in. by 9 in.	13 0 0	14 0 0
Battens	10 10 0	11 0 0
Pitch-pine: deals	10 0 0	1 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	48 0 0	upwards.
Second, regular sizes	38 0 0	
Odiments	28 0 0	
Kauri Pine—Planks per ft. cube. 0 4 6	0 4 6	0 6 0
Darning and Matting Logs	0 3 0	0 3 9
Large, per ft. cube.	0 2 6	0 2 6
Waincoat Oak Logs, per ft. cube.	0 6 6	0 8 0
Dry Waincoat Oak, per ft. sup. as inch	0 10 0	0 1 0
4 in. do. do.	0 8 1/2	
Dry Mahogany—Honduras, per ft. super. as inch.	0 0 10	0 1 1
Selected, Figury, per ft. super.	0 1 6	0 2 6
Dry Walnut, American, per ft. super. as inch	0 10 0	0 1 0
Taka, per load	18 0 0	22 0 0
American Whitewood planks, per ft. cube.	0 5 0	0 6 0

Prepared Flooring, etc.—

1 in. by 7 in. yellow, planed and shot	£ s. d.	£ s. d.
1 in. by 7 in. yellow, planed and matched	0 14 0	0 17 0
1 1/2 in. by 7 in. yellow, planed and matched	0 16 0	0 18 0
1 in. by 7 in. white, planed and shot	0 12 0	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	0 15 0
1 1/2 in. by 7 in. white, planed and matched	0 15 0	0 16 6
2 in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	0 13 6
1 in. by 7 in. "	0 14 0	0 15 6
3 in. by 7 in. "	0 10 0	0 11 0
1 in. by 7 in. "	0 12 9	0 13 6
6 in. at 6d. to 8d. per square less than 7 in.		

JOISTS, GIRDES, &c.

In London, or delivered

Rolled Steel Joists, ordinary	£ s. d.	£ s. d.
sections	7 10 0	8 0 0
Compound Girders, ordinary sections	9 10 0	10 0 0
Steel Compound Stanchions	11 0 0	12 0 0
Angles, Tees, and Channels, ordinary sections	9 10 0	10 0 0
Fitch Plates	9 10 0	9 10 0
Cast Iron Columns & Stanchions, including ordinary patterns	7 10 0	8 10 0

METALS.

Per ton, in London.

IRON—	£ s. d.	£ s. d.
Common Bars	9 0 0	10 0 0
Staffordshire Crown Bars, good merchant quality	9 5 0	9 15 0
Staffordshire "Marked" Steel	9 0 0	9 15 0
Mild Steel Bars	9 5 0	9 15 0
Hoop Iron, basis price	10 0 0	—
Galvanised	17 10 0	—
Sheet Iron Black—		
Ordinary sizes to 20 g.	10 5 0	—
" " 24 g.	11 5 0	—
" " 28 g.	12 15 0	—
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes, 5 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	—
Ordinary sizes to 22 g. and 24 g.	16 0 0	—
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 22 g. and 24 g.	17 0 0	—
" " 28 g.	18 10 0	—
" " 22 g. and 24 g.	19 0 0	—
" " 28 g.	20 10 0	—

METALS (Continued).

Per ton, in

Galvanised Corrugated Sheets—	£ s. d.
Ordinary sizes, 5 ft. to 8 ft. 20 g.	15 0 0
" " 22 g. and 24 g.	15 0 0
Best Soft Steel Sheets, 5 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 10 0
Best Soft Steel Sheets, 2 g. and 24 g.	13 10 0
" " 26 g.	15 0 0
Cut Nails, 3 in. to 6 in.	11 0 0
(Under 3 in., usual trade extra.)	

LEAD, &c.

£ s. d.

Lead—Sheet, English, 4 lb. and up	22 10 0
Pipe in coils	23 0 0
Soil pipe	26 0 0
Compo pipe	26 0 0
Zinc—Sheet	33 15 0
Ville Montagne	33 10 0
Silesian	33 10 0
Zinc, in bundles, 1s. per cwt. extra.	
COPPER—	
Strong Sheet	0 1 11
Thin	0 1 1
Copper nails	0 0 10
Copper wire	0 0 10
BRASS—	
Strong Sheet	0 0 11
Thin	0 0 1
Tin—English Ingot	0 2 0
Solder—Plumbers'	0 0 9 1/2
Blowpipe	0 1 0 1/2
Blowpipe	0 1 2 1/2

ENGLISH SHEET GLASS IN CRATES

STOCK SIZES.*

15 oz. thirds	£ s. d.	£ s. d.
21 oz. thirds	34 0	34 0
26 oz. thirds	41 0	41 0

ENGLISH ROLLED PLATE IN CRATES

STOCK SIZES.*

15 oz. thirds	£ s. d.	£ s. d.
21 oz. thirds	34 0	34 0
26 oz. thirds	41 0	41 0

* Not less than two crates.

OILS, &c.

Raw Linseed Oil in pipes	per gallon
" " in barrels	"
" " in drums	"
" " in barrels	"
" " in drums	"
Turpentine in barrels	"
" " in drums	"
Genuine Ground English White Lead, per ton	per ton
Best Linseed Oil Fat	per cwt.
Stockholm Tar	per barrel

VARNISHES, &c.

Per

Fine Pale Oak Varnish	per gallon
Pale Copal Oil	"
Superfine Pale Elastic Oak	"
Fine Extra Hard Church Oak	"
Superfine Hard-drying Oak, for seats of	"
Fine Elastic Carriage	"
Superfine Pale Elastic Carriage	"
Fine Pale Maple	"
Finest Pale Copal	"
Extra Pale French Oil	"
Eggshell Flaming Varnish	"
White Pale Enamel	"
Extra Pale Paper	"
Best Japan Gold Size	"
Best Black Japan	"
Oak and Mahogany Stain	"
Brunswick Black	"
Berlin Black	"
Knitting	"
French and Brush Polishes	"

TO CORRESPONDENTS.

NOTE.—All communications with respect to art and artistic matters should be addressed to the EDITOR (and not to any person by name) relating to advertisements and other communications business matters should be addressed to the PUBLISHER, and not to the Editor.

All communications must be authenticated by name and address of the sender, whether for notice or not. No notice can be taken of an anonymous communication.

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Any communication to a contributor to write an article, or for models or samples sent to or left at this office, should be accompanied by the owner's name and on either the face or back of the drawing. Inconvenience may result from inattention to this.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach later than 6 p.m. on Wednesday. [N.B.—We publish Tenders unless authenticated either by architect or the building owner; and we cannot be responsible for omissions of Tenders accepted unless the name of the Tender is stated, nor any list in which the Tender is under 100l. unless in some exceptional case for special reasons.]

Tenders accepted. † Denotes provisionally accepted.

LE-DE-LA-ZOUCH.—For alterations and additions to Ashby-de-la-Zouch Girls' and Infants' of England School, for the Managers. Mr. G. Fowler, Architect, County Education Office, Leicester. Quantities by Architect.

Mr. J. L. & Son, Ashby-de-la-Zouch* £1,371 0 0
Mr. J. L. & Son, Ashby-de-la-Zouch* 1,318 18 4

WOOD.—For erection of ten or more semi-detached houses in Woodbine-road. Messrs. W. Lewis & Walters, architects, Pontypridd.

Mr. J. L. & Son, Ashby-de-la-Zouch* £3,040
Mr. J. L. & Son, Ashby-de-la-Zouch* 2,980
Mr. J. L. & Son, Ashby-de-la-Zouch* 2,950

GORSE.—For erection of additions to New Hotel. Mr. D. Morgan, architect, Brynheulog, Gorse. Quantities by Architect.

Mr. J. L. & Son, Ashby-de-la-Zouch* £1,035
Mr. J. L. & Son, Ashby-de-la-Zouch* 1,020
Mr. J. L. & Son, Ashby-de-la-Zouch* 1,020

FORD.—For Council school offices, for Leicestershire County Council Education Committee. Mr. G. Fowler, Architect and Surveyor, County Education Office, Leicester. Quantities by Architect.

Mr. J. L. & Son, Ashby-de-la-Zouch* £159 17 2
Mr. J. L. & Son, Ashby-de-la-Zouch* 159 10 0
Mr. J. L. & Son, Ashby-de-la-Zouch* 149 0 0

BOURNE.—For erection of a new stone staircase, at the workhouse. Mr. F. G. Cooke, architect, 2, Hyde-gardens, Eastbourne.

Mr. J. L. & Son, Ashby-de-la-Zouch* £195 0 0
Mr. J. L. & Son, Ashby-de-la-Zouch* 191 0 0
Mr. J. L. & Son, Ashby-de-la-Zouch* 171 10 0

[All of Eastbourne.]

LEYTON.—For new school for girls and infants, and alterations to the present school, Church-road, Leyton. Messrs. W. & J. H. Jacques, architects, 2, Fencourt, E.C. Quantities by Messrs. C. Stanger & Son.

Strand Building Co. £16,353 0 0
Braun, Pettit, & Co. 15,710 0 0
Laurance & Son 15,707 0 0
H. F. Webb & Co. 15,372 0 0
Davy & Armitage 15,138 0 0
Manders & Co. 11,863 8 10
F. J. Coxhead 14,448 0 0
A. E. Symes 14,380 0 0
Clark & Son 14,386 12 3
P. Willmott 14,340 0 0
H. C. Horswill 14,230 0 0
W. J. Maddison, Canning Town† 13,629 0 0

LONDON.—For making up and paving roads outside the Royal Albert Hall, for the Westminster City Council.

W. Muirhead & Co., Ltd. £12,046 13 3
H. R. Beyer 11,731 18 4
D. R. Paterson, Ltd. 11,490 8 7
E. Rogers & Co. 11,454 8 0
W. Griffiths & Co., Ltd. 11,124 2 8
J. Mowlem & Co., Ltd. 10,723 10 3
Acme Flooring & Paving Co. (1904), Ltd.* 10,020 4 1

LONDON.—For provision of fire escape at the South-East Bridge-road offices of the Metropolitan Water Board.

Simpson & Son £721
C. Wall, Ltd. 684
Ashley & Homer 679

LONDON.—For painting interior of the Deansfield-road Hostels, Woolwich, for the London County Council.

A. J. Staines & Co. £298 10
B. Lowe & Co. 297 0
L. Kazak 265 0

LONDON.—For painting at the Avery-hill Training College, Woolwich, for the London County Council.

L. Kazak £565
Friday & Ling 555
Thomas & Edge 547

LONDON.—For erecting a handicraft workshop at the Battersea Polytechnic Secondary School, for the London County Council.

Maxwell Bros., Ltd. £395 0 0
J. Marsland & Son 371 0 0
J. Appleby & Sons 322 0 0
J. Ford & Sons 308 0 6

LONDON, E.C.—For painting the interior of the Graystone place Day Training College, for the London County Council.

W. Martin £130
W. F. Hay, Ltd. 280
C. F. Kearley 279
McCormick & Son, Ltd. 233

LONDON.—For painting at Moorfields Day Training College, for the London County Council.

Parrott & Isom £330
W. F. Hay, Ltd. 830
C. F. Kearley 598
McCormick & Son, Ltd. 538

LONDON.—For extending the girls' staircase at the Alderton-road School, Camberwell, for the London County Council.

W. Bailey £781
H. Bragg & Sons, Ltd. 580

LONDON.—For the erection of iron fencing at Kilburn Grange, for the London County Council.

J. Elwell, Ltd. £115 0 0
D. Howell & Co. 93 15 0

LONDON.—For extending the boys' staircase at the Glebe Road School, Bethnal Green, N.E., for the London County Council.

W. Bailey £340
Parrott & Isom 429
G. Munday & Sons 628

LONDON.—For the construction of the Streatham and Balham relief sewer, for the London County Council.

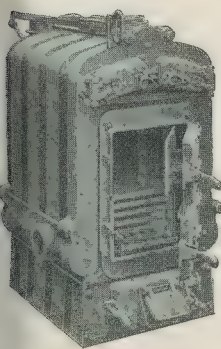
J. Mowlem & Co., Ltd. £25,156 0 0
W. Underwood & Bro. 43,245 5 0
A. R. Coles 41,442 1 0
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H. L. Holloway	31,345 0 0	Kerridge & Shaw	29,405 0 0
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LONDON AUTHORITY: COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.
ERNEST W. WRAT.

AUGUST 9, 1912.

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ONE of the greatest difficulties and discouragements that beset the way of the architect as artist-constructer is the lack of public interest in and appreciation of his work. I do not propose at the moment to discuss at any length the causes of this state. Probably they might be largely traced up in the fact that most people are too busy trying to earn a living, or to make a fortune, to leave much time for the arts, which have come to be regarded as luxuries or hobbies unless used as a means of the former all-important duty. We speak generally, of course, of full knowledge that there are, and there have been, many exceptions, and there is at last some promise on all sides of an awakening from this apathy to the arts for their own sake, and not for but utilitarian purposes. The idea of beauty and amenity in all things, so long being mere useless and expensive luxuries, is but one phase of normal human life, and that it may pay a considerable dividend none the less realisable incoaleable in cash, begins to dawn on itself; so far, indeed, as to have itself recognised even in an important measure by Parliament.

Architects, and all who love their art, may take heart of grace, and may also remember that it is not only architecture that has been treated with public neglect and indifference. The machinery and powers of local government have developed greatly within the last twenty-five years; yet public interest in their exercise by County, District, and Parish Council still lags behind, sometimes exhausting itself at election time, or confining itself to scrutiny of the rates. But even here breath is entering into the dry bones, sporadically as yet, it is true, but with promise of fuller life to be.

The diversion of interest from the æsthetic to the mechanical arts, in the rush for material and commercial development ensuing upon the industrial revolution, affected architecture with the rest. From the XVIIIth century to the present time, though there have never been wanting men capable of distinguished work, it has remained an arrested tradition, expressing little of a momentous epoch beyond something of its spirit of restless individualism and experiment, showing itself, at the best, in short-lived recapitulations of past phases. The greatness of the XIXth century was

In other things, and it is quite conceivable that no more stable or consistent architectural expression was possible of a period so essentially mechanical, so rapidly transitional, preparing the way perhaps for a synthesis of knowledge, a social reconstruction and a Renaissance of art greater than any history can show us. That architecture has its part in the awakening, the enthusiastic and sound work already done for education is alone sufficient to show, apart from other signs.

But, good as that work is, there is one respect, and that a fundamental one, in which, as we ventured to suggest in a former article, we think it is still wanting. As a result largely of its arrested tradition and the growth of the idea of art as of something distinct from the rest of life, the public are still too prone to think of and treat architecture as something added to building, a decoration depending only upon certain abstract principles and the use of certain traditional forms of beauty, rather than a spirit pervading building, expressing truly not only the purpose of the building and its construction, but something also of the life of our time, individual or corporate, with its joys,

needs, problems, aspirations, and ideals. If architecture is to have this quality, for which no academic rules can be laid down, the architect, whatever his archaeological scholarship, his attainment in the schools, his power as artist, must have knowledge of human nature and life in its manifold environment to-day, so different from that of the Athens of Pericles, of Rome, Florence, Medieval or Elizabethan England, or even of the early XVIIIth century. Knowledge of all these is good—probably essential. Or of our Saxon ancestors, rough-hewing town and village, and their institutions; or of primitive man struggling to shape his environment. But all must be studied with a view to the complex facts and conditions of our present civilisation, for it is that only we have to express.

In the article mentioned we spoke of the inadequacy of present general educational methods in the twin aims of bringing out and development of character and of practical efficiency. We alluded to a growing educational movement, which is destined possibly in its extension and completion to re-integrate in itself the divided aims of the traditional culture and the modern commercialism. For "town study," in the widest sense, comprehends practically all life activities and culture in correlation and co-ordination. Through the agency of advanced and thoughtful educationalists and teachers it is entering the schools as a method incidental and illustrative of special studies, or directly as a special subject. The latter is adopted with young pupils, beginning with cardinal facts of immediate environment and extending, with their capacity, to every possible aspect of the town's existence; from geographical beginnings, and consequent occupations and industry, to the present time; its people and great men and women; its legends, traditions, annals, customs, and institutions; its monuments, buildings, art, and art treasures; its literature, its communications—from the track through the waste to electric railway, from coracle to liner, and so on. And all these in complex interaction and relation. The method is by direct observation and interpretation to arouse real interest and care for the facts and things of the town. Teaching is given in such ways as to encourage intelligent self-activity and learning by doing, such as the collection of facts, the making of drawings, models, photographs, etc.; or, while tracing the development and interplay of industrial processes from earliest beginnings, in the actual making of such simple implements or products as may be practicable.

Such objective teaching, it is clear, must increase the interest and understanding with which young architects will take up their more advanced and abstract studies in civics, or the sciences, or arts. In so far, also, as it necessarily involves an elementary knowledge of architecture and its intimate relation with all the other factors of the town it would be a means of selecting those who might with advantage take up special studies therein.

A distinct general interest is evident in the present town-planning movement, and the building up of that interest into

a sound and well-informed public opinion is essential to its ultimate success. This is a matter of vital concern to architects, and none should be so fully qualified as they to inform and lead public opinion. The objects of town planning are the objects of architecture on the widest scale, and though comparatively few architects may be called upon to lay out a town extension, or garden suburb, or village, every architectural work is or should be an integral part of the town plan with its proper relation to the rest. But if architects are to lead it must be by the exposition of a broader view than that shown in the discussion of such academic questions as of formal or informal treatment, or of this, that, or the other style for the buildings. Laymen, as a rule, are little able to appreciate such questions, but are quite capable of forming some opinion upon general matters of health, convenience, or amenity in the town. The architect may show that these objects of town planning also broadly express those of architecture; that as the town is, in the fullest sense, spiritual as well as material, a nodal point of ways to and fro the ends of the earth, a receiving house, workshop, and exchange for all that Nature and man's activities of hand and brain produce and shape for the nourishment of human life that does not depend on bread alone, so every building worthy to be called architecture has its component part to play in the service and interpretation of life.

Thus it has seemed to us that town study—which, by the way, is evidenced in other directions than in the educational movement referred to—is of far-reaching importance and promise, not only in arousing public appreciation of architecture, but also in its suggestiveness in the education of the professional student. Its value is in its correlation and co-ordination of things too much separated hitherto; of the past with the present, the town with the country, of different orders of cities and towns, of the sciences, of science and art, and of the subordinate arts and crafts with the generalised art of architecture. The architecture of the past would no longer be studied in isolation from the other factors of the life of which it was the outcome, nor applied as an abstract art in conditions essentially different and more complex. Studied and applied it must continue to be, as embodying and beautifully illustrating enduring principles common to all true architecture. But while the principles remain the forms must change and pass, and, from whatever style or styles we may start as most fitting, it cannot but happen that in the broader, more living culture that will come of a fuller knowledge and interpretation of our modern life, architecture will again gradually acquire that common character we call style, which will be consistent with that life and culture. Whether or not architects unite themselves in some great guild, architecture will again become a common cause, not limited to the ranks of the profession or a cultured few outside, but finding inspiration and appreciation alike in the awakening of a wider, social, and æsthetic interest.

THE CELLULOID FIRE MOOR-LANE, E.C.

AS we stated in our last issue appeared advisable to any detailed comments on this disaster until the conclusion of the Coroner's inquest. Verdict being now given, we propose to consider those features of the case which seem of chief importance, especially those having a bearing upon dealing with factories in which celluloid is handled.

It will be useful at the outset to refer to the general arrangement of the building in which the fire occurred. It occupied one floor only, the fifth and topmost of No. 21, Moor-lane, E.C., a building similar in nearly every respect to hundreds of others in its immediate neighbourhood. There is one staircase only, leading from the street to the fifth floor, and used in common by the tenants of the various floors; this staircase has winding treads at various levels and is enclosed by wooden partitions. It is not an ideal fire-escape stair, but is supplemented by specially constructed means of escape towards the rear premises on each floor. The position of this stair is shown on the sketch of the roof and top floor, reproduced with, upon which is also indicated a stair to the roof and the special landing or balcony at the fifth-floor level. Upon paper these means of escape are ample, and probably would have been had the employees been active men only, or had the material caused the disaster been of a moderately or slowly inflammable nature. But the material was exceptionally dangerous qualities, and gave rise to quite young girls who were the cause of no chance of correcting their first-stricken error.

In looking at the ruins, as in looking to the evidence at the inquest, one is struck with the vital importance of the element of time in connexion with our Fire Brigade well realises how often hangs upon the saving of a few seconds at the commencement of a conflagration, and it is only just now for men to note here that the escape route extended against the Moor-lane fire building within two minutes of the first ignition of the building by the sealing-wax door upon it. That this escape failed to save life was because the flames were so fierce that the upper part of the building was immediately fired, and Mr. Yardley, who went up it as soon as it was placed, was therefore unable to reach the top. Nevertheless, the back of the premises is not very far from the approach, the Brigade confined the fire not only to the building but to one floor upon which it broke out, and it well under control in twenty minutes from its start.

It is evident from the aspect of the ruins, apart from the other proof of the heat of the fire, though of great intensity, was of relatively brief duration for the comparatively flimsy rafters of the roof boarding below the slating by no means destroyed, and support a considerable part of

Especially one noted the con-
le area of slating still remaining
the gable end of the building at
t where thirteen girls out of the
who worked in the back room were
with fatal results to nine and
to three of the others. There
plaster ceiling or soffit to the
nd in view of the fire-resisting
s of plaster it is possible that
ceiling would have checked the
a few minutes, with life-saving
It would be not unreasonable
ire such plastering under wooden
n existing buildings of this kind.
ing this we recognise, of course,
ordinary glass skylights form a
proportion of the roof the flames
quickly find a vent, and then any
on the roof would stand but a
lance, even if the non-glazed parts
"fireproof." This difficulty could
actively met by using properly-
wired glass.

There was one omission in the means
ape actually provided which was
triking to anyone reaching the top
fire-escape staircase and taking
glance around the roof; this was
sence of any handrail to guide and
confidence to the girls in passing
he roof of No. 21 to that of No. 23.
Illustration shows, there is a drop
6 in. across a gap 16 in. wide to
rotiated in the passage to the flat
ne long dormer window at the back
23. This drop, with the sight of
ljoining deep area, or light court,
which a slip in jumping might
itate her, would certainly make
any girl hesitate. In the present
with fierce flames to the right, this
ard and unguarded jump in front,
ed more terrifying by flames from
scape window, and a clear gutter
a solid though low brick parapet
left, it is not to be wondered at
each one rushed in panic along the
—to find it terminating in a dead

end from which return was almost
instantly cut off by the bursting of the
flames through the skylight shown at D
on the plan. Such a handrail as we
suggest would not make a burglar's task
easier than it now is, and it would very
likely have led these poor girls to rush
along a comparatively safe path instead
of the one they actually took.

Yet, while such suggestions as the above
may point to reasonable means of render-
ing some existing buildings safer, it is
clear that they cannot remove the great
risk involved in the use of light wooden
construction for workshops in which cellu-
loid is handled, nor can they make a con-
fined space at the top of an ordinary City
building a safe home for such a business.
The material, while not explosive in the
ordinary sense, is, as might be expected
of a member of the guncotton family,
inflammable to an extreme degree.
Flame will leap along loose pieces of thin
celluloid with a speed approximating
to that which it shows in passing over
loosely scattered gunpowder, and pre-
cautions adequate enough in a carpenter's
shop, with the usual supply of shavings,
are by no means sufficient in the case of
celluloid. The use of sprinklers, which
would probably suffice to keep under a
fire starting among wood shavings,
would be quite ineffectual in the case of
celluloid. Messrs. Angus Thomas's
manager and Mr. Morris, Fire Brigade
Divisional Officer, agreed that when once
a considerable amount of celluloid caught
fire practically nothing would put it out,
and "the lightning-like rapidity with
which flames spread amongst celluloid"
(to quote Major Cooper-Key, the Home
Office Inspector) is such that the presence
of sprinklers would probably lead to an
added danger by giving a suggestion of
protection which the result could not
justify.

The handling of this most dangerous
material should be carried on only in
workshops arranged with a care approxi-

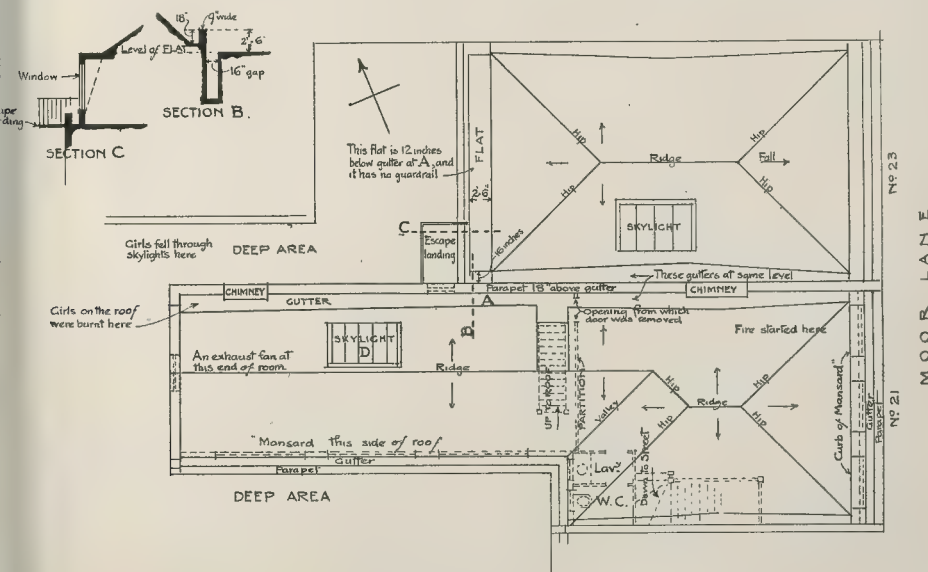
mating to that with which a cinemato-
graph operating chamber is now planned.
In all new buildings in which celluloid
in appreciable quantity is to be dealt
with, fire-resisting construction may
reasonably be asked for, and if long
workshops are needed they may generally
be divided by fire-resisting partitions, so
arranged that one room may be more or
less isolated from the remainder. As
an alternative, if one large room be
necessary, it should be arranged so that
the workers could run away from their
work to the exits without passing through
any narrow passages between the in-
flammable material, the general idea
being that when once celluloid is alight
it must simply be left to burn itself out.

Another point to which attention was
drawn during the inquest was the question
of storing as distinct from working the
celluloid. There was a weight of about
1,500 lb. of celluloid upon the Moor-lane
premises, of which 1,000 lb., in piles
about 6 ft. or 7 ft. high, was in the room
in which the fire broke out, and this was
ignited so quickly that the twenty-two
people in the front room, with two who
were in the act of passing from the back
to the front when the fire started, had
only just time to escape by the stair to
the street, and the thirteen girls in the
back room were at once cut off from
every exit but that to the roof.

Colonel Fox expressed the view that
a manufactory and a store should be
quite distinct, and we most strongly
agree with him. Even should it be im-
practicable to remove all such factories
to appropriately constructed buildings,
it must surely be possible to make this
separation.

As a result of the whole inquiry it may
be said:—

(1.) That celluloid should be dealt with
as an exceptionally dangerous substance,
ranking in that respect second only
to absolutely explosive materials and
petrol.



Scene of the Fire at 21, Moor Lane, E.C., July 23, 1912. The Means of Escape.

(2.) That the storage of the material in bulk should not be permitted in workrooms.

(3.) That all new buildings for use as celluloid stores or workshops should have their walls, floors, ceilings, partitions and roof glazing of fire-resisting materials.

(4.) That where old buildings are permitted to be used all soffits and partitions of timber construction should be plastered, no matching or panelling being allowed, and that properly-fixed wired glass should be required to all skylights through which the passage of flame would endanger a means of escape.

(5.) That celluloid is best dealt with in buildings removed from towns and having free means of escape at more points in proportion to the floor area than is usual in other factories.

(6.) That in cases where a town site is unavoidable, and a part only of a high building is used, it is desirable, in view of the large volume of flame given off by burning celluloid, to place the factory at the top of the building, to minimise risk of fire spreading to other buildings. Celluloid does not send out large showers of burning fragments such as would be likely to fire the roofs of other buildings.

(7.) That the store provided for celluloid in bulk be, if in a town, constructed with only small windows of wired glass and a skylight, the latter so arranged as to form the outlet for flame in the event of fire; the object of this being to definitely locate the chief mass of flame. This could have been done without great expense at Moor-lane.

(8.) That any openings between stores and workrooms should be closed by fire-resisting doors, automatically held shut when not in actual use, so as not to be blown open by the expanding air on the occurrence of fire.

(9.) That ample gangways should be arranged in workshops, and that waste and cuttings of celluloid should be frequently cleared away from the floor.

(10.) That means of escape be provided as now, but that regard be had in planning them to (a) reasonable possibilities of outbursts of flame from adjacent windows of the factory; (b) the probable paths to be taken by escaping workers over adjoining roofs and the guarding of critical points by handrails; and further, that employers in this trade especially be required to have their employees definitely and periodically instructed (preferably in presence of the Factory Inspector) as to what is to be done in case of fire and what are the means of escape other than the staircase, etc., in daily use.

(11.) That the practicability of providing simple movable plank bridges of light construction across light courts and areas in the City should be considered. The objection to these as burglar helps could be largely met by a very heavy increase of punishment for any burglar who operated in a building where such a bridge existed. This would add a desirably unpleasant element to burgling enterprise in London, as there would always be the chance of a hidden fire-escape to be reckoned with. We do not think it reasonable to consider the burglar's feelings in such a matter.

Finally, we would deprecate any panic legislation or enactment of hard-and-fast rules, and we would like to see the duty

of examining and pronouncing upon plans of such factories in London placed in the hands of men possessing wide general experience of building and surveying matters as well as having knowledge of fire and its behaviour under varying conditions.

NOTES.

The Summer School of Town Planning.

ON Saturday evening last, the inaugural meeting was held in the Institute of the Hampstead Garden Suburb. In well-chosen words the Earl of Crewe, K.G., spoke of the great national importance to the English people of the town planning movement which for many years has been before the public in all the principal countries of Europe. Approaching the subject from its widest, historical, aesthetic, and practical points of view, he dwelt incidentally upon the success which has crowned the efforts of the founders of the Hampstead Garden Suburb to create and develop in the short space of a few years a beautiful estate on the very fringe of London. England had been years behind continental countries in making a move. He briefly reviewed the re-modelling of Paris by Baron Haussmann, and the developments which have made Vienna one of the most beautiful cities of Europe, while he instanced Germany as having pointed the way towards sensible town planning and construction years before England had wakened up to the possibility and desirability of such organised enterprise. Owing to our climatic conditions and the home life of the people, England is proving her capabilities of surpassing the best achievements of her neighbours, now that the movement is beginning to be understood and fostered by the people. If in Wren's time town planning in practice could not prosper because it was dependent upon the genius of a master mind to conceive a scheme, the people clinging to their vested interests too tightly to allow it to be carried out, change of thought, broadening interests, and wider culture were to-day bringing to the minds of the British public those benefits which were allowing them on all hands to combine with architects of lesser calibre, but equal foresight, to put into execution schemes which sooner or later are bound to bring inestimable benefits to themselves and their descendants. In such a school as this he pointed out that it was possible to study by comparative methods the town-planning projects of the world while they were assembled in the midst of an actual example which had many object lessons to teach.

The London University and Town Planning.

IN explaining how it was that the University of London gave its ægis to such a "Summer School" as this, the Principal, Sir Henry Miers, explained that, as was by no means unusual, the Course had been arranged by the "University of London: Board to Promote the Extension of University Teaching," in this way breaking the ground for a properly-established Chair, to be filled before long by a Professor of Town Planning in the University itself.

We look forward to the founding of a Chair in the new University of London School of Architecture which is building on the grounds of University College. By such a step we hope London will be relieved of the which so often, and in this case flagrantly, attacks her prestige, the only continental cities look to these subjects, but that even our own vinctial Universities establish Chairs in Town Planning, while she stands heedless of opportunity and regrettably of the march of progress. London will afford to be left behind, and the such a subject is recognised and on sound lines day by day, the better England, for her people and her

The Architect's Burden.

THE tale of the architect's necessary and lengthening burden of his responsibilities is heavier. A complex entanglement of rules, regulations, and by-laws of and central authorities harasses movements; legal responsibilities more exacting and threatening; tedious processes multiply; the rush pressure under which commissions once secured—have to be executed daily increases. All this and more one end of the tale. At the other those who, with an enthusiasm far equalling that of the valetudinarian Health, remind him that his business to "make art," that he is not an artist, but something of the schoolmaster as well, with a dash of modern seer prophet. And now comes another without some reference to which form of architectural criticism seem to be complete, and which, by repetition and misuse, bids fair to become the hackneyed way of many another word before it. The architect's must be "scholarly," and himself inference, in addition to all the scholar. We feel it is indeed time for the profession, following, where it should the example of other workers, to organise itself as Guild or Union, and see to somewhat comprehensive demands upon it, of which we here name but at the extremes. Certain other urgent and complementary considerations would also claim their attention, if they do not exhibit the same cumulative tendency. Of these, however, we rather say no more in the presence of such august company.

Scholarly Architecture.

It may be worth to consider for a moment the significance of the word "scholarly" as applied to architecture. If it be meant to express degree and refinement of design, and beauty of conception as well as execution, what need to depart from words more proper to executive art in the ordinary sense it applies to distinguished learning, especially in the kinds, such as literature, history, archaeology. Without doubt the architect's work is the better for a real grasp of the humanities, and the last-named, of course, an essential preparation for the practice of his art, far, the term has a very sound application indeed. But this is not the of architecture; nor is the most scholastic

arily the best architecture, as well-instances attest. It is difficult to, however, what other application it, ve, or to take it otherwise than at value as an academic term savouring the studio or the workshop than of hools, with their tendency to seek inspiration too exclusively in the art st ages. Scholarship is excellent, more than the learning of the s, architecture needs the skill of eative designer and the cunning r, the architectonic powers of sation and arrangement, direction control, and that practical and te knowledge of men and affairs ary to the artist who has to give and beautiful outward shape remembrance to modern needs and ements. However gifted by nature killed by training in these powers, architect cannot ignore the past, but im to bring it into right relation the present. Doing this he will o keep alive and foster that social ite interest and appreciation ut which a true architecture is sible. As artist, taking up the burden of his Art, he is making it truly educational than by attempts, ver "scholarly," to reproduce the y peculiar to past phases.

Cottages Guildford Safe.

THE storm of protest which was raised a few months ago in consequence of the threatened demolition of a group of XVth-century cottages at Guildford, to which issue was made more than once in *Builder*, has had a satisfactory result. The cottages occupy a commanding position on the Farnham-road, were included in a scheme for road-widening, the local authority having asked the Surrey County Council, who are to contribute towards the cost, an undertaking to carry out the work in a number of years. When it became known that the cottages were in imminent peril of being swept away, leading antiquarians and archaeologists familiar with the old-world charm of the buildings expressed their opinion in strongly-worded protest, and appealed to the authorities to adopt an alternative scheme for preserving the "neck of the bottle" at the junction. The immediate upshot of this protest was a conference between the county and local authorities, and in the result the County Council have decided to relieve the council of their obligation to proceed with the scheme, provided they undertake the widening of a dangerous corner leading on to High-street, the need of which has been accentuated by the enormous increase in through traffic. The scheme will involve an expenditure of over 10,000l., towards which the Road Board and County Council have each agreed to contribute 3,000l. The Guildford Town Council the same day accepted the offer, with the result that the cottages destruction scheme has been abandoned. It should, however, be borne in mind that the cottages are private property, and that there is nothing to prevent their owners from doing what they like with them. At the time of the agitation it was suggested that the societies interested should take

steps to secure the permanent preservation of the cottages to the nation—in the event of the scheme being abandoned—and it remains to be seen what their action will be. The Town Council do not intend to purchase the cottages, having already been mulcted in 450l. costs as a result of the preliminary negotiations necessitated by the original scheme.

The New Post Office Buildings and St. Paul's Bridge.

We publish this week a letter from Mr. Arthur Crow on the subject of the new Post Office buildings and St. Paul's Bridge. We feel that the subject is a most important one, affecting as it does the approaches to the new St. Paul's Bridge and the success or failure of a new street from a point of view of town planning. To secure this Mr. Crow contends that it is necessary to remove the whole of the narrow block of buildings between St. Paul's churchyard and Old Change and the small block of shops bounded by Cheap-side, Foster-lane, and the old loading-yard of the General Post Office. With regard to the first of these works, it is not proposed by the authorities to remove the whole of the narrow block of buildings, but to leave a tapering wedge-shaped block facing the bridge. This will carry the eye round to the left of the axial line, and the new road will terminate in a view of the shops at Sweeting's Corner. The Postmaster-General has intimated that he will be prepared to consider any scheme of improvements which the City authorities wish to submit, and Mr. Crow's suggestion is that the authorities should be asked to delay the commencement of the new Post Office for a few weeks so that the subject may be considered. We feel that this contention is reasonable and well justified by the important bearing of this improvement on the architecture of London, but, Mr. Crow's letter having reached us as we are going to press, we have no opportunity of criticising the proposals in detail. Next week, however, we intend to refer to them at length, illustrating the points raised by plans.

THE ROYAL ARCHÆOLOGICAL INSTITUTE AT NORTHAMPTON.

(Continued from page 136.)

The proceedings on Friday, July 26, began with a visit to Canons Ashby, where the charming house of the Drydens was inspected, under the guidance of Mr. Gotch. The various rooms are disposed about a small quadrangular court, with the hall on the north, the kitchen and offices on the east, the brewhouse, etc., on the south, and the dining-room and library, with staircase tower between, on the west. Over the library is the drawing-room with a fine coffered plaster ceiling. The house was begun in the middle of the XVth century and brought to its present form about a century later, but was somewhat modernised by Edward Dryden in 1708-10, when the garden walls, gate-piers, and other features of the delightful lay-out were added.

The church, which was next visited, was described by Mr. Hamilton Thompson as a fragment of a priory church of Austin canons, in which there were parochial rights. When all else was destroyed at the Suppression it thus happened that the three western bays of the nave, with two bays of the north aisle and a tower to the north, were preserved for the

parish. The two remaining arches of the XIIIth-century arcade are of so dignified a character that one regrets the disappearance of the rest, and the west front is enriched with some excellent wall arcading of the same date, which is copied on the base of the XIVth-century tower. The west window dates from about 1470, the east end from about 1540, while the south wall, against which the canons' cloister abutted, was rebuilt on the old lines in 1710.

Byfield Church, which was next visited, is remarkable for the fine and tall two-light, segmental-headed windows of its XIVth-century chancel, and for the pretty arrangement of the west front of the steeple, with its ball-flower enrichment. In the south-west corner of the chancel is a large two-light "low-side" window of late XVth-century date, which seems always to have been glazed.

The afternoon was given up to a visit to Fawsley. The ruined dower-house in the park was first inspected. It consists of a small, oblong, two-storied building, with a large octagonal vice on one side to the upper floor, all of good brickwork, *temp.* Henry VII., with enriched chimney stacks of East Anglian character. To this has been added, not long after its completion, a large T-shaped block, consisting of a second oblong, two-storied building, with a small intermediate hall (?), with chamber above, entered apparently from a porch. This addition is of stone, but owing to the disappearance of its internal divisions, and the rebuilding of several of its walls, its arrangements are somewhat uncertain.

Fawsley Church, which was described by Mr. Thompson, is of little interest architecturally. It contains, however, some good paving, *temp.* Henry VIII., with curiously-carved panels, and a number of fine monuments, including an alabaster tomb with effigies of Richard Knightley in collar of SS. (d. 1533), and his wife Joan, with male and female weepers along the sides, retaining much of the old colouring.

Fawsley House was lucidly described by its present owner, Lady Knightley of Fawsley. It consisted originally of ranges of early XVth-century buildings, disposed about a quadrangular court, of which the hall formed one side, but the former picturesque aspect of the house has been sorely obscured by the addition (by Salvin) of two dull and dreary modern wings one either side of the hall, and the obliteration of many of the internal arrangements. The hall has lost its porch, but retains a beautiful lofty bay window. Some interesting portions of the old buildings form the back of the house.

At the evening meeting Mr. J. A. Gotch read a paper with lantern illustrations on some of the great houses of Northamptonshire, a subject upon which no one has a better claim to speak with authority.

On Saturday, 27th, an excursion was first made to the picturesque church of Stanwick, with its unusual western steeple. This is five-sided at the ground level, but when clear of the roofs is carried up as an octagon, and surmounted by a spire, both being of XIIIth-century date. The chancel contains a richly-moulded recess behind the north jamb of the arch to the nave, and in the south (and only) aisle is a fine lavatory with two drains. The font is a rich one of the XIVth century, but has, unhappily, lost its shaft, and the bowl now rests upon the base.

Raunds Church, the next objective, was described (as was Stanwick Church) by Mr. Thompson. It is a very fine building presenting several curious problems, and seems to have been begun as an aisleless cruciform XIIIth-century structure, with a tower over the crossing. The tower was apparently superseded early in the XIIIth century by the present beautiful western steeple with its spire, and a south aisle added which absorbed the former transept. Late in the same century the chancel was lengthened, with a large south chapel in continuation of the south aisle. In the XIVth century a north aisle was added to the nave, but without reference to the spacing of the south arcade, and a new chancel arch built which abuts on the latter in an awkward fashion. During the XVth century the nave clearstory was built, sundry large windows inserted, and the lower story of the tower vaulted in stone. This last work involved the obscuring of the beautiful inner arch of the west window, which can now be seen only from above the vault. There is a good south porch with chamber over, but the old two-storied vestry north of the presbytery has been destroyed.

The church contains some interesting and well-preserved remains of distemper paintings, especially on the north wall of the nave, where figures of Pride and the Seven Deadly Sins, St. Christopher, and *les trois morts et les trois vifs* can still be made out. In the north aisle is another series of wall paintings of the story of St. Katherine. Within the tower arch is a XVth-century clock dial with paintings of supporting angels, and of the donor and his wife. There is a good screen across the south aisle, and the front, with its projecting ram's head, also deserves notice. Within the tower are preserved two of the old fire-hooks for pulling the thatch off burning buildings.

The journey was next continued to Higham Ferrers, where after luncheon the fine church and its surrounding buildings were inspected, and described by Mr. Thompson.

Higham Ferrers Church is remarkable for its unusual plan, which consists of two parallel chancels and naves separated by arcades, between a north and a south aisle. The latter has a south porch, and at the west end of the southern nave is a lofty tower and spire. This and the nave, with its aisle and chancel to which it is attached, are mainly of the XIIIth century, but the northern half of the building is chiefly of the XIVth century, when the present windows of the south chancel were inserted. The beautiful steeple was taken down and carefully rebuilt with much of the old material in 1631-2, and is remarkable for its rich recessed doorway. This is double, with the Tree of Jesse carved on the jambs and across the segmental heads, and has a pointed tympanum above, filled with sculptured medallions on either side of an ornamental bracket, and housing for a lost image of Our Lady and Child. The sculptures represent, on the north, the Salutation, the Annunciation, the Adoration of the Three Kings, Christ disputing with the Doctors, and His Baptism; and on the south, the Adoration of the Shepherds, the Crucifixion, the Vision of Zacharias, the Three Maries at the Sepulchre, and the harrowing of Hell. The XIVth-century additions to the church were apparently due to an unknown benefactor whose canopied tomb is placed in the wall between the two chancels. It now contains the marble slab and fine brass of Lawrence Seymour, rector, who died in 1337, but the rough edges of the slab show that it has been moved here from its original place in the floor. The south choir has its altar platform paved with old figured tiles, and has also a good rood screen, and a fine series of stalls with carved misericords, inserted when the church was made collegiate by Archbishop Chichele in 1425. Behind the north stalls is an original parclose. The north choir has also a good rood screen, and in the floor a considerable number of monumental brasses, chiefly of the Chichele family. Its east end is cut off by a wall, against which stood the altar, to form a vestry, entered from the south choir. The east ends of the aisles have the altar platforms partitioned off by wooden enterclosets of different dates, that to the south being *temp. Henry VIII.* The various wooden roofs are worthy of note, but the rood beam, which was in place half a century ago, has disappeared. The font is a good plain example of the XIIIth century.

The very interesting bede-house, which stands parallel with the church on the south, consists of a lofty hall with good west window, etc., with a square chapel opening out of it to the east and formerly divided from the hall by a screen. The bede-house dates from 1423, and was formerly the abode of twelve poor men, one of whom acted as Prior, but is now an empty shell with no remains of its ancient arrangements save the large chimney in the south wall. The chapel stands above a sub-vault, which was probably a bone-hole.

Just to the north-west of this church stands another building of Chichele's foundations, the so-called schoolhouse. This is three bays long, and is built as a chapel, with a drain for its altar in the south-east corner and a vice in the south wall to the rood loft, which subdivided the building. The west end seems to have contained a low ante-chapel lighted by a row of four small lights under the large window above. To the south of the school-house are the steps and part of the shaft of a rich XIVth-century cross.

Of the college buildings little remains beyond the front of the gatehouse, in the main street, somewhat north-west of the church.

Rushden Church, which was the last item in the day's programme, was described by Mr.

Thompson as being almost entirely of the XIIIth century. It consists of a chancel and nave, both with aisles, north and south transept chapels and porches, and an exceptionally beautiful western tower with crocketed spire of the XIVth century. The nave clearstory and the curious transverse tracered arch belong to the XVth century, when the chancel aisles were rebuilt. The church contains much excellent old scrollwork and richly carved roofs, as well as a mediæval wooden pulpit and some remains of old glass. The east end of the chancel north aisle is cut off by a wall, like Higham Ferrers, to form a vestry entered from the chancel.

At the evening meeting Sir W. Ryland Adkins, K.C., M.P., read a paper on the "Story of Northamptonshire."

Monday (29th) began with a visit to Lowick Church, with its striking west tower and octagonal lantern. Mr. Thompson showed that with the exception of some earlier work in the chancel the whole church had been rebuilt between 1369 and 1415. The nave and aisles were probably due to Sir Henry Greene (ob. 1399); the north chapel was perhaps completed by Ralph Greene (ob. 1418); and the chancel by Ralph Greene (ob. 1418), rector, 1406-15. The steeple belongs apparently to the earlier rebuilding, but the lantern is later. A south chapel was added, probably, by Henry Greene (ob. 1467-8), and contains his tomb and brass. The chancel and north chapel windows contain a lot of heraldic glass, while the curious transomed windows of the north aisle, infilled as to their upper lights with pieces of a splendid early XIVth-century Jesse Tree, with ruby background, removed hither from some large window of that date, now destroyed—perhaps one formerly in the east front. Mr. Hope pointed out that the figures in the Jesse Tree were the work of three distinct though probably contemporary glaziers, who each used a different class of lettering for his inscriptions—lettering that suggested a date c. 1345. Mr. Hope also spoke about the two fine alabaster tombs in the church. That of Ralph Greene (ob. 1418) and Katherine his wife between the chancel and north chapel was especially noteworthy, because the contract for its making was known. By this, which was dated February 14, 1418-19, Thomas Prentys and Robert Sutton, of Chellaston, in the county of Derby, "kervens," undertook to make a tomb of the stone called alabaster, upon which shall be made two images of alabaster, the one of an esquire armed at all points, with his helm under his head and a bear at his feet; the other of his lady, holding one another by the hand, with two tabernacles, called "gables," at their heads, and on the sides of the tomb angels holding shields. The whole was to be set under and within an arch of alabaster with pendants and knots and an ornamented cresting. Images, tomb, and arch were all to be gilded, painted, and arranged with colours well and sufficiently, and for the whole work the aforesaid "kervens" were to receive 40l. and undertake to finish it within little more than a year. The monument has lost the alabaster arch and almost every trace of its colour and gilding, but is otherwise in beautiful order, and Mr. Hope indicated the special features by which other tombs, of which there are a great many in England that emanated from the Chellaston works, might be recognised. He also claimed a Derbyshire origin for the other monument, that of Henry Stafford, Earl of Wiltshire (ob. 1499), in the south chapel, on account of the little bedesmen crouched under the feet, and pointed out the cordon of Stafford knots and wheel-naves that encircled the shields about the tomb, and the collar of the muzzled bear at the feet of the effigy. He also referred to the delicately wrought collar of linked SS. shown about the Earl's neck, and cited the cumulative evidence that the SS. collar signified the favourite "word," sovereignty, of Henry IV., which he adopted while still only Earl of Derby in 1385, and was painted on the tester of his tomb at Canterbury. From Lowick the journey was continued to Drayton House, when the members of the Institute were hospitably received by the President. of the meeting, Mr. S. G. Stopford Sackville, who himself acted as guide over his beautiful and famous home.

Though outwardly largely a work of the XVth and XVIth centuries, the main block still incorporates the great hall and the fine sub-vault of the great chamber of the manor house of Simon of Drayton, who had licence to crenellate it in 1328; the outer wall of the court

before the hall is also his work. The hall (to the north) was rebuilt in the XVth century, and in 1584 the third Lord Mordaunt added north-east wing, with the long gallery on third floor and a vaulted ceiling in the bay together with the towers flanking the front and the intermediate blocks. In the XVIIth century the second Earl of Mordaunt laid out the gardens, built the bathing-house in the east garden, and moved the main entrance to the south front of the house. After the marriage of the Earl's daughter, the Duchess of Norfolk, to Sir John Gernon, 1701, the stately entrance façade was added, a number of other changes made in the house, including the ample spiral stair to the gallery and the grand staircase behind it. Sir John's second wife, Lady Elizabeth, after her death in 1769, added the chapel and buildings along the south side of the house, and the colonnades at its ends. The ordinarily picturesque appearance of the house, its beautiful surroundings, and its wood furniture, china, pictures, and other objects all tend to make Drayton House one of the monuments of its kind in this country.

After luncheon at Thrapstone a visit was made to the interesting church of Woodliff, which consisted at first of an aisleless chancel and nave with western tower, all of XIIIth century, but towards 1200 a north aisle was added, both nave and chancel. Somewhat later the tower was raised and a spire set upon it, a new chancel of at least equal length, and east of the older one, the north aisle was added, and a south aisle built to correspond. The tower was also added on the south side, having the east of it a vaulted undercroft of three bays for a dwelling-house above, which occupied also over the porch, and was reached by a stair west of it from within the church. In a late XVth century reconstruction the north aisle only the westernmost bay of the middle now remains, as a dark recess opening into the aisle, and all the upper works have been removed. Among other features of interest the wooden effigies of a knight and his lady, and the six-sided font; the XIIIth-century south door is also noteworthy for its excellent beauty.

The Church of St. Peter, at Irthlingborough, which was also visited, resembles Woodliff in the similar unusual provision of a dwelling-house in immediate connexion with it. In this case it was built west of the church, incorporating the tower with its singular octagonal plan, and, as explained by Mr. Thompson, for the accommodation of the members of a priory of priests founded here in 1375 by John de Walsingham, and completed by his widow in 1388. The sub-vaults of the building remain, to the east of the steeple, and owing to a recent rebuilding of the latter other traces have been obliterated. The hall seems to have stood on the south side of the church, but not unlike that of Rushden, and contains several charming windows and other features of interest, including the effigies of a lady and of Master John Pryn, his wife. Under the south transept is a bone-hole.

At the evening meeting a paper was read by Mr. T. J. George on the "Earthwork Northamptonshire."

(Our report will be continued next week.)

GENERAL NEWS.

St. Paul's Cathedral.

Under the directions and superintendence of Mr. Mervyn Macartney, Architect to the Dean and Chapter, a new installation for protecting the fabric from fire is being carried out by Messrs. Merryweather & Sons.

Science Museum.

Captain H. G. Lyons, F.R.S., has been appointed Assistant Director of the Science Museum by the Board of Education.

Sub-Inspectorships of Mines and Quarries.

Appointments of fifteen sub-inspectors of Mines and Quarries are about to be made by the Home Office. They will be awarded after limited competition, and applications for nomination should be made, before August 10, on printed forms supplied by the Secretary, Home Office, London. The salary is 150l., rising by 5l. to 200l. per annum.

Mr. W. K. Shirley and the Earldom of Derby. Consequently upon the death, on July 20, of Sir Sewallis E. Shirley, tenth Earl of Derby, the earldom devolved upon his son, the present Marquis of Salisbury.

(Continued from page 139.)

The improvement of the housing conditions of the working classes, the abolition of slums, and precautionary measures, by means of town-planning schemes, which would preclude the possibility of their recurrence, were objects that might well be common ground for all students of sociology, and for all who had at heart the uplifting of the race. Having touched on the question of labour unrest and the Insurance Act, Mr. Smith said that he did not doubt that the problem of rural housing was becoming particularly acute, and that all unnecessary restrictions must be removed, and all possible facilities rendered to enable efficient and sanitary housing conditions to

At a sitting of the Court on August 1, Sir P. Kempe, D.C.L., the newly-appointed Chancellor of the Diocese of London, agreed to the faculties in respect of two petitions concerning the churches of St. Michael, Cornhill, and St. James's, Ratcliffe. In the former certain alterations will be made in St. Michael's-alley—formerly included in the

be provided in the rural districts. New legislation was also thought to be called for by the importance of housing conditions upon the industrial unrest. It was urged, as he understood it, that by-laws operating in England, framed under sect. 157, Public Health Act, 1875, were too stringent and too rigid. It was quite probable that this might be the case, for, whilst too easy departure from carefully-conceived by-laws was to be deprecated, it was obvious that by-laws which might be quite justifiable and desirable in a manufacturing burgh, where there was a great intensity of building of the tenement type, might be unreasonable and unnecessary in a residential or agricultural village, sparsely populated with cottages detached or arranged in short blocks. There was already power given under sect. 44 of the Housing and Town Planning Act of 1909 to revoke unreasonable by-laws in connexion with the erection of dwellings for the working classes. There was also given to local authorities, under sect. 55 (2) of the same Act, somewhat drastic suspensory powers in connexion with by-laws where the local authority prepared or adopted a town-planning scheme. This power might be of very great use, but, in order that it might be made available, it was necessary that a town-planning scheme be prepared and approved, whereof suspension of by-laws would form part, and would be shown to be in the circumstances, and having regard to the general scheme, reasonable and desirable. In circumstances such as these there is permitted the full consideration of special conditions and local circumstances which would be denied with by-laws of rigid application. Some might think that suspensory powers might be granted without the necessity of preparing a town-planning scheme, whilst others would apprehend thereby confusion and resulting detriment to the public health and safety.

Modification of the Model Building By-laws.

Mr. Halsey Ricardo, F.R.I.B.A., in a paper on the above subject, confined himself generally to rural by-laws. He said that by-laws were not enacted to check building, but to secure good building. It was a matter of common knowledge that they had failed to secure the latter. In the country, except for the matter of sewage disposal and the protection of the water supply, one might argue that no building by-laws were requisite. Each cottage, or group of cottages, should stand on an adequate area of land, and the owner should be responsible for their proper construction, and for any strictures that the Medical Officer of Health might have to pass on them. The danger from fire was not a great one; the precautions under the by-laws were not really adequate, or easy to enforce, for the occupant could, and did, stultify some of them habitually when furnishing his rooms. The Public Health Act was to see that he was neither a danger nor a nuisance to his neighbours, and as long as this could be secured efficiently, the rest might be said to be the owner's business. However, the Local Government Board did not take this view; and had promulgated a series of model by-laws for rural districts, which were in force throughout nearly half the country—laws which, when once adopted, the district councils were powerless to abrogate, and which the Local Government Board declined to modify to suit individual requirements. Moreover, the Board enjoined on such local councils as might be desirous of having building by-laws, a further embroidery of restrictions, specifications, and demands, till the original purpose of the model by-laws was quite overlaid by the numberless provisions and safeguards, appropriate for the most part to urban requirements, or to districts that were in the process of becoming urban. And the local councils were eager to meet this demand from the Local Government Board, on the ground that it relieved them and their district surveyor from a great deal of responsibility; they had the comfort of knowing that these laws were in pretty general use, and that seemed an evidence of their suitability; they adopted a plausible theory that a network of cast-iron regulations protected the individual from many petty injustices, and put the community on an equal plane of health protection. This anodyne to the conscience was illusive; the enforcing of regulations to their logical extremities,

regardless of the local conditions and requirements, resulted in harshness and absurdities. There could never be an equal plane of health protection realised. Human nature was as various as the soil it lived upon; the more precise and detailed they made the restrictions, the more they discovered the essential differences that there were both in persons and in things. Of course, it might be urged, if each case was to be treated upon its merits, under a set of general regulations, it would throw a great deal of responsibility on the district surveyor, and on the council itself, and no one proposing to build would know beforehand exactly where he stood, and what the decision he was awaiting might be. But they could safely assume that common sense would guide these decisions, and that the worst such uncertainty entailed was delay. Meanwhile, under the present arrangement of local by-laws enforced by the county councils, a system had grown up of unnecessarily costly building; this was a vested interest the councils were naturally anxious to preserve. Under their own by-laws they had been penalised in their own efforts; they had been made to conform, regardless of suitability, to their own regulations; they had subscribed painfully to a costly ideal of building, and they did not want the competition of a cheaper form of house. That anybody should be enabled to build, subject to sanitary safeguards, but without restriction as regards construction, would appear to them as an intolerable surrender of the restrictions under which they had worked, and to which they had submitted.

There was practically no appeal from the decisions of the county councils. Literally it might appear to be possible, but no individual, at any rate, would be prepared to devote the time and the money to carry up the appeal to the Local Government Board. Their decisions, then, were virtually final, and confined within the four corners of their by-laws. But these councils were not agreed as to what they considered to be the principles of health and construction. They were required to define, for example, the minimum height of rooms; and for rooms on the ground floor there was a consensus of opinion that they should be at least 8 ft. high. But when they came to rooms in the roof, or partially in the roof, some councils required that the room should nowhere be less than 5 ft. in height, and 8 ft. to the extent of half the superficial area of the floor; whilst others (such as Godalming) were content with 7 ft. in height from floor to ceiling, to the extent of two-thirds the area of the floor, with a minimum of 4 ft. at the sides. On the other hand, Midhurst, for example (in the by-laws dated 1895), required the ground-floor rooms to be 8 ft. 6 in. high, the bedrooms 8 ft. 6 in., and the rooms partially or wholly in the roof to be 9 ft. for two-thirds the superficial area of the floor. Some councils seemed to insist on the ground floors having boarded floors on joists; others permitted what was generally the more satisfactory method of having a concrete floor, to which the boards were nailed direct, although this was not contemplated by the model by-laws. The provision for space around cottages was shockingly inadequate; it was not nearly sufficient for the disposal of the refuse of the house. It was a minimum that possibly had to be accepted in a congested town, but could never be excusable in a rural district. The model by-laws required that "every person who shall erect a new domestic building shall construct in every habitable room" one or more windows, the sum of which should be equal to one-tenth of the floor area, and that one half at least "of such window" made to open. This regulation appeared to be accepted by all the various local councils who had adopted by-laws without question, and also, he thought, was, of course, essential to every habitable room, but regard must be given to the source of light available for such purpose. The quality of light depended on the aspect of the window, its position in the house, and its position in the room. It was obvious that the quantity of light given by an attic window that had an unobstructed view commanding the south differs materially from that given by a window on the ground floor looking into a backyard to the north. Also the position of the window in the room

mattered greatly. A window that opened immediately under the eaves of the roof, low down near the floor could not give room as efficiently its quantum of light window whose head was a few inches from the ceiling. No general statement of position could meet the case, and to fix a minimum of one-tenth the floor area was at most they could only say in general that ground-floor rooms required window area than first-floor rooms, since outlook was generally more obstructed on the ground floor; and that not only the window area should be provided, but the requisite, since windows make the room in summer and cold in winter, any excess which was prejudicial to their effect. The model by-laws declined to differ between an earth-closet and a privy, local councils, as a rule, made the distinction. Some allowed an earth-closet with house; some forbade, and stipulated should be at least 10 ft. away. Now, this might in some cases be a valuable caution to take in poor cottages, but it was an extremely arbitrary interference in the case of superior buildings, for the no question that a properly-managed system was more sanitary than a water-closet. Again, wastes from baths and were far better dealt with above ground being made to travel through pipes, cesspool, which was to be constructed in accordance with the model by-laws to be "impervious to liquid." In other words, they required a costly system of traps, pipes, and recirculation to enable them to keep their sewage in the house, and then in that state to bale it out on the ground; whereas if to go there, it was better to put it before it went bad. About the provision of a pure-water supply the model by-laws were silent, except for ensuring that the water when on the site, shall be guarded against contamination from the house drainage; it ought to be made compulsory that the water supply should be permitted to be without proper provision for this end. The model by-laws were wise in insisting on dry walls, and leaving the builder to provide in respects unfettered as to size, material, strength, etc. But the county councils in their local by-laws, had refined and had gone into great particularity in requirements and specifications on all heads. Their regulations ignored the cottaged local methods and tradition; they refused to permit timber construction, apparently, the erection of mud or brick walls, and they ruled thatch out of doors as a roof covering. Now, timber construction, in some districts, was a very convenient method of building a house; it could be made perfectly snug and airtight; it was sufficiently durable; the danger to life from fire was not a serious one, or really greater than the danger from the erections, permissible under the model by-laws, of so-called "incombustible materials." The same could be said of thatch. As for covering it was far superior to slates in respect of comfort, since it kept the house warm in winter and cool in summer. One's own experience was that it was better for a thatched roof to be set on fire than to suppose it was a vain thing to the county councils to discourage the use of hollow walls above ground. He considered them a faulty construction, leading to all sorts of subsequent disaster. It was better, and not much more expensive, to have the walls solid, and jacket them with a waterproof outer coat of cement, or a rough-cast. If the councils were given the opportunity, they would insist on minute details of construction, and when they specified the scantling of timbers and floor joists, and they took away from smoke flues, they should require their insistence still farther. They required that the walls over the mantelpiece and at the sides of the chimney breasts should be 9 in. thick where the flues occur; that the external faces of the chimney-stacks should emerge from the roof, should be 9 in. thick; that all skirtings should be made of cement, and where the plaster of cost may render this impracticable, plaster must be carried down behind the wooden skirtings flush with their base, in the usual building methods, the specification afforded a run for vermin, and in the fire added materially to its peril.

ing, where plastered wood partitions and the scantlings of the roof rafters and joists, in several cases regardless of the nature of the wood to be used. It would be better, if they must be particular, to content themselves with the sectional area; but why do so at all, it was, by prescribing the minimum, was really too little for inferior materials. The by-laws set a kind of standard, in masonry and carpentry, so that any work which exceeded the minimum was to his client to have committed an offence. On the other hand, by insisting on footings to every wall, where concrete was supplied, they created in cases an expensive obstruction of no sectional value. If the concrete was enough, the walls might just as well be of their natural thickness, and it was cheaper to build the walls in concrete below the ground level than in masonry above. The footings took up a lot of valuable floor space, and were a permanent feature. His conclusion, then, was that, in the model by-laws issued by the Government Board for rural districts, required amending in the article on window area, and bringing up to the matter of its provisions for drainage and sanitation of buildings, were in the main sufficient; and if they were accepted by the county councils, any glossary there would not have its dissatisfaction and outcry. It was to have made the position of the surveyor more responsible, but this from responsibility was not a whole element, and it led in many cases to slip and absurdities. And with all these unfair prescriptions and restrictions, buildings were being erected all over the country, which, he believed, would be impossible if the surveyors had a freer hand in their examination of the plans submitted for proposed buildings. The question of providing housing for transitory labour seems an important one, and the provision of erecting cheap temporary buildings, dry and sanitary, had an especial interest.

H. D. Searles-Wood, F.R.I.B.A., who was unable to remain at the Congress, commended the following notes on the paper: "The model by-laws issued by the Local Government Board for use in rural districts deal with (a) structure of walls and foundations for purposes of health, and not with (b) sanitary matters. Even if surveyors have not secured good building they have checked bad building, and this is their main object. There are no fire clauses in the rural model by-laws. The Public Health Act has a far wider scope than the author indicates. In the matter of houses and buildings the principal object is to protect the public. District councils are powerless to abrogate their by-laws. The Government Board does not decline to issue by-laws to suit individual requirements, as is seen in the circular letter of 18, 1906. The Local Government Board can enforce unnecessary restrictions, specifications, and demands on local authorities. In regard to the statement that 'the councils are eager to meet this demand the Local Government Board,' there is no mandate from the Local Government Board. The councils have no powers to make laws. There are no restrictions as regards construction in rural model by-laws. There is no power of appeal to the Local Government Board, and the Local Government Board has no power to give a decision. A magistrate's decision is final unless carried to a higher court. The Local Government Board has, however, very frequently appealed to, and have secured modification in numerous cases. In consequence, Councils are not required to define minimum height of rooms; purely optional. The clauses relating to the number of rooms in the Midhurst by-laws were introduced in 1902, and another by-law substituted required 8 ft. and 7 ft. of superficial area of floor. Solid floors are provided for model by-laws. It would be inconsistent purposes of health" to require a larger of space round cottages in rural than in other districts. The fault, if any, is in the Act. With regard to the requirement of more windows, the sum of which shall

be equal to one-tenth of the floor area, that is not excessive under any circumstances. Too much is better than too little. The fashion for small windows is largely disappearing. The model by-laws (urban) allow an earth-closet within a building, and differentiate between the earth-closets and privies. There is no power to enforce the use of movable receptacles or of earth. A distance of 10 ft. for privies from a house is not a hardship. It would obviously be undesirable to allow open drains in small backyards or open cesspools. There is now power under the Act to make by-laws as to water supply, and hence their omission. The Public Health Act gives sufficient power to prevent the occupation of houses without a proper water supply. There is nothing in the rural model by-laws to prevent timber buildings being erected, or the use of thatch. It is impossible to prohibit the use of hollow walls. With regard to the suggestion that the councils should require walls where the flues occur, etc., to be 9 in. thick, this would rather add to the cost of cottage building. The by-laws always define the timber for which the scantlings are given. The sectional area is not a sufficient method. The strength varies according to depth and width. There are no clauses as to footings in rural model by-laws. Footings are not prescribed to be of brickwork, and might be of concrete. The by-laws require only 4 in. of concrete under buildings, which is hardly sufficient to carry a heavy wall. There are clauses specially prepared to deal with housing provided for transitory labour, and local authorities have power, under the Public Health Act, 1907, to license temporary buildings for this and other purposes.

Mr. Saxon Snell, F.R.I.B.A., remarked that they all knew the Local Government Board rules were minimum rules, and Mr. Searles-Wood's point was that there was no reason why in country districts there should not be a great deal more land than was laid down in the by-laws to the houses.

Mr. G. W. Lacey (Borough Engineer, Oswestry) said that Mr. Searles-Wood's criticism of the paper had practically cut the ground from the feet of other speakers. He agreed with the author that rural conditions should be taken more into account, and it was within his knowledge that the by-laws in some rural districts were more stringent than those of adjoining urban districts. Still, from an administrative point of view they must have by-laws, and if Mr. Ricardo's suggestion was adopted of leaving a good deal of detail to the architect and builder, he was afraid there would be considerable difficulties in administration. The question of cheaper construction was an important one in view of the enhanced price of materials. It might be advisable, perhaps, to try and cheapen construction in rural districts, but they must remember that cheap building meant heavy maintenance cost, and probably the old adage was true, and the best was the cheapest in the end. There must be a minimum fixed in the by-laws, and the danger was lest it should be fixed too low. He considered that the laws regarding air space about buildings needed to be remodelled. Houses ought not to be allowed to be built in long rows without breaks for the circulation of air.

Mr. W. B. Pindar (Rural District Councils Association) pointed out that the author had an extremely hazy idea of the administration of the building by-laws in rural districts. He understood that Mr. Ricardo did not complain so much about the model by-laws, but to the fact that, as adopted in the various rural districts, they were much more stringent than the model laws. It was a treat for him to attend a meeting where the rural councils were given credit for being somewhat in advance of the absolute statutory requirements, as the general complaint was that they were slack and behind the times. With regard to air space, the land to be attached to a house was not for the disposal of refuse, but to give free circulation of air. The water supply was dealt with in the Public Health Amendment Act of 1878, and it was illegal to occupy a house without a proper water supply. He thought the complaint of the by-laws restricting the building of houses had been grossly exaggerated, for there were at present about 200 rural districts in England and Wales where there were no building by-laws,

and he had heard there was a greater scarcity of houses in those districts than where there were by-laws. In such districts architects had an absolutely free hand, and a wide field for experiment both in design and in the use of material.

Dr. Temple Anderson (York) strongly supported the author's views as to the disposal of the sewage from houses on the land adjoining them in country districts, and held that the great waste of manure was one of the greatest national dangers. He agreed that in big cities the by-laws were necessary.

Mr. Munce (Belfast) asked why the Conference did not agree as to which were good by-laws, and then consider what could be done to amend the others. Some people seemed to think that no one had brains except architects. In Ireland they discussed these things quietly with the officers of the Local Government Board, and always found them most courteous.

Mr. Cresswell (Carshalton) considered there was nothing wrong with the model by-laws, and, as he understood it, Mr. Ricardo himself did not object to them. It was recognised that the by-laws were not suitable to every locality, and hence each authority had the right to make, as it were, its own by-laws, modelled on those issued by the Local Government Board, and approved by the Board. As an architect, he would be sorry to think his brother architects would at any time endeavour to go below the by-laws. If he was worth his salt at all he would endeavour to go above them, and, in fact, he had always found that architects did. He agreed that hollow walls were not nearly so good as solid ones, and he also supported what the author said about cesspools. A case came within his experience of two adjoining districts, in one of which a cesspool with open joints was allowed to be put, whilst in the other the procedure was that referred to by the author.

Mr. Halsey Ricardo, in reply, enlarged upon his contention with regard to the disposal of the drainage of houses in country districts.

South Yorkshire Coalfield and the Housing Problem.

Mr. Arthur Dunne (Medical Officer of Health for the Doncaster Rural and the Bentley Urban Districts) discussed the problem of housing the immigrant population on the South Yorkshire coalfield, which is developing so rapidly that it is estimated in ten years 45,000 additional men and boys will be required in the district. Having touched on the nature of temporary dwellings, he said the housing of the permanent colliery population had of recent years attracted considerable attention owing to the fact that Sir Arthur Markham, Bart., M.P., had built for the employees and their families at the Brodsworth Main Colliery, a model village called Woodlands. Though this model village had largely occupied the attention of those interested, there were several other model villages built or under construction at Edlington, Bentley, Askern, and Owston, which embraced most of the good features of Woodlands, and others which were even better. As, however, Woodlands was a happy example of the way in which the great colliery companies were providing villages for their employees in this area of the South Yorkshire coalfield, a description of it would give the chief points of all of them. The model village lay four miles north-west of Doncaster on the Great North Road; it is situated in the parish of Adwick-le-Street. It was built on a limestone plateau, 140 ft. above sea level. The present village comprised 650 houses, and the number of houses to the acre varied from five to eight in the two portions of the village. The first portion of the village was erected in June, 1907. Here the houses were built round a large village green. The Park, as it was called, with its fine old timber and 12 acres of grass, formed a very pleasing feature of the village. In the extension of the village to the north of the park, the streets were laid out in broad avenues and crescents, along which trees had been planted. Between the adjacent crescents there were large open greens. The only criticism one would offer was that, with so much space, it was a pity that no small garden spaces had been added to these houses at the back. The houses were built in the half-timbered style,

with pebble dash and red tiles to the roof. There were three types of houses with respect to accommodation:—(1) Three bedrooms, large living-room, scullery, and larder; rent 5s. 3d. per week. (2) Three bedrooms, living-room, parlour, larder, scullery, and bath; rent 6s. per week. (3) Three bedrooms, bathroom (with hot and cold water), living-room, parlour, and scullery. Rent 6s. 6d. per week. All the houses had water laid on to them, and were provided with water-closets and sanitary ashbins. The conformation of the site of the colliery village facilitated the disposal of the sewage, which was dealt with at the sewage outfall works at a spot remote from the village. The company undertook the scavenging of the village, and employed men solely for this purpose. At the census of 1911 Woodlands had a population of 3,181, giving a population of 49 per house. It was unfortunate that the deliberation and discussion which were essential before the local authority could obtain sanction for schemes for the purposes of providing sewage disposal works and works of public water supplies were outdistanced by the rapidity with which these large collieries were being developed, and the attendant districts around each of them. These districts presented unusual opportunities for putting into force the town-planning sections of the Housing, Town Planning, etc., Act, 1909. No scheme had, however, been yet submitted to the Local Government Board. The development was taking place at such an extraordinarily rapid rate that it could not be wondered that the administrative machinery, which, under ordinary circumstances, was quite fitted to cope with the demands on a local rural sanitary authority, had been left somewhat behind in the race. Mr. Dunne added that the district afforded a unique opportunity to architects. The Archbishop of York was already on the site, and had got sites for churches.

Mr. Brodie (Blackpool) said he felt rather envious at the splendid problem which had to be solved. They had a condition of things to which the only parallel was in the gold-mining districts in the colonies. It was a unique opportunity for putting into practice the theories of town planning which they had spent so many words upon. They had heard how the Archbishop of York had tackled his part of the problem, and they, as laymen, ought not to be behind the church. He hoped the local authorities would be equal to their responsibilities, and that some future Congress would be held on the site, so that they could see what had been achieved.

Mr. W. P. Costain (Great Crosby), having been over the district, endorsed the views of the author as to the necessity for something being done. In some of the villages they saw the midden privies in all their hideousness, but at the village of Woodlands everything seemed to be of the highest order.

Dr. T. E. Francis (Medical Officer of Health, Llanelly) said in South Wales colliery developments had also been very great. The South Wales coalfield had developed slowly, but they had failed to take full advantage of their opportunities, as was seen in the present condition of the colliery towns and villages. He suggested that progress would be easier in the future if there was a consolidation, with amendments of the Public Health Acts, and it would be helpful if the law was uniform in England, Wales, Scotland, and Ireland. Secondly, there should be a simplification and shortening of the procedure in regard to the Town Planning Act. There was also need of uniformity in the by-laws of the various authorities throughout the kingdom as far as was compatible with the local conditions, and he suggested that it might be possible to take some by-laws upon which there was general agreement,

and insert them in a Consolidated Health Act.

Dr. Dunne, in reply, said that at the meeting it was suggested that the author should draw up a town-planning scheme that was where they stood at the time. He thought that each surveyor, see to town planning in his own area, they tried to drive too many horses team they generally got into the ditch.

(Our Report will be concluded next week.)

PUBLIC LIBRARY, BROMLEY, KENT.

The extensions of this library have been completed and were opened to the public by the Mayor of Bromley on July 26.

The first portion of the present library, opened by Mr. Andrew Carnegie, who gave the funds in 1906, and consisted of the main room and home-reading department, entrance-hall and small lecture-hall or reading-room.

The work just completed consists of a zinc-room adjoining the reading-room, a juvenile library, with librarians' ante-rooms on the south side of the home-reading department, and a large reference library by 35 ft., with a storage basement of the same size below, on the north side of the central hall.

On the first floor a second lecture or reading hall is arranged in conjunction with the main hall, in such a way that they can be either as separate rooms or as a combined hall of nearly 500.

The library is fortunate in its situation, while it is in the centre of the town it has extensive public gardens in the rear, with an opening outlook across the Shortlands Valley.

The windows of the home-reading department and of the reference library are supplied by large lantern lights in the centre, the roofs of these departments are fireproof.



Public Library, Bromley, Kent.

Mr. Evelyn Hellicar, A.R.I.B.A., Architect.



Public Library, Bromley, Kent.

Mr. Evelyn Hellicar, A.R.I.B.A., Architect.

and with asphalt. The heating is by
essure hot water by means of duplicate
s, and the portion just completed has been
out by the Albion Iron Company.
ars. Henry Hope & Sons supplied the
basements and lead glazing, while the
ency staircases are by the St. Pancras
orks Company.

Interior joiners' work is of wainscot
ightly darkened and waxed, and the floors
oak blocks.

ittings have been all made to the archi-
designs by Messrs. Hammer & Co.
contractor for the work was Mr. F. P.
it. of Bromley, and the Clerk of Works,
Rodmell.

Evelyn Hellicar, A.R.I.B.A., is the
ect.

is necessary in order to form a separate entity
for insurance purposes, it is hoped that
support may be relied upon in furthering
an effort which should prove of benefit to those
in the professions who come within the pro-
visions of the Act, by asking clerks and others
who are eligible to join. There is nothing
to prevent persons who may have already
enrolled themselves in a non-professional
society from transferring their membership,
and, for the reasons stated herein, there would
seem to be definite advantages to be gained
by their so doing. All persons engaged in
architects and surveyors' offices and earning
less than 160*l.* per annum are eligible for
membership.

It is of importance, owing to the shortness of

ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY UNDER THE NATIONAL INSURANCE ACT, 1911.

Architectural Association, in conjunction
the Royal Institute of British Architects
the Surveyors' Institution, have had under
eration how best the interests of their
ers and those in their employ who come
in the category of insured persons under
national Insurance Act may be promoted.
consultation with insurance experts, they
come to the conclusion that the formation
special "Approved Society" for Architects
Surveyors' Assistants and Clerks would
advantageous to those concerned, for
principal reasons, viz. :—

That their average health, as a class, is
That the proportion of persons passing out
category of insured persons is higher than
u-technical professions and businesses ;
hat as a consequence the funds available
benefits in addition to those provided by
et would be larger than in societies with
collaneous membership.

ject to sufficient numbers being obtained,
been decided to found such an approved
y. As a membership of at least 5,000

time, that applications should be made not
later than September 16 next.

We may add that the following letter has
been sent to us, and we have much pleasure in
giving it publicity :—

DEAR SIR,—We enclose a circular with
reference to the formation of an "Architects
and Surveyors' Approved Society" under the
Insurance Act, 1911. The proposal is sup-
ported by the following members of the two
professions :—

Sir Aston Webb, C.V.O., C.B., R.A., Sir
Ernest George, A.R.A., Sir Alexander Stenning,
F.R.I.B.A., F.S.I., W. Edgar Horne, M.P.,
F.S.I., Leslie R. Vigers, F.S.I., G. Corderov,
F.S.I.; and Professor Reginald Blomfield,
A.R.A., F.S.A., President of the Royal Institute
of British Architects; A. W. S. Cross, M.A.,
F.R.I.B.A., George Hubbard, F.S.A., F.R.I.B.A.,
Ernest Newton, A.R.A., E. Guy Dawber,
F.R.I.B.A., Vice-Presidents of the Royal
Institute of British Architects; Hon. Edward
Gerald Strutt, F.S.I., President of the Sur-
veyors' Institution; John Farrer, F.S.I.,
W. Edward Woolley, F.S.I., H. Chatfield
Clarke, F.S.I., F.R.I.B.A., Vice-Presidents of
the Surveyors' Institution; Gerald C. Horsley,
F.R.I.B.A., President of the Architectural
Association; W. Curtis Green, F.R.I.B.A.,
Maurice E. Webb, M.A., Vice-Presidents of the
Architectural Association.

We hope that you will give us every assistance
in the matter.

Yours faithfully,

F. R. YERBURY,
Secretary Architectural
Association.

IAN MACALISTER,
Secretary Royal Institute
of British Architects.

A. GODDARD,
Secretary Surveyors'
Institution.

NOTE.—All communications for the present
to be addressed to the Hon. Secretary, 18,
Tufon-street, Westminster, S.W.

COMPETITION NEWS.

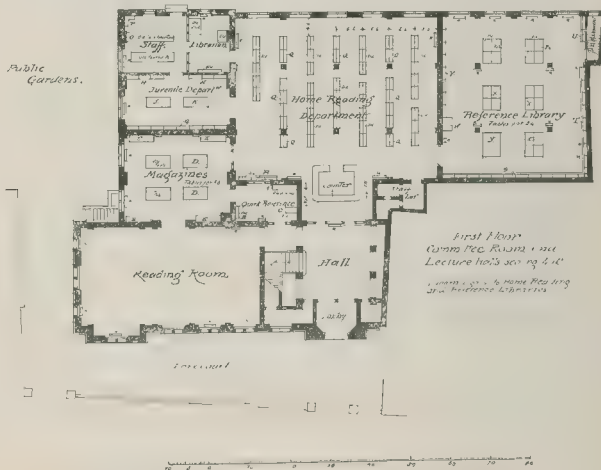
A list of current Competitions is printed on
page 189.

Prix de Rome d'Architecture.

The Grand Prix de Rome d'Architecture
has been awarded to M. Jacques, Edouard
Harold Debat-Ponsan, pupil of MM. Laloux et
Tronchet. Born in 1882, the son of the well-
known painter of "En Plein Air" and other
works. Monsieur Debat-Ponsan, entered the
Ecole des Beaux Arts in 1903. The premier
second Grand Prix has been won by M. Louis
Grégoire and the deuxième second Grand Prix
goes to M. Henri-Roger Expert.

Competitions for Designs for Royal Palace and Law Courts, Sofia, Bulgaria.

With reference to the notice on p. 12 of the
Board of Trade Journal of July 4 relative to a



Public Library, Bromley, Kent : Ground Floor Plan.

competition of designs for (1) a new Royal Palace and (2) new Law Courts at Sofia, his Majesty's Legation at that city have now forwarded a copy of a revised programme in connexion therewith, which takes the place of that originally issued. Architects wishing to compete must submit their designs, not later than December 1 next, to the "Section d'Architecture au Ministère des Travaux Publics," Sofia, where copies of the programmes, etc., may be obtained on request. A copy of the revised programme (in French), together with drawings, may be seen by British architects at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

Farmhouse at Earlswood.

The first premiated design in this competition was by Mr. W. Newton Dunn, of Glenfeulin, Reigate, and 1 and 2, Bucklersbury, Cheapside, E.C. The competition was promoted by the Borough of Reigate.

Reigate Lodge Estate.

At the meeting of the Reigate Town Council on July 22, the Mayor (Councillor F. E. Lemon) presiding, the Town Planning Committee reported that Mr. Raymond Unwin, the assessor for the competitive designs for the laying out of a portion of the Reigate Lodge Estate, had awarded the first premium to Mr. Vincent Hooper, of Messrs. T. K. & V. Hooper, A.A.R.L.B.A., architects, Redhill; and a second to Mr. Reginald Dann, son of Mr. Arthur Dann, of "Kilronan," Furze-field-road, Reigate. Forty-five designs were sent in.

Competition for Designs for Monument, Ottawa.

With reference to the notice on p. 105 of the *Board of Trade Journal* of April 18 relative to a competition for designs for a monument to be erected at Ottawa to his late Majesty King Edward VII., at a cost not exceeding \$35,000 (about 7,200*l.*), his Majesty's Trade Commissioner for Canada now reports that the date for the receipt of designs has been extended to November 1. Designs in the form of sketch models in plaster on a scale of 1½ in. to the foot should be sent to Mr. Eric Brown, Director of the National Art Gallery, Ottawa, Canada. The design may take the form of a portrait, statue, or a symbolic memorial, and will be judged by the Advisory Arts Council for the Government of the Dominion of Canada. Communications regarding the competition should be addressed to the Secretary, Public Works Department, Ottawa.

Extension of the City of Düsseldorf.

In our issue of September 29, 1911, we published a translation of the conditions of the competition for a town-planning scheme at Düsseldorf. The Prize Committee for judging the plans sent in have awarded prizes as follows:—

First prize to the authors of the design submitted under the title of "Berge romerkye," namely, Professor Ing. Bruno Schmitz, Charlottenberg, and Professor Dr. Ing. Blum, Hanover.

Second prize to the authors of "Am grünen Rhein," namely, Professor Bruno Möhring, Berlin; Herr Fiehl, Town Commissioner for Public Buildings, Bonn; and Herr Rogg, Government Architect, Düsseldorf.

Third prize to the authors of "Und neues Leben," namely, Herr Wöhler, architect, Düsseldorf; Herr Langen, Government Architect, Berlin-Grünwald; and Herr Stahl, Director of Public Works, Düsseldorf.

Fourth prize to the authors of "Jan Wellem," namely, Herr Stubben, Chief Surveyor of Buildings, Berlin-Grünwald; Herr Paffendorf, architect, Cologne; and Herr Strauch, Engineer to the Diplomatic Corps, Berlin.

Fifth prize to the author of "Heimat," namely, Herr von Endt, architect, Düsseldorf. Various other plans have been purchased by the Prize Committee.

Swimming-Bath at Balham.

The premiums offered by the Metropolitan Borough of Wandsworth in the competition for a swimming-bath at Balham are one hundred and five, fifty, and thirty guineas. No assessor has been appointed yet.

Statue to King Edward.

Twelve sculptors have been invited to submit sketch models for a statue to King Edward VII. to be placed in the forecourt of the Hearts of Oak building in the Euston-road.

BOOKS.

Butterworth's Workmen's Compensation Cases. Vol. V. Quarterly Advance Sheets. Part III. Edited by Douglas Knocker, M.B. (London), Barrister-at-Law. (London: Butterworth & Co. 1912. Pp. 130. 7s. 6d. net.)

This instalment of advance sheets of these well-known reports brings the reports of the cases decided under the Workmen's Compensation Act down to June last. When the original Workmen's Compensation Act was extended by the Act of 1906 it was anticipated that the wider extension of the principle of workmen's compensation would result in a lessening of litigation, since many of the artificial restrictions imposed by the Act of 1897 were removed. We cannot but feel that such a result could have been attained had the legislation made better use of the experience gained by the nine years in which the original Act was in force. As it is, the steady flow of litigation continues, as is evidenced by the matter contained in these quarterly advance sheets. The merits of these reports are so well recognised that they speak for themselves. We know of no other legal subject in which the public are given such opportunities of following the latest decisions as are provided by these carefully-edited reports brought so closely up to date.

The Cathedrals of England and Wales, being a Fourth Edition of "English Cathedrals Illustrated." By FRANCIS BOND, M.A. (B.T. Batsford, 94, High Holborn. 7s. 6d. net.)

We take this to be a story of our cathedrals rather than a text-book; a readable and handy volume for those visiting cathedral cities. Mr. Bond's special enthusiasms will surely add to the interest of these occasions. The text has undergone considerable revision since it appeared as "English Cathedrals Illustrated," in fact it has been for the most part rewritten in order to incorporate the results of modern research, which have tended again and again to throw new light on wrong deductions. The illustrations, too, have been thoroughly revised, and a new feature of great value is the series of ground plans of the cathedrals illustrated, all of which have been reduced to a uniform scale. The modern cathedrals of Birmingham, Liverpool, and Truro are included, and the book is as comprehensive as it is enlightening.

We gather, however, that Mr. Bond's predilections favour the mediæval rather than the classic in architecture. He is obliged, apparently, to reduce the plan of St. Paul's to Gothic terms before he can discuss it at all. Yet it was surely the mediæval builder who was the borrower. Wren was only getting back his own. And we do not agree that he should have omitted the attic or "traverse of a clearstory." Much of the vault in St. Peter's is hidden behind the projection of the cornice, and has the appearance of a segmental rather than a barrel vault. Possibly Wren realised the dwarfing effect of the cornice upon his ceiling. Mr. Bond is, indeed, so severely critical at times that one is inclined to recall Lamb's joke:—"Here's Coleridge says he could have written Shakespeare, if he had the mind."

The New Land Taxes and Mineral Rights Duty. The Land Union's Handbook on Provisional Valuations, being general advice to owners of land and house property in dealing with valuations under the Finance (1909-10) Act, 1910, as amended by the Revenue Act, 1911. With Statutes and Forms. (London: Vacher & Sons, Ltd. Pp. 186. 3s. net.)

We have set out the title page of this work in full, for at a time when everyone is inventing some new form of taxing the land the expression "The New Land Taxes" might be misleading. The original MS. was prepared by Mr. Ernest Watson, F.S.I., but in its present form as a handbook additional matter has been added by the Land Union, who have acquired the rights of publication. The work is not controversial in its character, nor is it a legal text-book, but it is intended to provide property owners with a practical handbook.

In the Appendix is printed a full text of the Acts the various provisions of which are explained in the body of the book with marginal references, but not the least valuable part of the work is Appendix II., which contains many valuable notes and suggestions, and the

decisions which have been given on them. These decisions cannot be made too widely known, and should be carefully studied. We have frequently pointed out, on great drawbacks attending such measures as the Finance Act is the impossibility of authoritative decisions. Most Acts of Government were interpreted by the Courts administered according to the legal tradition, but under the Finance Act the decisions obtained appear of no binding authority, the same mistake in valuing other property being perpetrated over and over again. The decisions are only of value in so far as they can study them and found their objections upon them, hence the value of inclusion in the volume before us.

A study of its pages shows how very far a thing "increment value duty" is in from what it was announced in theory when the new taxation was introduced, and at the very moderate price at which it issued should supply a felt want. However, might be somewhat improved.

BOOK RECEIVED.

DANISH ARCHITECTURE. Edited by Varming. (Copenhagen: Ersler & Hasselmann.)

CORRESPONDENCE.

Public Offices (Sites) Bill.

SIR,—Referring to the letter in your issue of July 5 from Mr. Howley Sim, we have inquiries as to the proposed new building towards the Embankment, and have in the plans deposited in the Private Bill with Public Offices (Sites) Bill as amended by the Committee on July 4, and are pleased to say that the promoters have altered their view and have fixed a new line, a line behind that of Whitehall-court and near the river (175 ft. from boundary at north end and 165 ft. at south end).

This is very satisfactory and is evidence of the fact that public opinion may sometimes deter even a Government Department from its first intentions.

The question of the proposed road is in the article and drawing in your issue of June 7 is now being considered by this committee, and it found to be desirable and practical representations will be made in the next quarter.

H. J. LEAMING,
Hon. Sec. London School of Architecture.

St. Paul's Bridge and G.P.O. Ball.

SIR,—A few months ago London classes were eager and persistent in demands that the impressive dome of St. Paul should form a fitting architectural termination to the work of public utility which is being carried out. Under a happier inspiration at the time of the inception of the scheme, great composition might have been produced. The opportunity, realised at too late a date, however, fled, and the vision has vanished dream.

May there not be an awakening to the possibilities that are still within our reach, and to the eventualities which may await us if we do not avail ourselves of the existing opportunity?

St. Paul's Bridge, as finally approved by Parliament, will lead into the City at the end of the Cathedral, and its northern approach will occupy the space between Old Church and St. Paul's Churchyard, covering the ground upon which St. Paul's School formerly stood. Continuing in a straight line into the City, the axis of the bridge and approach would be produced, pass about centrally through the south front of the new building to be erected on the site of the old Post Office, which is being demolished.

There is, therefore, still an opportunity of forming an architectural termination to the new thoroughfare, only less noble and impressive than that which would have been afforded by the dome of St. Paul's. To secure this, two things are necessary, viz., (1) To provide the whole of the narrow block of land between St. Paul's Churchyard and Old Church, and (2) to remove the small block of land bounded by Cheapside, Foster-lane, and the old loading yard of the G.P.O.

with regard to the first of these works, it is proposed to remove the whole of the new block of buildings, but to leave at the northern end, next Cheapside, a long, tapering, wedge-shaped strip of buildings with the thin end facing the bridge, so that, approaching from the Surrey side of the river, the view would be that of the apse of St. Paul's on the left, balanced by the knife-edge of a York Watrion building on the right. This wedge-shaped line of buildings will carry the ground to the left of the axial line, where it encounters, as a terminal feature, the shops Sweeting's corner, backed up by the top of the Post Office, ornamented with the gables of the houses below.

The bridge and the new Post Office may be brought into architectural relationship, to form parts of a complete and homogeneous group, but to consummate such an idea action must be taken at once.

The Postmaster-General, in reply to a question in the House of Commons, stated that he was asked to consider any scheme of improvements that the City Corporation might submit. He said, however, cannot be expected to open indefinitely, and even now, during recess, the offer should be accepted on behalf of the people of London. The matter is one of public interest, and the fact that the rainy season makes it impossible for any final recommendations to be made by the Corporation should not prevent the immediate acceptance of the Postmaster-General's offer. In the absence of any such proposals, the Government may properly naturally assume that the matter is one of indifference. Such, I am sure, is not the case, as if arrangements for commencing the construction of the new Post Office buildings could be delayed for a few weeks a scheme of improvements could be drawn up for consideration by various authorities concerned immediately the recess is over.

It is understood that the services of Sir John Emerson have been retained as architectural adviser in connexion with the new scheme. The thought occurs to me that the likely means of securing a harmonious relationship between the bridge, the Post Office, and the connecting range of buildings in Old London, would be for the City to ask Sir William Emerson to work out a scheme of improvements, in collaboration with Sir Henry Tanner, dividing the whole area between the bridge and the Post Office.

In this way some appropriate setting to Sir Christopher Wren's glorious conception might be achieved. The scheme would, naturally, include the buildings at Nicholson's end of Paternoster-row, which should be set back at some future time, in line with the telegraph office on the west of St. Martin's-le-Grand. A broader and more dignified range of buildings would then form a fitting architectural finish to the west end of Cheapside. The setting back of the new Post Office in line with the telegraph office, and the removal of Sweeting's block, would open out Wren's Church of St. Vedast, a beautiful terminal feature to Newgate-street would thus be preserved.

The opening out of this area would be of considerable assistance in the regulation of the traffic, which will naturally become more congested when the St. Paul's Bridge is built. The Peel statue, with the attendant flower-vases, would be removed to a large central square, some 90 ft. or 90 ft. in diameter. Provision would be made for the formation, at some future time, of the relief road to London Wall from Liverpool-street. The position is unique, such a by-pass road. The Chiswell-street, which has been suggested as an alternative, could not possibly do the same work that a street in this position would accomplish.

The formation of the new road at the east end of St. Paul's will make it quite possible to divert the portion of the Strand and Ludgate-hill which runs along the proposed road, and so relieve the Bank area, as well as Old London-street, Threadneedle-street, and Bishopsgate. At the present time seventy-three omnibuses coming into the Bank area from the west go either direct to Liverpool-street by Moorgate-street and Moorgate-street, or pass Liverpool-street via Bishopsgate. With a system of interchange tickets the whole of the buses could pass to Liverpool-street set along the new road. There would still remain the London Bridge, Stratford, and the plan of buses available for those who wanted to

alight in Cheapside or at the Bank. Passengers could change either at St. Paul's or at the Post Office.

The whole subject is one demanding the most complete and careful consideration. The opportunity is before us, the invitation is open. Shall we avail ourselves of it or let it pass?

ARTHUR CROW.

A Possible Site for the University of London.

SIR.—With reference to your article in the issue of July 28, on the Foundling Hospital site, I should like to bring to your notice another site which should be considered.

The western slope of Pentonville-hill, which includes the area between Baker-street and Pentonville-road, extending east almost to the "Angel," and west practically to King's Cross-road, is a district which seems particularly suitable and within which a site might be found. The situation is high and healthy, and is almost as accessible as the Foundling Hospital.

It is a particularly open area, and includes a number of squares—Lloyd, Granville, Holford, Claremont, and Myddelton—and Percy-circus, with the large open space containing the New River reservoirs. Being ample and architectural, such a site is worthy of a great effort. It is residential and very sparsely covered, so that a large population would not be displaced. The class of property is not valuable, and the leases of a portion appear to be nearly up, while others are probably two-thirds run. An Act of Parliament would be necessary for its acquisition; but why should not Parliament be asked to give the land at least for a national, or rather an Imperial University, as London University should be? O. B. I. T.

The Single Tax.

SIR.—As this is a subject which deeply affects the prosperity of the building trade, it will doubtless be of interest to your readers.

As to the ultimate ideals, whatever may be

the intentions of a few visionaries, their effect will undoubtedly be to rob Peter without any certainty of paying Paul. The relief is to be "gradual," the new impositions are to be immediate and drastic. And at what cost is this relief to be obtained? Every retired tradesman, clerk, or doctor, every spinster lady, widow, or fatherless family that depends upon freehold property for subsistence, is to be ruthlessly expropriated, contracts are to be broken, and all faith in the stability of our institutions shattered. These investors have been the best customers of builders in past times, and the ultimate source from which profits and wages in the building and allied trades are drawn.

The idea that the value of a property depends principally upon surrounding activities is far from the truth. The builder's own activity is a most important element. If this is skillfully directed the property will rise in value; not otherwise. This fact comes out very strongly when a piece of agricultural land on the coast, or at some distance from town, is "developed" and made valuable by advertising and judicious expenditure. But the same principle applies everywhere in some degree, and the profits on investment in houses have never been large when balanced against the losses that continually occur.

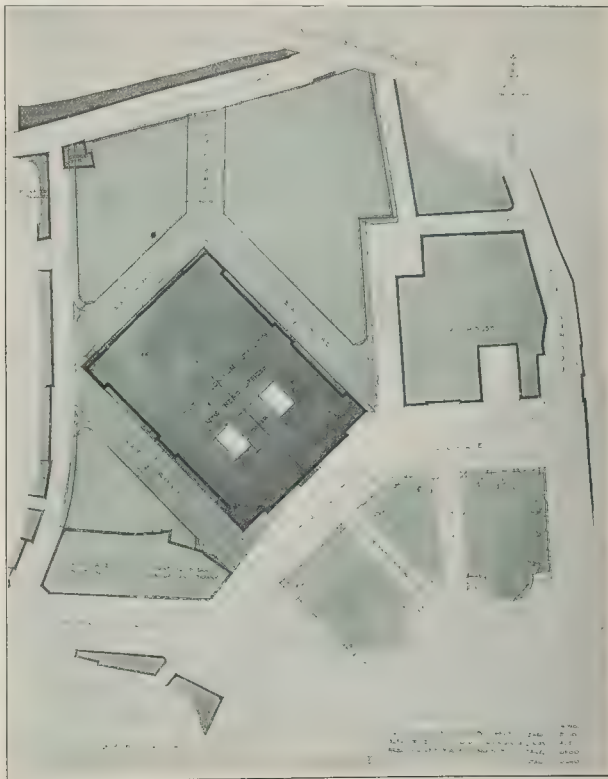
H. CLORISTON.

ILLUSTRATIONS.

Port of London Offices.



R. WRAY'S original design for the new head offices of the Port of London Authority was one of the six selected by Sir Aston Webb, R.A., to be carried out in detail for the final competition. We have already illustrated Mr. T. Edwin Cooper's successful design, and the designs of several of the other competitors. Our



Port of London Offices: Block Plan. Competitive Design by Mr. Ernest W. Wray.

reproductions of the drawings of Mr. Wray are, therefore, of interest in comparison. In our review of the competition the following lines appeared:—

"Mr. Ernest Wray has produced a scheme based on a general acceptance of the present frontage to Trinity-square, but the offices, unlike the winning scheme, occupy a rectangular block, leaving somewhat awkward sites for development, terminated at three points by acute angles. This, we should imagine, would, apart from any question of the merits of the plan itself, place it out of court. A vestibule leads to a Salle d'Attente, and this again to the staircase hall, beyond which are placed the Dock and Warehouse Offices and Port Rates Office, which occupy the back part of the block, and from which access is obtained to the back entrance. The Chief Collector's and Deposit Offices are placed in front of the two departments referred to, and the Post and Telegraphists' Offices occupy the front of the building on either side of the entrance. The centre of each side of the block is marked by subsidiary entrances and staircases. The upper floors are well and simply laid out, and the lighting of the various rooms is everywhere good and sufficient. Externally the building is treated quietly and simply, a low tower surmounting the principal staircase, and a colonnade marking the front to Trinity-square. The design shows traces of Greek feeling, and is quiet and unostentatious."

Portland Council Offices.

THIS design, by Messrs. Speir & Beavan, of Cardiff, was successful in the competition held in the early part of the year. Mr. A. Needham Wilson, A.R.I.B.A., was the assessor.

The architects write as follows:—

"The site selected is situated in the New-road, joining the upper and lower portions of the island, and overlooking Lyme Bay and the Chesil Beach. The very sharp slope to the rear—practically 1 in. 3—and the immediate drop of the site from the roadway naturally suggest the treatment followed, viz., that of a long, narrow building, as being most adaptable to the circumstances. The rear elevation of the building is so conspicuously situated as to

demand treatment of equal importance to that of the road front.

The principal entrance, which would, generally speaking, be used for Council and Committee purposes, is centrally placed, and gives access to the main floor comprising the Council chamber, 45 ft. 6 in. by 28 ft., and 19 ft. high to the centre of the curved ceiling, committee-room, and clerks' offices, with a waiting-hall for deputations, and the usual offices. The wall adjoining New-road, being partly a retaining wall, is of additional thickness, and double windows are provided to the Council chamber to assist in deadening the noise of the heavy traction traffic from the quarries on the upper part of the island. Advantage is taken of the thick wall to form recesses and seats in the waiting-hall.

The entrance to the offices will be from the lower end of the building, and on a landing midway between the two floors. A very heavy retaining wall is provided flanking a corridor 7 ft. in width, from which all the offices other than the clerks' department open directly. The sites of the room allotted to the various officials were left in the architects' hands.

The buildings will be erected in Portland stone walling, generally of hammer-dressed rubble work with fair-faced dressings as indicated. The turret will be of wood, lead-covered, and serves to ventilate the Council chamber. Heating by low-pressure hot water, and ventilation on the "natural" system.

The estimated cost of the building is approximately 40,000*l.*"

FIFTY YEARS AGO.

From the *Builder* of August 9, 1862.

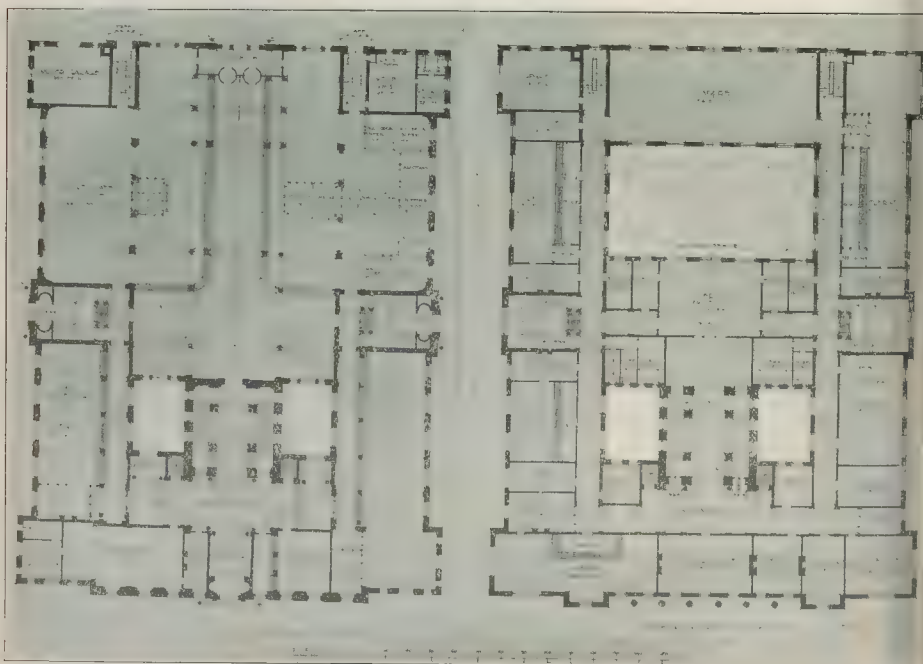
Paris.

ON August 8 the inhabitants of Paris are promised the demolition of three theatres—the Cirque Impériale, the Folies-Dramatique, and La Gaîté. Shortly after, the houses expropriated for the completion of the Boulevard du Prince Eugène will be cleared away. Another notice announces the fall of the Couvent des Barnabites, on the line of

the Boulevard de Sebastopol, opposite Palais de Justice. In the Avenue de St. Cloud demolitions are taking place, to engage some of the fine hotels of the Avenue de l'Impératrice and circular street surrounds the Place de l'Etoile. The Boulevard du Roi de Rome, which was some ten or twelve metres below the surrounding surface, and terminated by a flight of thirty steps, is now in course of excavation throughout its entire length. Hundreds of labourers are employed levelling and raising the heavy escarpments of sand, gravel, the earth from which is carted to the low ground of the Seine.

** The Folies-Dramatique and La Gaîté, whose demolition is here alluded to, are memorable for the original production of "La Fille de Madam Angot," "Orphée aux Enfers" respectively, and such light opera that took London by storm in the early seventies. "La Fille de Madam Angot" was carried to the Philharmonic near the Angel, and Islington for months became nightly a part of the end. Offenbach was at one time director of the Gaîté. This theatre, established in 1760, and was destroyed in 1835, the new building which replaced it, having, in its turn, to give way to the demands of the new Boulevard du Prince Eugène, as stated.

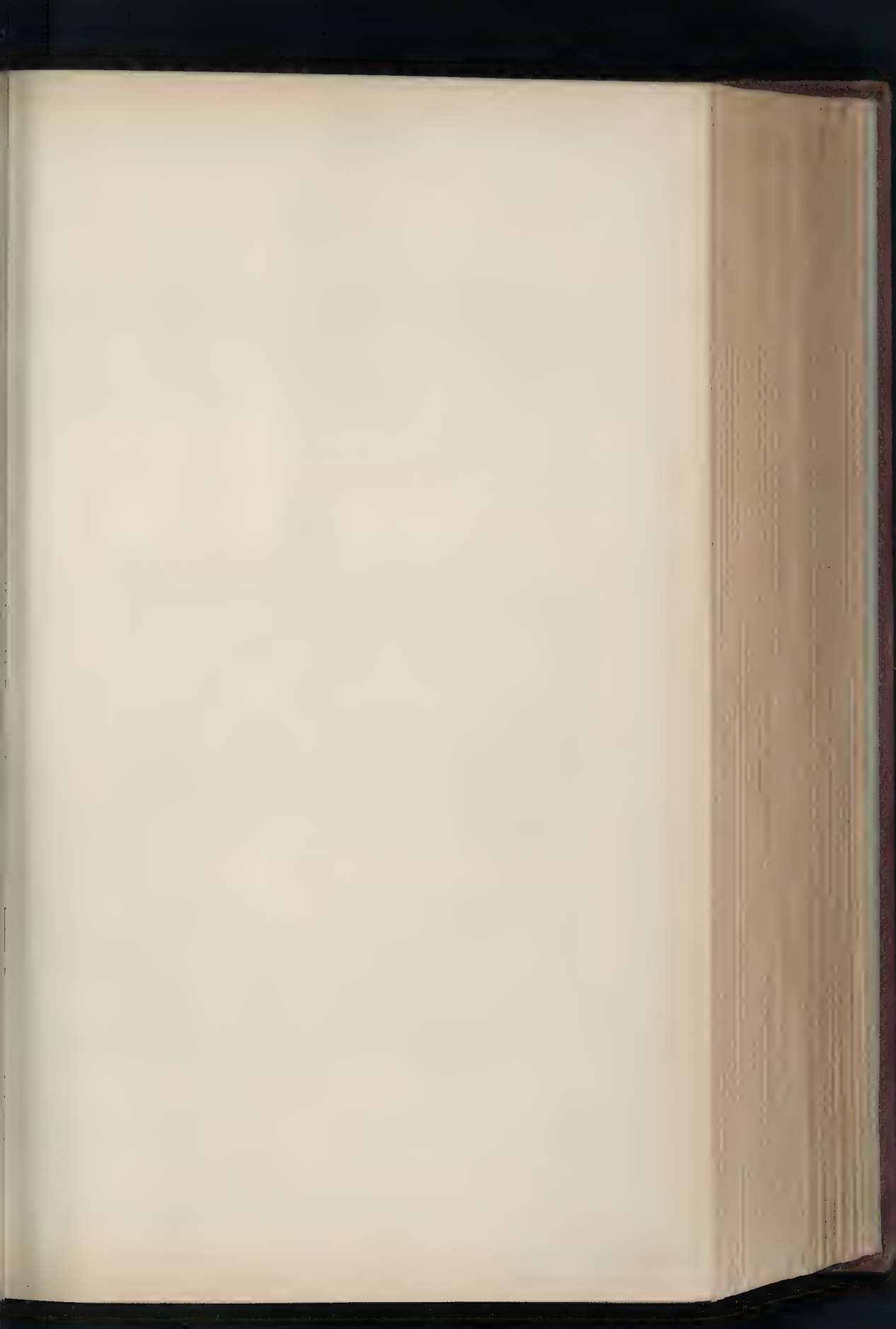
The Cirque Impériale, now known as the Châtelet, possessed the interest of having been opened, in 1780, by "un Anglais" named Astley, who ran a programme, including "un spectacle voltigeux," by which we understand rope dancing. Astley's Theatre, in Westminster Bridge-road—now, too, a thing of the past—and the tragedy of "Mazeppa" which drew crowded houses during its days, will be within the recollection of our readers.—Ep.

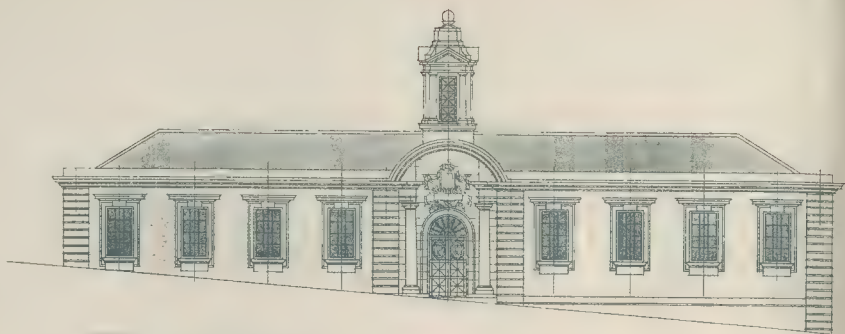


Ground Floor Plan.

First Floor Plan.

Port of London Offices: Competitive Design by Mr. Ernest W. Wray.

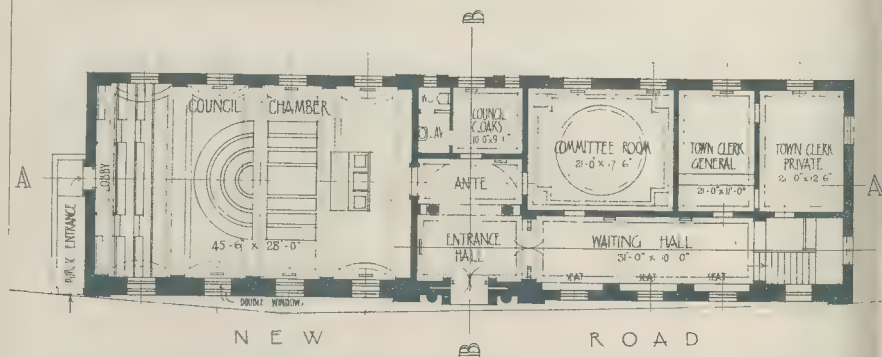




FRONT ELEVATION



BACK ELEVATION



PRINCIPAL FLOOR

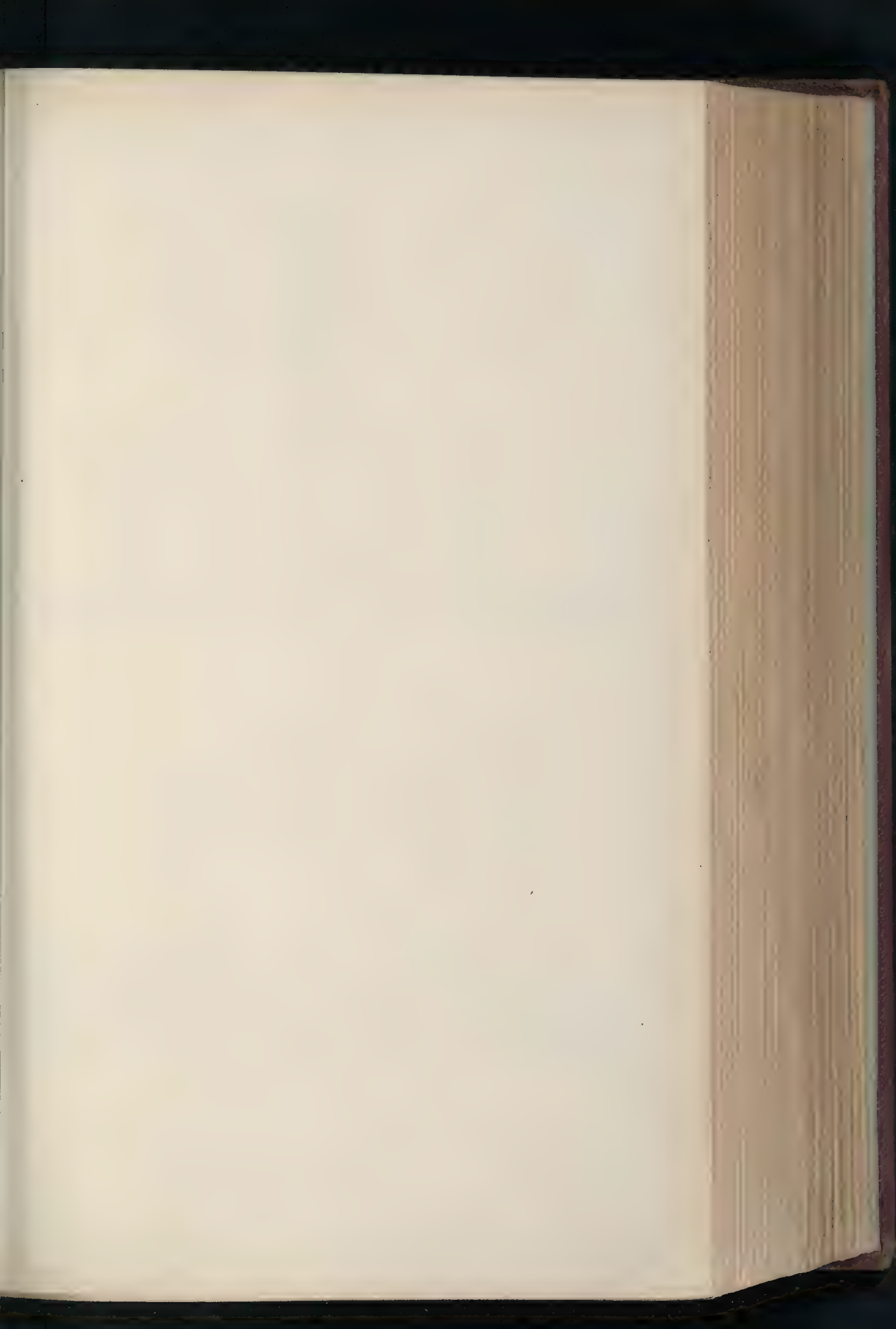


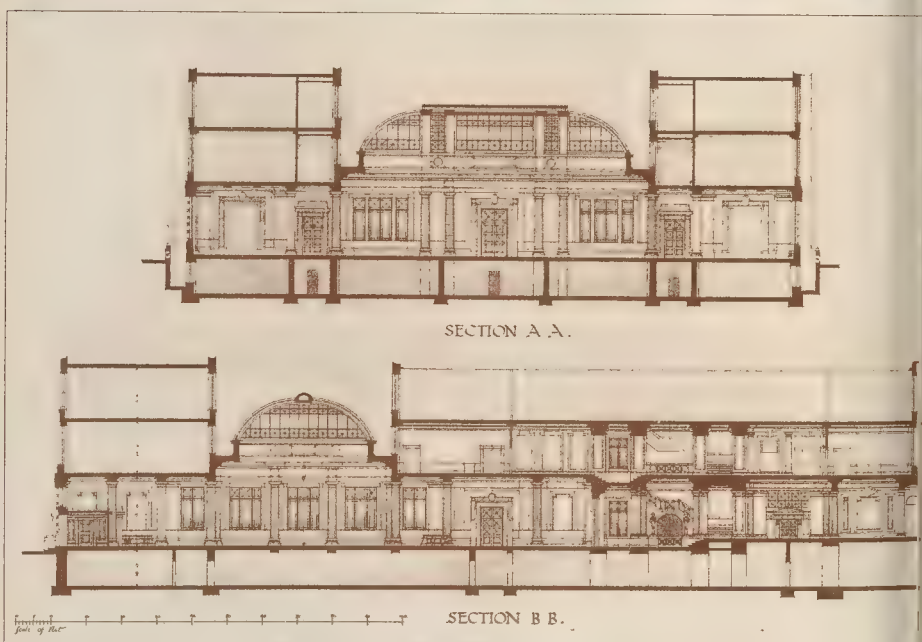
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LOWER FLOOR

INK PHOTO SPRAGUE & CO. LTD. 69 & 70, DEAN STREET, SOHO, W.

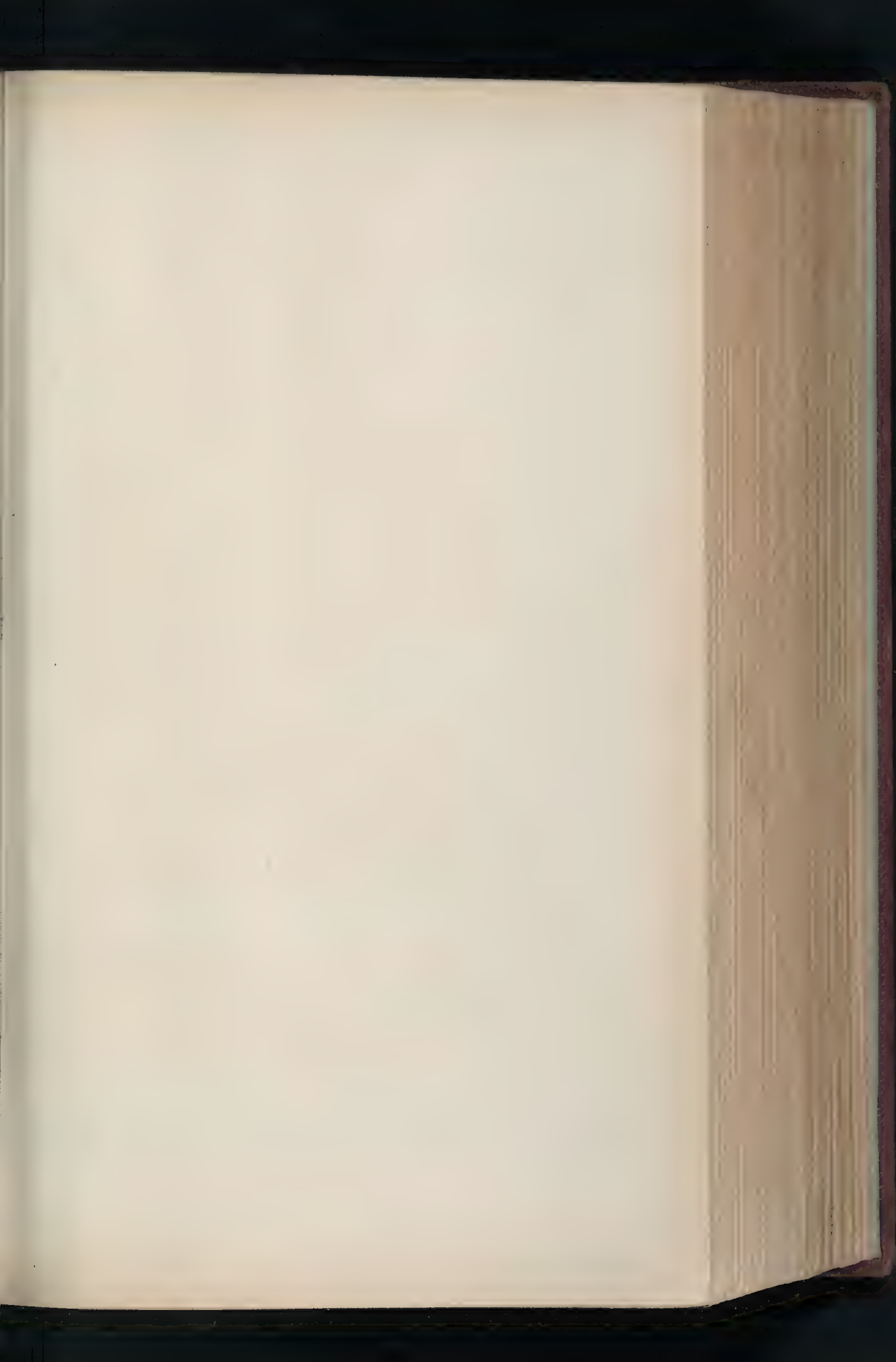




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PORT OF LONDON AUTHORITY, COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.

By MR. ERNEST W. WRAY







NEW HEAD OFFICES—By MR. ERNEST W. WRAY

MONTHLY REVIEW · of · CONSTRUCTION.



View Looking West.



View Looking East.

Fig. 1. Royal Insurance Building, Lombard-street.
Messrs. Gordon & Gunton, F.F.E.I.B.A., Architects.

ROYAL INSURANCE OFFICE BUILDING, LOMBARD STREET, E.C.

new building constructed as the headquarters of the Royal Insurance Company, Ltd., from the designs of Gordon & Gunton, the architects, is on the south side of Lombard-street, between Clement's-lane and Nicholas-lane. The building has a length of 94 ft., in addition to the frontage, 15 ft. and 8 ft. long respectively; the frontage is 97 ft. long, and the frontage is 33 ft. long. Thus the length of the frontage is 247 ft. The building is of L shape, and behind it is that by the National Bank of Scotland. On the narrowness of the street it is not to take photographs showing the main front in a satisfactory manner, two views reproduced above give a general idea of the building and its effective in the architectural perspective of

readers will see for themselves (Fig. 1). The building has been designed in the Italian style, the composition being of strength and dignity, and bearing of French influence in part of the

the level of the first-floor window-sills are faced with grey Aberdeen granite, by Messrs. J. Fyfe, Ltd., of Aberdeen, the same level with Portland stone. The domed turrets at the ends of the

Lombard-street façade the masonry is surmounted by a mansard roof covered with Westmorland green slate, this roof being continued along the ends of the building in Clement's-lane and Nicholas-lane.

The whole of the carving was executed by Messrs. Gilbert Seale & Son, of Camberwell.

The construction embodies the steel-frame principle recently sanctioned in economical forms by the 1909 amendment of the London Building Acts. The steel frame is of British steel throughout, and was erected by the Aston Construction Company, Ltd., of London. It is cased with concrete and clothed with brickwork and masonry, but the entire weight of these materials and all other dead and live loads are carried by the steel skeleton, which includes some 800 tons of steel, and was erected in six months.

One important result attending the adoption of this system has been considerable increase of floor areas and interior space generally, as compared with those that would have been permitted in the unregenerate days of the London Building Acts.

The architects have also made use of reinforced concrete, as designed by the Considère Construction Company, Ltd., of Westminster, in the form of retaining walls and floors.

To illustrate the subjoined notes we reproduce, in Figs. 2 and 3, two of the architects' drawings,

one being a plan of the ground floor and the other including three sections of the building.

It will be noticed that the premises comprise seven stories in all with a mezzanine floor between ground floor and the first floor. The building is 73 ft. high above street level, and 96 ft. high from foundation level, measurement being taken in each case to the top of the flat roof.

The sub-basement and basement stories are bounded on the three streets mentioned by retaining walls constructed under the kerb line of the roadways so as to permit the ground beneath the footpaths to be excavated, and thereby to increase the accommodation in the two lower stories of the building.

The retaining walls are about 23 ft. high by 21 in. thick in the sub-basement, and 10½ in. thick in the basement, the profile being as shown in Fig. 3.

By adopting reinforced concrete instead of brick or plain concrete for these walls the architects have been able to add a strip from 5 ft. to 6 ft. wide along the whole front of the building. As this strip applies to the two stories mentioned it represents the additional area of nearly 2,470 sq. ft., which is worth a great deal of money at the high price of land in the City.

In order to provide support for the exterior lines of steel stanchions carrying the front walls of the building and a large proportion of the



Fig. 2. Royal Insurance Building: Ground Floor Plan.

floor loads the base of the retaining wall was constructed to act as a girder foundation, as illustrated on page 720 of our issue for June 9, 1911.

The section there given includes a profile

of the retaining wall, and shows the arrangement of the steelwork in the two basement stories. The stanchions have heavy brackets riveted to them below ground-floor level for supporting the granite piers in the front walls,

an arrangement which obviated carrying the masonry down to the ground with consequent loss of valuable space. Reinforced concrete was also em-

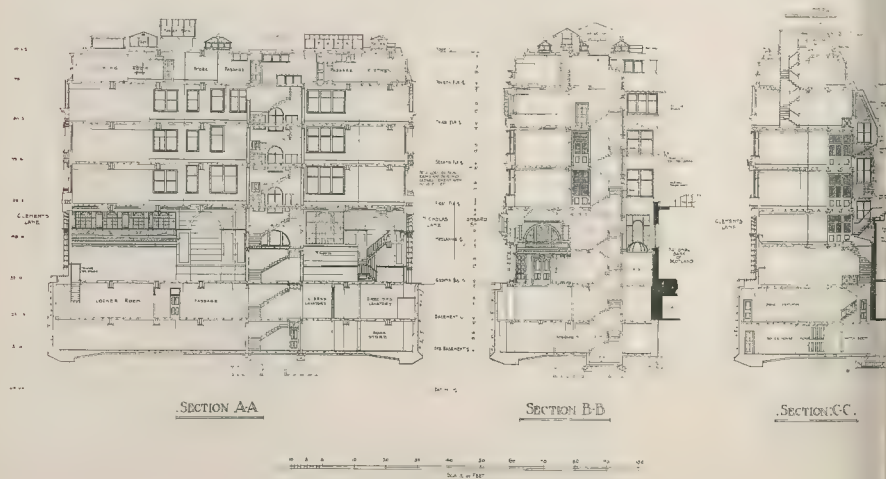


Fig. 3. Royal Insurance Building: Longitudinal and Cross Sections.

of footings for all the interior thereby saving a considerable of excavation and materials, as the concrete footings are far less bulky than of plain concrete or steel grillages in concrete.

retaining walls, as well as the walls on the north side of the building, were lined with asphalt by the Limmer Asphalte Company, Ltd., of Westminster, with that the lower portion of the may be compared to a large water-tight compartment, or tank, affording perfect protection against the penetration of moisture, and the basement floors were carefully treated.

basement affords ample space along the street side for the storage of books. In the book store a reinforced concrete strong-room has been constructed, compartments, each 10 ft. 6 in. by 6 ft. 6 in. A hoist is provided placing the book compartments with the offices on the ground floor. The store is also accessible by a staircase leading down from the street. It should be noted that this store is isolated from the remainder of the building by a fire-resisting wall.

adjacent part of the same story are part of the passenger lift walls, the rest of the main staircase, and a room at the head of an artesian well, sunk by Messrs. Williams & Co., of Bow. The well is furnished with an automatic pump and will enable the company to make considerable annual saving by the excessive rates charged to command professional firms in London owing to the artificial method imposed upon the water supply by the London Water Board by legislation.

The well is 450 ft. deep, and the water is pumped into tanks on the roof having a storage capacity of 15,000 gallons. The end of the sub-basement in Clement's-lane is situated the boiler-house, engineers' workshop for two passenger lifts, on vacuum, cleaner plant, supplied by Messrs. Vacuum Cleaner Company, Ltd., and a paper store.

basement story is well lighted by pavement and reflectors. At the Nicholas-lane end is the Board-room of Messrs. Farner & Brindley, with lavatories for staff and staff. The middle part is devoted to storage purposes, and at the Clement's-lane corner further lavatory accommodation is provided for clerks, with an adjoining range of lockers.

remainder of this story along Clement's-lane is occupied by a stationery store, copying-room, and a lavatory, and a room for ventilation apparatus. The entrance opens upon the street by a boldly proportioned doorway. This entrance opens upon the street and the gallery at mezzanine level.

terior of the lobby is in marble executed by Messrs. Farner & Brindley, of Westminster. The pillars are in Greek style, the caps and bases in bronze, the architraves to the doors in choice marble, the cornices and the dome in quarry, the archivolts in choice Ponzonzo marble, the soffits in the same material with Zudda panels. The paving is in black and

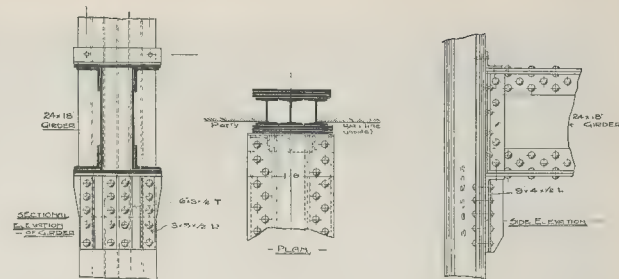


Fig. 5. Royal Insurance Building : Detail of Stanchion in Party Wall.

white marble laid to the geometrical pattern of which part may be seen in Fig. 6.

The main staircase is lined throughout with second statutory marble by the firm mentioned, the ornamental iron double lift fronts and the main staircase lift well enclosure with moulded bronze handrailing, having been executed by Messrs. W. T. Allen & Co., of Queen Victoria-street.

At the right hand of the entrance lobby are private offices for the directors, manager, and clerks, a handsome private staircase (see Section AA, Fig. 3) leading from the clerks' office to the mezzanine floor. The ornamental iron balustrading with moulded bronze handrails for this staircase were executed by Messrs. W. T. Allen & Co.

Turning to the left from the entrance lobby the general public office is entered, this being a spacious hall lined with marble and admirably lighted by bronze-framed windows of exceptional size (Fig. 7). The walls have a dado of genuine Verde Antico marble, from the ancient quarries of Thessaly, with a plinth of black and white marble, and the lining above the dado is of second statutory, with panels of choice Ponzonzo marble. The space for use by the public between the counters is paved in black and white marble. This marble work was executed by Messrs. Farner & Brindley.

Fig. 7 also illustrates the decorative treatment of the panelled ceiling, the ornamental plaster work here and elsewhere in the building having been done by the Bromsgrove Guild.

At the far end of the office there are two passenger lifts for the use of the staff, a goods hoist, and a staircase providing communication between all floors from the sub-basement to the mezzanine, and finishing with a fire-escape flight to a flat roof at first-floor level.

The ornamental iron lift fronts and stair balustrading were supplied by Messrs. W. T. Allen & Co., and all the lifts and hoists in the building were furnished by Messrs. R. Waygood & Co., Ltd. The four passenger lifts are operated by electric motors, and are fitted with the usual safety appliances and car switch control. Each car holds seven persons and is arranged to travel at the rate of 220 ft. per minute. The total travel is 85 ft. The goods hoists are of the direct-acting hydraulic type, capable of dealing with loads up to 10 cwt., one travelling from sub-basement to street level and the other from sub-basement to ground floor.

The purposes to which the upper floors are devoted may be briefly summarised as follows:

Mezzanine Floor.—Secretarial department, including a suite of five offices, with inquiry and waiting rooms and an adjoining board-room. These are at the Clement's-lane end of the building. At the Nicholas-lane end other offices are provided above the managerial department.

First Floor.—Sub-divided and arranged for use as offices according to requirements.

Second Floor.—Accident and fidelity guarantee offices at Clement's-lane end; general and private offices at Nicholas-lane end.

Third Floor.—Commencing at the Clement's-lane end, offices are provided for inspectors, profits department, country agents and country branches department, loss department, accounts and renewals department, classification department, medical officers' room, general and private offices.

Fourth Floor.—On this floor are dining-rooms for clerks, secretaries, and heads of departments, a well-appointed kitchen department, living-rooms and domestic offices for the caretaker, and extensive ranges of lavatories for all grades of the office staff.

Roof.—On this are six water tanks, two motor-houses for lifts, outlets for various ventilation shafts, and two escape stairs to the roofs of adjoining buildings.

In designing the upper portion of the building the architects made every effort to secure the maximum amount of floor area on every story, and to provide for the admission of daylight in the most effective manner possible.

The first of these objects is attained in part by the reduced wall thickness permitted by adoption of the steel frame type of construction and in part by other means. For example, the building is carried up sheer from the pavement, without plinth or set-backs, as in the old building, the outside face of the wall at third-floor level being linable with that at the ground floor. The steel stanchions were specially designed so that they should not cause projections beyond the face of the walls, and those coming against party walls are of special shape, so as to permit them to be completely embedded.

Bay windows have been constructed wherever possible on the upper floors, and the chamfered angles at Clement's-lane and Nicholas-lane serve a useful purpose in admitting light from the east and west, particularly from the latter direction.

Light is admitted at the back of the building by ordinary windows where possible, and also by domes, lean-to roofing, and roof lanterns. Two barrel-shaped dome lights, with barrel ends, a large lean-to roof light, and seven roof lanterns were glazed by the British Challenge Glazing Company, Ltd. In the domes the glass is stained Decouvert, in the lean-to the wired polished plate has been used, and in the roof lanterns the patent glazing of the firm with lead-covered steel bars was adopted.

Lead-glazing of distinctive design for some of the principal windows was executed by Messrs. W. James & Co., of Willesden Junction, the large size of many of the windows having necessitated special treatment, provided for by the patented system of strengthened leaded glazing, which is a speciality of this firm.

The floors used throughout the building are of reinforced concrete filled in between rows of hollow tiles, and were specially designed by

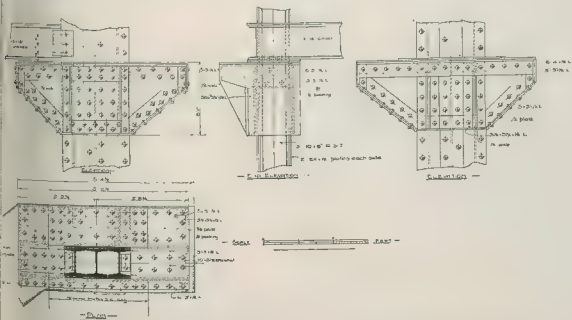


Fig. 4. Royal Insurance Building : Detail of Bracket under Pier.



Fig. 6. Royal Insurance Building, Lombard-street: Entrance Hall.

Messrs. Gordon & Gunton, F.R.I.B.A., Architects.

the Considère Construction Company, Ltd., the total finished thickness being only 9½ in. By using these thin floors considerable space has been saved and added to the height of the various stories.

There are no intermediate supports to the main floors, the spans being independent of columns and carried by heavy girders from wall to wall. These girders average 40 ft. long between supports, and are of considerable size, those in the mezzanine floor weighing 16 tons each.

The floor girders were kept as shallow as possible, one twenty-fourth of the span representing the depth in all cases.

We are informed that before the Considère type of floor was adopted two 15-ft. spans continuous over a central support were made and tested in the presence of Mr. H. Percy Gordon, of Messrs. Gordon & Gunton, the

architects, and Mr. Elliott, representing Messrs. Trollope & Colls, the building contractors. It is stated that even when loaded to destruction no cracks were developed over the joists which formed the centre support between the two spans, a fact pointing to the suitability of the floor for granolithic, terrazzo, or mosaic covering.

Except in places where marble paving and other special floor surfaces have been laid, the floors are covered, to the extent of some 4,000 sq. yds., by Duffy's patent "Immovable Acme" woodblock flooring in pitch-pine, laid by the Acme Flooring and Paving Company (1904), Ltd.

In addition to the work previously mentioned, the Limmer Asphalte Paving Company covered the whole of the roof and the domes under the stonework with their Seyssel asphalt, ¾ in. thick in two coats, the area in all being one acre approximately.

Among other firms by which materials were supplied are the Brick Company (glazed bricks), Messrs. Durrant & Co., Ltd. (tiles and terrazzo), and the Iron Company (London), Ltd. (Birmingham). The building is heated throughout by a low-pressure hot-water system of accelerated circulation. The boiler is of a sectional type in duplicate, and radiators are provided with fresh air drawn from the roof for ventilation.

The ground-floor basement and the first and second stories are ventilated by a combined plenum and exhaust system. The air is drawn in from the roof of the building and after having been washed and warmed, is distributed through main ducts. Vitiating air is extracted by shafts by the aid of electric fans placed above the roof.

ing and ventilation systems were
Messrs. Strode & Co., Ltd.

of the drainage, plumbing, sanitary
water services, special fittings for
officers, and a special automatic
sewer drainage were provided and
Messrs. Davis, Bennett, & Co., of

electric light installation was executed
by Messrs. Ellis & Ward, of Birmingham, in
conjunction with Messrs. Siemens Brothers & Co.,
of London, for the greater part is reflected from
so as to obviate the use of dark

contracts for the new building were
given to Messrs. F.F.R.I.B.A., with
A. Lester Taylor, of Liverpool, and
J. H. H. A.M.I.E.E., were associated
engineers. Mr. S. C. Gordon, of
the quantity surveyor, and Mr. G.
of the clerk of works. The building
was completed by Messrs. G. Trollope & Sons
Limited.

TORIC LONDON HOUSE BY THE GROUTING MACHINE.

Great Ormond-street, Bloomsbury,
best remaining examples of an early
century London street house, and well
its fine brickwork, as well as for its
original brick front, original sash
and finely modelled plaster ceiling;
narrow escape from destruction.

few years past it has been used as a
in connexion with the adjoining
hospital. Recently the brickwork
pronounced signs of decay that a
Structure Notice was served, the
land furniture removed, and demo-
being considered when Mr. (now Sir)
expressed an opinion that the
ould be saved by the use of the
achine, which has done such good
Winchester Cathedral.

requested to make the attempt, and
now in progress.

work of the house is of the inferior
usual in houses of the same
neighbourhood, but the facts that
are relatively thin and that they
good deal of timber in the form of
story-posts, beam timbers, plates,
blocks render the case one in which
ably successful result is less easy
ent than in heavy walls of such
as is found in mediæval churches.
ary to a good result to first pump
igh the interstices, partly to wash out
chiefly to soak the bricks or stone
cement may properly adhere. In
the present this may not be good for
led wood, which, however, can now
y and replaced by brick in cement;
e other hand the brickwork—a few
badly cracked and crumbled—is
it has been grouted, hard and solid.
nce between the treated and un-
alls can be felt and heard on
an with a hammer. The experiment
ell and is interesting as being, we
first instance of the application of
to a dwelling-house. The notice for
has been cancelled.

SANATORIUM MODIFICATION, SURREY.

re County Council at their last
sidered a Report on the treatment of
s under the provisions of the National
Act, and they decided to authorise
Health and Housing Committee to
p to 5,000. during the next three
the provision, equipment, and
four chief dispensaries and a county
dial laboratory, and also the hiring
sanatorium and hospital accommo-
dation permanent arrangements. In
time the scheme which was adopted
Council contemplates the provision of
accommodation, and the establish-
ment of tuberculosis dispensaries in convenient
with sub-dispensaries serving the
districts attached to each centre.
ed to the cost of the scheme, the
elay on the adaptation and the
of houses and provision and apparatus
for chief dispensaries is estimated at
of sixteen sub-dispensaries 800. It

is proposed to establish a laboratory, but this
matter is to remain in abeyance for a time.
Omitting the cost of this, Dr. Jones summarises
the capital outlay for the whole scheme as
26,900., and the annual cost as 22,680. A
contract was sealed with Praed Road Construc-
tion Syndicate, at 2,010., for laying 1,197 yds.
of main road at Ham with Mexphalt asphalt.

CONSTRUCTION NOTES.

M. CAMILLE MATIGNON describes
the spontaneous and pro-
gressive destruction of certain
Lead Objects.

objects made of lead. For
example, ancient lead objects preserved in
museums often gradually crumble to a fine
powder consisting essentially of the carbonate
of lead. It has been found that when such
destruction has taken place, chlorides are also
present in the powder. Experiments with lead
which had been immersed in a 30 per cent.
solution of sea salt, and then dried so that
crystals of salt hung to it, proved that pro-
gressive destruction took place over a period of
three years of testing. A blank experiment
with lead which had not been dipped into such
a solution showed no destruction over the same
period of time. The author offers the following
series of actions as the most likely explanation
of the destruction referred to, and the results of
his experiments. The lead under the combined
action of the oxygen and carbon dioxide of the
air, in the presence of common salt, produces
sodium carbonate and lead chloride; these
last two interacting to produce lead carbonate
and reproducing the common salt.

In such a course a little of the extraneous
ingredient, common salt, may have a prolonged
effect, a result not without analogy in other
chemical interactions. Inasmuch as sea-spray

is carried in the air for long distances from the
seashore, having been detected by the usual
tests for common salt, this is a factor that may
often have to be reckoned with in the durability
of lead-covered roofs.

Coating lead objects which are in the process
of destruction with a collodion varnish retards,
but does not do away with, the destructive
process; and even washing them with boiling
water until the wash-water does not give the
test for chlorides is of no effect.

Messrs. Clay & Sons' New Premises.

We are informed that the
whole of the electro-copper
fire-resisting glazing, covering
some thousands of square
feet, in this building was
supplied by Messrs. Hayward Brothers &
Eckstein, Ltd. (See the *Builder*, July 26, 1912.)

The glazing in question, termed "Copper-
lite" by the patentees, was tested in February
last by the British Fire Prevention Committee,
the object of the first test having been to record
the effect of a fire of 60 minutes' duration on
three windows, the temperature to reach
1,500 deg. but not to exceed 1,650 deg. Fahr.,
followed by the application of water for two
minutes on the fire side of the windows.

Although the glass was cracked, it remained
in position, and the glazing proved its efficacy
as temporary protection by preventing the
passage of fire from one side to the other, and
two of the windows also proved capable of
intercepting water.

A second test of three similar windows was
undertaken to record the effect of a fire of
ninety minutes' duration, the temperature to
reach 1,600 deg. but not to exceed 1,800 deg.
Fahr., followed by the application of water for
two minutes on the fire side. This test was
equally satisfactory, and the windows were
classified as affording partial protection.



Fig. 7. Royal Insurance Building: Main Office, showing part of Mezzanine Floor.

THE BUILDING TRADE

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND:

SUMMER MEETING AT NOTTINGHAM.

THE half-yearly general meeting of this Federation was held on Tuesday, Wednesday, and Thursday of last week at Nottingham. On Tuesday afternoon the Executive Council met in private, and in the evening there was a dinner at the Victoria Station Hotel. The general meeting was held on Wednesday at the Exchange Hall, and in the afternoon the delegates and their wives paid a visit to Nottingham Castle at the invitation of Sheriff Pycroft, while on Thursday there was a picnic to Sherwood Forest, lunch and tea being taken en route.

Mr. James Wright, the President, was in the chair at the general meeting, at which there was a good attendance of delegates, the following representatives being present from South Africa.—Mr. P. Prentice (President), Mr. J. T. Brown (Secretary), and Messrs. Douglas, Evans, Kelly, Wilkinson, Mathew, and Alderson.

At the opening of the proceedings, Sheriff John Pycroft, in the unavoidable absence of the Mayor, Councillor Edwin Mellor, extended a civic welcome to the delegates to Nottingham. In the course of his remarks he said the Federation was one of the most important bodies in the kingdom, as it embraced in its ranks not only builders, but plumbers, stone-masons, and other allied trades. To a certain extent he considered that combination was good both for employers and employees, especially if conducted in a reasonable and straightforward way. He was sure they all deeply deplored the labour unrest that existed, and they all hoped the time was not far distant when things would settle down. He believed that employers generally were quite willing to give their employees a living wage, but the great difficulty was to say what was a fair minimum. He heartily welcomed the Federation to Nottingham, and trusted the delegates would derive pleasure as well as profit from their visit.

Councillor E. A. Atkey also addressed a few words of welcome.

The President, having suitably acknowledged the kind words of Sheriff Pycroft, said it was his pleasure to extend a hearty welcome to their friends from South Africa. He believed he was correct in saying that the South African Building Trades Federation had only been formed about seven years, and that was the fifth occasion upon which they had sent representatives to their summer meeting. It was a great pleasure to know that the builders in South Africa had formed a united Federation, based mainly on the principles of the National Federation.

Mr. J. Prentice said that as President of the South African Federation he could assure them that they took it as a very high compliment to the builders of that colony that the English Federation should welcome them in the fashion they had. He regarded it as a great privilege to be among such a body of business men, and he was sure he and his colleagues would learn much which they could take back with them. Those living in England did not recognise the great changes that were taking place in the old country in the same way as did they who only visited here occasionally. Coming to this country after an absence of something like twenty years, he could see the great and drastic changes that were taking place. He was not going to say whether all those changes were for the better or not, but he thought they would all agree that there was too much aggressive legislation, which interfered with the freedom of employer and employee. A progressive sentiment prevailed at that gathering, and he was glad to say the same spirit was abroad in South Africa. In that country they had got the cream of the trade in their organisation, and he had no doubt that was the case in this country with the National Federation.

Mr. Douglas also thanked the Conference for the welcome afforded to himself and his

colleagues from South Africa, and said they would go back helped in their work of trade organisation. They had an annual Congress of members of the building trades in that colony, and they had been successful in securing many benefits to the trade in general.

Mr. J. T. Brown also briefly thanked the Conference for its words of welcome.

Mr. A. G. White (Secretary) then read the sixty-sixth half-yearly report. This stated that two meetings of the National Board of Conciliation had been held since the last report. The chief matters decided were: An appeal from Leeds, which resulted in favour of the employers; an appeal from Birmingham as to the interpretation of the rule relating to demolition work, when it was decided that such work was builders' labourers' work down to floor level, but not the removal of material or excavation. Two meetings had been held of the National Joint Committee of Appeal under their agreement with the N.A.O.P.; in the matter of an appeal from Birmingham an advance was granted the plasterers to 10½d. per hour, and the rules settled except as to the overtime rule, which was referred back for further consideration locally; the parties, however, failed to agree, and the matter was eventually settled by the National Joint Committee. In an appeal from York on the walking time rule a decision was given that the rule must remain unaltered until fresh notice. A meeting of the National Demarcation Committee was also held, and deal with an appeal from Manchester. The case was a difficult one on account of the sharp conflict between the interests involved. Eventually a unanimous decision was arrived at by which the floating of any work which may have to receive a finishing substance (except asphalt) was agreed to be plasterers' work, all granolithic work to be done optionally by plasterers or concretors, all vertical or soffit work to be done by plasterers, floors finished for paving blocks in engineering works, etc., to be concretors' work. The Midland Central Board heard two cases, one went to the National for final settlement, the other granted an advance of wages to the carpenters and joiners at Sutton Coldfield (9d. to 9½d.). Some trouble had been experienced at Bristol, where the plasterers struck on the question of wages, having refused the offer of a halfpenny. The employers stood firm, and eventually the men agreed to accept the offer, it being understood that they were to be allowed to raise the question of a further advance later on. From reports received it was apparent that a general rise of wages of about a halfpenny per hour was in progress. In some few cases 1d. had been conceded, and in others only a ½d. The National Insurance Act continued to demand a great deal of time and attention from the Federation. The regulations issued for the carrying out of the detailed administration had been carefully examined, and where deemed likely to prove irksome to their members amendments had been secured. Especial attention had to be given to the question of responsibility for the contributions of sub-contractors. There was an inclination to place this responsibility upon the sole contractors, but eventually it had been arranged that unless the sole contractor was entitled to the exclusive services of the sub-contractor's men the latter remained responsible for the contributions of his men. The numerous applications to the umpire for decisions as to whether certain classes of men were of a class in respect of which contributions should be paid had needed constant supervision, much correspondence, and numerous attendances before the umpire in order to prevent the exclusion of classes of men in the service of firms or public bodies not engaged in the building trade, but engaged, all the same, on work commonly carried on by building trade firms. It was obvious that unless the workmen employed by such private firms or public authorities were brought under the Act a most unfair kind of competition would arise, to the detriment of the building trade, and the efforts of the representatives of the Federation had been fairly successful in averting this. There were, however, still many decisions to be given, and continued vigilance would be necessary.

The President, in proposing the adoption of

the report, said he thought they were all with him that it covered a great deal, and he could assure them that the President tended to become very exacting, and took up a great deal of time. Since they did him the honour of attending to that office he had attended to forty meetings of various kinds, two of which were held in London. He also attended the annual dinners at Sheffield, Bristol, Bath, Leicester, Eaton, and wherever he had been warmly received, and the utmost had been shown towards the Federation was at the Town Planning Conference he made a remark to the effect that he did not think they were giving sufficient attention to the difficulty that existed in the housing of the poorest workers in large centres, and he suggested that the matter should be approached in the municipalities might be subsidised, the purpose of providing cheaper dwellings for lower-paid workers. He had a great deal to say regarding the suggestion of Smethurst, who was a member of the Federation. He had also attended the Mansion House on profit-sharing partnership, at which Earl Grey was present, and he was bound to say that the impression he gathered was that the great opening for the adoption of profit-sharing. His Lordship pointed out that the matter positively be made to pay because he told by large employers of labour, quite possible for many workers to get 20 per cent. more work than the injury to themselves. It was a great importance, and one which the Federation might give a little attention to, and, if thought desirable, a committee appointed to make inquiries at another meeting. The report came to the great demands that had been made on the officials of the Federation by the Act, and they had offered strenuously to the exemption from the unemployment of the Act of men in the service of public bodies who, although not engaged in building trade, were engaged on work commonly carried on by building trades. He was sorry to say that according to the report of Trade figures there did not seem much prospect of improvement in the future. With regard to the general question among the labouring classes he observed for one moment that the workers were something with discontent, and on the eve of a great industrial strike. He had too much respect for public confidence in the British workingman to make such a statement. There was no doubt the price of food had risen considerably the last few years, but it was also true that it had been from a state of abjectness, and if they would go back to the condition they would find that food was cheaper to-day than they were thirty years ago. Turning to the fact that they often heard great complaints of defects for including an increasingly large number of prime-cost items in their contracts, he said he only wished to say that the Federation would be able in the future to do something to remedy this. His opinion was that the remedy was in their own hands, and that the way the practice was to put plenty of goods on them charge the architects 10 per cent. everything they included in the contract and if that did not reduce it less than 15 per cent. One of their members had said that they would find it difficult to get all builders to do it. He quite agreed that it would be difficult, but he thought the Federation had overcome greater difficulties than that, and if they would only he was sure they could get over that kind. Another question was the Workmen's Compensation Act, and the burden it was casting upon the trade. He had not got definite information, but he was sure he was well within the mark when he said that the premiums for the Act had doubled within the last few years.

HOUSING IN RURAL DISTRICTS.

In the House of Commons, on July 30, Mr. Charles Bathurst asked the Prime Minister whether Lord Strachie gave utterance to the views of the Government when he recently stated at the annual meeting of the Rural District Councils' Association that the Housing, Town Planning, etc., Act, 1909, did not meet the wants of purely agricultural districts, and that it was desirable to apply the principles of the Labourers (Ireland) Act, 1906, to England, in order to accelerate the provision by such Councils of additional cottage accommodation for agricultural labourers; and, if so, whether, in view of the urgency of the matter, it is proposed to introduce this session legislation of the character indicated? Mr. Asquith, in reply, said that Lord Strachie was expressing his own views in the matter. The Government do not propose to introduce this session legislation of the kind suggested.

On the same day Mr. Charles Bathurst again asked whether attention had been called to the annual Report of the Medical Officer of Health for the Market Bosworth Rural District Council; whether, according to such Report, out of 558 dwelling-houses inspected in that area in 1911, defects were found in 355, and five closing orders were made, ten dwelling-houses closed, and three demolished, whilst the excess in the number of births over deaths was 373; and what action, in view of these facts and the decision of the Rural District Council in question not to take action in supplying the housing deficiency in their area, was intended to be taken? Mr. Burns, replying, said that his attention had been called to the Report mentioned, and he was in communication with the District Council on the subject. Lord Henry Cavendish-Pentland asked what action is being taken by the Rural District Council of Bridlington to provide accommodation in their district under the provisions of the Housing Acts, in view of the fact that the Sanitary Inspector reports that eighty-six cottages are too antiquated and worn out to be servicable, whilst he reports that thirty-five further dwellings are such as cannot, without danger, be occupied any longer, and they should be properly vacated before another winter season; and whether, under these circumstances, the President will inquire into the case, and take action if the Rural District Council has not yet taken steps to remedy the deficiency? Mr. Burns, in connection with the previous reports of the Medical Officer of the district, I addressed communications to the Rural District Council as to the need for the provision of houses under Part III. of the Housing of the Working Class Act, 1890. The further consideration of the question was reserved pending a survey of the district by the local Sanitary Inspector. That survey has recently been completed, and the report of the inspector from which the figures mentioned in the question are taken is under the consideration of the Council. A copy of the report was sent to me a few days ago, and the matter is engaging the further attention of my housing department.

GENERAL BUILDING NEWS.

CONGREGATIONAL CHURCH, PENGE.

This church is being erected at a cost of about 9,000*l.* by Messrs. Jones & Andrews, contractors, of Beckenham. The building will have accommodation for 600 people, and the nave will be 80 ft. long. The architect is Mr. P. Morley Horder, F.R.I.B.A., of London.

CHURCH EXTENSION, HALE.

Messrs. Martin Stone & Sons, of Altrincham, are the contractors for the extensions which are being carried out to the Congregational church in Ashley-road. The estimated cost of the work is 9,000*l.*, and the architects are Messrs. France & Laycock, of Manchester.

MEMORIAL CROSS, WINTERBOURNE.

A memorial cross has been erected at the parish church of All Saints, Winterbourne Down, at an estimated cost of 150*l.* The cross is composed of blue pennant stone and is 13 ft. high. The work was executed by Messrs. Harry Hems & Sons, of Exeter.

WATERWORKS, LOCH BRADAN.

The new waterworks which have been constructed at Loch Bradan for the supply of water to Troil, Prestwich, and the surrounding district were built from plans prepared by Mr. John Eaglesham, C.E., engineer, of Ayr, and the contractors were:—Constructing dam and laying first section of conduit, Messrs. Neil MacLeod & Sons, Edinburgh; providing and laying cast-iron piping of second, third, and fourth sections, Messrs. D. Y. Stewart &

Co., Ltd., Glasgow, concrete tubes for conduit, Messrs. John Ellis & Sons, Ltd., Leicester; valves and fittings, Messrs. Glenfield & Kennedy, Kilmarnock. The cost of the work is estimated at 90,000*l.*

WORKHOUSE INFIRMARY, BANGOR.

Bangor Guardians have decided to accept the tender of Messrs. Thornton & Sons, of Liverpool, for the erection of their new infirmary, the amount of the tender being 17,589*l.* The building will provide accommodation for 114 beds, and the architect for the work is Mr. F. Bellis, of Bangor.

POLICE-STATION, READING.

Mr. Slingsby Stallwood, F.S.A., is the architect for this new building which was opened on Thursday last week. The contractors for the work are:—For the building work, Mr. McCarthy E. Fitt; hot-water work, Mr. James T. Spencer; electric lighting, Messrs. Haughan & Co. Mr. James Tegg was clerk of the works.

WORKMEN'S DWELLINGS, THETFORD.

The Thetford Town Council are about to erect fifty cottages in Bury-road from plans prepared by Mr. Stanley J. Wearing, A.R.I.B.A., architect, of Norwich. The builder is Mr. E. Clark, of Melton Mowbray.

NEW BUILDINGS IN LONDON.

Seven houses, near Headstone-lane Station, Hatch End, Hendon, N.W.; Mr. Edward Mackie, estate agent, L. and N.W. Railway Company, Euston Station, Drummond-street, N.W. Theatre, West-street, Shaftesbury-avenue, W.C.; Mr. J. Herbert Jay, managing director, Ambassadors' Syndicate, Ltd. Enlargement of school, Victoria-road, Peckham (370*l.*); Messrs. G. Parker & Sons, builders, 124, Sumner-road, Peckham, S.E.

TREDEGAR HOUSE, BOW-ROAD, E.

Mr. Rowland Plumble, F.R.I.B.A., was the honorary architect of Tredegar House, the London Hospital Training School for Nurses, which was opened in Bow-road by Queen Alexandra on July 19. The buildings have been erected at a cost of 12,000*l.*, and afford accommodation for thirty nurses in training. We understand that Mr. Plumble contributed 5,000*l.* towards the building fund.

TRADE NEWS.

Mr. J. S. Alder, of 1, Arundel-street, Strand, is the architect for additional classrooms at St. Barnabas Church Hall, Homerton, now being erected by Messrs. E. A. Roome & Co., of 36, Basinghall-street, E.C.

Mr. B. E. Nightingale, Lambeth, has obtained the contract for building some large private residences at Chapel-road, Tadmort, Surrey.

The "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to Queen's road Church, Broadstairs.

Messrs. S. H. Morden & Co., of 11, Tothill-street, Westminster, have opened offices at Broad Sanctuary-chambers, 11, Tothill-street, Westminster, and have been appointed sole London agent to the firm of Musgraves (Liverpool), Ltd., and Newcastle-on-Tyne, sanitary engineers and manufacturers of "Invicta" porcelain enamelled fireclay ware and other sanitary appliances for use in hospitals, schools, etc.

The New Isolation Hospital, Staines, Middlesex, is being supplied with Shorland's patent warm-air ventilating Manchester stoves with descending smoke-flues, patent exhaust roof ventilators, and special inlet ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsforth, Manchester.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Construction.

Hackney, Central.—Temporary coffee-stall in front of No. 345, Kingsland-road, Hackney (Mr. W. J. Jordan).—Consent.

Paddington, South.—Iron and glass covered way in front of No. 38a, Porchester-terrace, Hyde Park (Mr. A. B. Gutmann).—Consent.

Mile End.—Projecting crane at Crown Works, on the north-eastern side of Bancroft-road, Mile End (Mr. J. M. Knight for Mr. H. Roberts).—Consent.

Norwood.—Temporary wood and iron building in front of No. 12B, Norwood-road (Mr. E. Carr for Mr. W. Haley).—Consent.

Probably that was so, and in face of causes to which they were now being subjected it was a seriously increasing fact that the Federation was not without the ability to do something in the near future at the cost of the administration.

He believed he was correct in saying for every 100*l.* they paid in compensation they had to pay about 50*l.* in expenditure, although the Act was good in principle, it was not possible to administer it so cheaply.

Mr. Easton seconded the motion. He reported the meeting would not be without the expression of subsidising for housing purposes. He (the President) did not believe in that policy, for the fact that in his experience he had found it to be a benefit to anyone. It might be in theory, but when it came to practice they found that a municipality, through a committee who were mostly amateurs, could not build any cheaper than enterprise.

Mr. Easton said he hoped he did not intend that he was in favour of subsidising. All he wanted to convey was that he thought it would be well if either a municipality or anybody else could borrow money for the specific purpose of building for the very poor.

Mr. Easton said that those who advocate the principle enunciated by the President was a perversion of proper economy, but they felt that the method in which the people of the country were being treated was a menace to those who were better off. (Mr. Smethurst) had a scheme of good builders should be able to get cheap land for the purpose. Mr. Whittall (Birmingham) said that the municipality had to contend with this in municipal housing was the selection of sites. It was very nice to say that it was to provide for the housing of the poor, but the plain fact was that the municipality had that class of persons in its midst, for the very good reason that they got no rents from them. The class they got was those who were paid very little and by providing cheap dwellings at a small expense they were simply subsidising employees. Their experience was that wages followed house rents, and house rent went up so would wages. To get real social improvement was to get to be paid a reasonable and not a small amount.

Mr. Hope (Sunderland) referred to the fact that the Board of the Compensation Act, said that one of the objects of the insurance companies was to have no maximum limit for anything but an accident.

Mr. Woods (Bolton) said he hoped that as a result of the President with regard to the insurance would not blind them to the fact that there was a very big movement in the building trade amongst the employers to form one combined federation, and they could attack in one large body in detail. They in Lancashire and in other parts of the country had not come to the point of coming for many years, and were only surprised it had not come earlier. His purpose in rising was to say that the National Federation should try to get various associations to use that power to get all members of the trade together, and he would like to see London and the other sub-contractors and members of the trade in their organisation.

Mr. Easton said he agreed with Mr. Woods in the fact that the workmen in the trade were seeking to combine in order to act as an incentive to all others to join their local association. The report was adopted.

Work will be concluded next week.)

MUSIC HALL, GUILDFORD.

Proposed to erect a hippodrome, to accommodate for 1,500 people. Mr. J. H. Holmes-street, Cavendish-street, has been appointed architect for

ORIA AND ALBERT MUSEUM.

to the annual Report, lately presented to Parliament, the number of this Museum at South Kensington near 1911 was 316,673 on week-days "students' days," 125,191 on days to which an admission charge is made (on which the main building holds students' tickets), and (Sundays, giving a grand total of 1,000,000). The Department of Architecture has the plaster models by Alfred Stevens moved out of the Square in the Central Hall and the adjoining galleries where they are seen to advantage. The plaster models by Alfred Stevens connected with the Museum are exhibited for comparison with the models of cast-brass figures has been strengthened by the addition of several interesting pieces, such as a useful adjunct to the small original objects which represent this branch of the industry. A reproduction of the XVth-century Gothic iron screen of the Church has been added to the collection. Reproductions of ironwork. It is time to exhibit reproductions of all important medieval iron screens in this country.

One year Mr. J. H. Fitzhenry made notice to the already long list of objects he has so generously made to the Museum. These may be mentioned as interesting architectural specimens, including a plaster and pillar in carved limestone, French work of the first half of the XVth century. A fine example of French work of the middle of the XVth century, carved by a donor who wishes to be remembered. This is a life-size stone figure of the Virgin and Child in singularly good preservation, almost all the original colour being preserved. It is said to have been the work of the artist who carved the Petite Chapelle St. George near the Royal Abbeceourt. The type is one, in which the Child holds a lily in his left hand, and blesses with his right hand. An unfinished cartoon for a figure of the Virgin and Child, carved by Pierre Pavis de Chavannes, presented by the National Art Collection. This cartoon is painted in oils on canvas and represents a seated female figure distributing gifts to child-angels, on either side of her; the composition is intended to fill a semicircular lunette, 12 ft. 4 in. Until this gift was received, the Museum possessed no specimen of the work of this influence on modern decoration so great. An oval mirror in a carved frame, with a figure of the Virgin and Child, presented by Sir E. Stern. The mirror was made for Frederick Prince of Wales (1684-1748), whose name is on the building and decoration of houses and other English houses of the 17th and 18th centuries, and illustrates the characteristics of the style of that period.

During the year the Department of Architecture and Sculpture was fortunate in purchasing two admirable examples of the art, viz., a figure of the Virgin from Ecouen, carved in a soft stone, and a cluster of five pillars, Fontainebleau, with stone capitals and grey marble shafts. The statue is a style certain reliefs which were under the supervision of Pierre and Jean de la Roche, and probably of the same period. The cluster of five pillars have been found in the course of excavations outside the west door of the church of Grez-sur-Loing (Seine-et-Marne), probably dates from early in the 15th century. Several interesting acquisitions have been made for the collection of sculpture, among which should be mentioned a fine stone relief of the Virgin and Child, a contemporary reproduction of a Minoan relief ascribed to Mino de the only XVth-century Florentine of importance hitherto unrepresented in this Museum. A recent acquisition is that of a large sketch model, namely in plaster, of a group of figures, purchased from the estates of Mr. James Gamble and the late Thomas, two of Stevens's surviving works during 1911. The first collection

tion comprises a number of valuable studies for architectural and industrial work designed or carried out for the Wellington Monument in St. Paul's Cathedral, Dorchester House, and other undertakings. The chief interest of the second collection lies in the five splendid models of sculpture designed to form part of his proposed scheme for the decoration of the dome of St. Paul's.

In the Department of Woodwork purchases have mainly been made with a view to filling gaps in the collection of English furniture. Among the more important are the chair of the President of Lyons Inn, a former Inn of Chancery, and an English wooden bedstead of the time of Queen Anne. The chair, which is of mahogany, and is carved on the back with scroll and rococo ornament, is a fine example of the type of chair made by Chippendale and his contemporaries for civic ceremonies about the middle of the XVIIIth century. The bedstead has hangings of rose-coloured watered moreen, trimmed with green and yellow galon.

The following articles have been loaned to the Museum by the King, viz., eleven examples of Nepalese (Néwar) carving, in red birchwood, XIXth century, including model of the Hindu Temple of Krishna at Patan, Nepal; chimney-pieces from Khatmandu; two picture-frames from Khatmandu (containing coloured photographs of temples at Bhatgaon and of street architecture in Khatmandu); pair of vases from Khatmandu; miniature lattice, copied from a lattice-window in Khatmandu; miniature windows, copied from windows in Khatmandu.

QUESTIONS IN PARLIAMENT.

Erection of Government Buildings in Dublin.

On July 29 Mr. Brady asked, in the House of Commons, when it is proposed to resume and complete the construction of the new Government buildings in Upper Merrion-street, Dublin. Mr. Masterman, in reply, said that the commencement of actual building operations on the site is contingent on the vacating of certain of the houses thereon at present used as offices. It is expected that these offices will be vacated in January next, after which building operations will be proceeded with on the site. Tenders for the new buildings are being invited at once, and the declared contractor will be required to proceed with the preparation of the stonework, joinery, and steelwork as soon as the contract is signed.

Insurance Act and the Cement Trade.

In the House of Commons on July 29, Mr. John Ward asked the Secretary to the Treasury whether his attention had been drawn to a ballot now being taken by the Associated Portland Cement Combine of their workmen asking them to transfer from any approved society they may have voluntarily joined under the National Insurance Act to an approved society about to be established by this cement trust; whether it is the intention of the Insurance Commissioners to give their approval to a society made up of persons coerced to transfer from their own properly constituted societies, and what action, if any, does he propose to take to prevent intimidation of this kind? Mr. Masterman, in reply, said that he was informed that the firm in question had decided not to form an approved society for the purposes of the National Insurance Act. The remaining questions, therefore, did not arise.

Designs for Jam Sahib of Nawanagar's Palace.

Mr. George Greenwood, in the House of Commons on July 29, asked the Under-Secretary of State for India whether his attention had been called to a claim of the Compagnie, of 47, Graham-street, Sloane-square, S.W., against his Highness the Jam Sahib of Nawanagar, for 900l. in respect of work done and designs supplied to his order in connexion with his Highness's proposed summer palace; whether he is aware that correspondence has taken place between the early part of 1908 and the present time between his Highness's agents, private secretary, and solicitors on the one side, and the company and their solicitors on the other side, and that such correspondence discloses the fact that his Highness has repudiated the claim in question, and whether any steps have been taken by the Secretary of State in the case?

Mr. Montagu, in a written reply, stated that

the attention of the Secretary of State has been drawn to the correspondence referred to, the effect of which is as stated. His Highness the Jam Sahib has not asked the Secretary of State to advise him, and it has not hitherto been the practice of the India Office to intervene between ruling chiefs and their private creditors.

The Old Post Office Site.

Captain Jessel asked the Postmaster-General whether the old Post Office buildings at the corner of Newgate-street and St. Martin's-le-Grand are to be pulled down, if so, whether it is proposed to erect new buildings on the present building line, and whether the opportunities for future street improvements at this important corner have been considered. Mr. H. Samuel replied that the old Post Office, which is being pulled down, is not at the corner of Newgate-street, but is bounded by St. Martin's-le-Grand, Gresham-street and Foster-lane. New buildings are to be erected on the site. It would be for the Corporation of London to make any suggestion with regard to street improvements, and if they desire to do so he should be prepared to confer with them.

LUNATIC ASYLUM BUILDINGS.

In their sixty-sixth Report just presented to Parliament, the Commissioners in Lunacy state that the suggestions and instructions issued by the Board with reference to sites, general arrangement of buildings, construction of buildings, plans and particulars, and estimates of cost of asylums have recently been carefully revised. In them prominence has again been given to the fact that, while not desirous of in any way discouraging the evolution of new designs for buildings that may possibly tend to the recovery and more successful treatment of patients, the Commissioners will insist upon the strictest economy, consistent with suitability for purpose and good workmanship, being exercised both in construction and equipment. The Commissioners have also pointed out that elaboration of design for merely architectural effect will not be sanctioned, and that decorative stonework or other expensive material introduced for that purpose will prejudice the approval of the plans by the Home Secretary.

A large number of building schemes, varying much in magnitude and importance, have been under consideration during the past year. Of these eighty-six, representing a total estimated expenditure of 295,900l. 17s. 6d., were finally dealt with.

The arrangement, understood to be tentative in character for three years, whereby the Commissioners have had in their office the entire services of an experienced architect and some additional clerical help to assist them in dealing with plans, estimates, and contracts relating to building schemes, and with the highly technical and important questions related thereto, has proved most successful—the completeness of criticism, formerly impossible, having tended to promote greater suitability of design and construction, and to the advancement of public economy—and it is with satisfaction that the Commissioners are able to report that the Treasury has sanctioned its continuance on a permanent basis.

In the case of the London County Manor Asylum the Commissioners declined to recommend a scheme for the enlargement and alteration of the recreation hall, with a view to making it suitable for religious services as well as for entertainments, on the grounds that the Asylum ought to be provided with a separate building to be used exclusively for religious services, and that there ought to be no further extension of the present quasi-temporary building. The whole question of the provision of chapel accommodation at asylums where it is at present deficient is receiving careful consideration.

In several instances the approved additions to existing asylums consisted either in the provision of cottages for married attendants or an extension of the Asylum estate. Few things tend more to make male attendants contented and settled and to become efficient in their work than the knowledge that when they marry they will be able to obtain suitable houses in close proximity to the Asylum. Where, therefore, suitable cottages are not available, they ought to be provided by the Committee. As regards the extension of asylum estates, it is considered important, both in the interest of the patients and for economic administration, that, as far as

Messrs. Mabbett & Edge, auctioneers, 10, Grosvenor-square, W., will sell by auction on Saturday, August 17, at 11 o'clock, a freehold seaside building land on the Downs, Bexhill. An advertisement containing further particulars appears in this issue.

At their last meeting, the County Council approved a scheme for widening West High-street to be let on a building lease to A. C. Ebbutt, the lessee to consent to be passed by the Corporation, for not less than 1,000l. Plans have been submitted for Mr. P. Richardson, 30, Addison-street, for the erection of six houses in 1912.

The tender of Messrs. H. Elliott & Co. has been accepted at 256l. 7s. 6d. for the footway bridge over the River Rye.

Repairs are to be carried out on the carriageways in Greenwich-street, estimated cost of 133l.

The tender of Mr. H. Farrow has been accepted at 9,318l. 14s. 6d. for carrying out works in Brent-street, Green, and North End-road; as has also the tender of Messrs. C. W. Halls & Co. for the erection of a mortuary for the Council offices. Mr. Farrow, at 211l. 8s., has further been accepted for the erection of a shed at the depot. Sanction has been received from the Local Government Board to the effect of 2,562l. for improvement works in the Lawrence-street, Mill Hill, and plans have been passed:—(1) Streather, twenty-two houses, avenue, Golder's Green; Mr. J. D. Green, St. George's-road, Green; Mr. S. Johnson, three houses, Mr. Frank Secar, six shops, Brent; Messrs. Michell & Aldous, alterations of "Waies" public-house, the Burnt, J. King, three houses, the Park, &c.

At the last meeting of the Council, the Report of the Fire Committee was adopted. In this Committee recommended purchase of the station for the erection of a station office, residence, and separate residential quarters, at an estimated cost of 5,610l. proposed to carry out alterations to the station and South Haringay fire-stations, at an estimated cost of 170l. and 420l.

The tender of Messrs. Gabriel, Burtons has been accepted, at 57,000l. for the supply of 57,000 creosoted blocks for the paving of a portion of the roads. The tender for the carriage-ways of Brecknock and York, total estimated cost of 654l. The barrel sewer in Grafton-road is to be replaced by a new 9-in. stoneware pipe in its place, at an estimated cost of 1,150l. The electric lighting in Ball's Pond-road, St. Paul's, and New North-road, will have decided to repave with the margins of the roads mentioned. The tender of Messrs. E. C. E. for the improvement of the transverse sections of the roads, at a cost of 11,500l. For these works, the Committee have accepted the offer of Messrs. William & Co., Ltd., Hamilton House, E.C.

The tender of Messrs. Champlin, has been accepted, at 502l. for alterations at the North Kensington Library. The wood-paving at the entrance of Queen's Gate-place is to be extended for a distance of about 100 ft. at an estimated cost of 75l. At an estimated cost of 332l., the kerb and footway in a portion of Sydney-place is to be replaced. The asphalt paving in the Portobello-road is to be extended at an estimated cost of 191l.

The footways in portions of two streets are to be repaired at an estimated cost of 1,150l. The following plans have been submitted:—(1) Messrs. E. C. E. for the improvement of the transverse sections of the roads, at a cost of 11,500l. For these works, the Committee have accepted the offer of Messrs. William & Co., Ltd., Hamilton House, E.C.

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THE BUILDER.

have been passed for Mr. W. A. Goring for the erection of three houses, Fox-lane, Palmer's Green, and twelve houses, St. George's-road, Southgate; as have also plans submitted by Mr. A. Sykes for the erection of five shops and houses at the Market Green-lane, Palmer's Green.

Wandsworth.—The tender of Mr. T. Adams, at 2,208l., has been accepted by the Borough Council for flagging the footways in Grove-road, Balham, with Croft adamant artificial stone. The Borough Engineer has been instructed to carry out the work of constructing a sewer in a portion of Wimbledon Park-road, Southfield, at a cost of 386l. Plans have been passed for Mr. W. Pinney, Messrs. Holloway Brothers (London), Ltd., and Messrs. W. & E. Hunt, for the erection of an electric theatre in High-street, Wandsworth; eight houses in Magdalen and Ellerton roads, Springfield; and additions to Nos. 1 to 25, The Boulevard, Balham High-road, respectively.

Watford (Rural).—The District Council have received sanction from the Local Government Board to the borrowing of 1,900l. for street works at Aldenham. The sewer in Rastbury-road, Northwood, is to be extended at an approximate cost of 280l.

Watford (Urban).—Plans have been passed for the erection of a mortuary and additions to the boiler-house at the Watford Workhouse, for the Guardians. Mrs. Howell has lodged plans for the erection of a house and laundry in Sydney-road.

Wimbledon.—A portion of the footpath on the north side of Worple-road is to be paved with concrete slabs at a cost not to exceed 294l. Another portion is to be similarly paved at a cost of 310l. The following plans have been passed:—Messrs. Everitt & Sons, additions to the King of Denmark Inn, etc., The Ridgway; Mr. W. Rogers, alterations and additions to No. 10, Church-road; Mr. P. D. Clapham, additions to Southdown Laundry, Kingston-road; Messrs. Gripper & Stevenson, garage, Belvedere-avenue. Plans have been lodged by Mr. R. A. Hinds for the erection of three shops in Coombe-lane; also by Mr. R. J. Thomson for shops and houses in High-street.

Wood Green.—The Urban District Council have instructed their Surveyor to prepare plans, etc., and tenders are to be invited for culverting sections one and three of the Muswell Stream. Tenders are also to be invited and application is to be made to the Local Government Board for sanction to borrow 1,401l., the estimated cost for carrying out private street improvements in portions of Alexandra Park-road.

OBITUARY.

Mr. R. Clutton, F.S.I.

The death, on August 2, is announced of Mr. Robert Clutton, aged sixty-nine years, of No. 5, Great College-street, Westminster, and No. 5, Vicerage-gate, Kensington. Mr. Clutton, a son of the late Mr. John Clutton, principal founder and first President of the Surveyors' Institution, 1866, joined the Institution in that year, and was elected a Fellow six years afterwards. He and his elder brother, Robert George Clutton, F.S.I. (who died in March, 1907), were members of the firm of Messrs. Clutton, surveyors and agents to the Ecclesiastical Commissioners, the Commissioners of Woods and Forests, and many private owners of landed estates. His services were often employed in arbitration cases in respect of the compulsory acquisition of property.

FOREIGN AND COLONIAL.

Improvements in Lyons.

Progress (reports the British Consul. Mr. E. Vicars) continues to be made with the immense programme of public works on which the municipality of Lyons embarked some five years ago, and to meet the cost of which a loan of 1,400,000l. was raised at 3 per cent. interest. The new slaughter-houses and cattle market, though begun in 1909, are not expected to be completed for at least another two years; they are to cost 528,000l. Of the three new bridges included in the municipal programme one—the Pont de l'Homme de la Roche, over the Saône—was formally opened on March 31, 1912; the other bridge over the Saône, the Pont de la Feuillée, is in process of construction; but the remaining one—that of the Hôtel Dieu over the Rhône, which is to take the place of an existing suspension bridge—has not yet been begun, though a light temporary structure of wood capable of carrying vehicular traffic has been built, at a cost of 7,000l., to enable the present one to be abolished, so that

the beginning of this work (estimated to cost 72,000l.) will not be long delayed. A second bridge over the Rhône is also projected, to connect the right bank with the new slaughter-house quarter. This structure, to be called the Pont de l'Abattoir, will be of reinforced concrete throughout—the first of its kind in Lyons—and is estimated to cost 64,000l. It is intended to invite tenders for this work, but these municipal contracts, even when they are nominally open to the whole world, are but rarely given to any but French firms. The new ornatorium is being pushed on, and the extensive additions to the town water-works and supply source, estimated to cost over 80,000l., are being carried out. A new general hospital is to be built to take the place of the Hôtel Dieu, a venerable building on the right bank of the Rhône. For more than ten years the municipality has been engaged in building a great retaining wall of masonry, to render secure the rocky cliff side of the Saône, supporting the picturesque hanging gardens of the Chartreux. This has now been completed at a cost of 20,000l. The town engineers are engaged in evolving a complete drainage system for Lyons, the cost of which is vaguely spoken of as likely to be between 800,000l. and 1,200,000l.

A Growing City.

São Paulo, the capital of the State of the same name, in Brazil, continues its extraordinary march of progress. During the past year there were constructed over 4,000 new houses, all of which were occupied as soon as finished. So rapid is the increase in population that the demand for houses is greatly in excess of the supply, with the result that rents have reached fantastic figures. The population of the city of São Paulo at the present time is estimated at 380,000, and it is expected that within the next fifteen years it will reach 1,000,000. Value of land in the city has increased enormously. At the present time the value of sites in the business area ranges from 100l. upwards per square metre, and in the outlying districts, building plots sell for 7s. to 10s. per square metre. During 1911 a company was formed in London with a capital of 2,000,000l. for the purpose of acquiring and developing lands within the municipal area of the capital. Another company has lately been formed with a capital of 340,000l. for the purpose of constructing two large hotels upon the most modern lines, one in the city of São Paulo and one at Guarajá, the favourite seaside resort near Santos. Work in connexion with these hotels will be commenced forthwith. The magnificent opera house, constructed by the São Paulo municipality, was completed during the past year. It has been decided to pull down the old cathedral and to construct upon the site thereof a new edifice, which for size and magnificence will rank amongst the finest in the world. It is to cost 400,000l., the money being found principally by private subscription, aided by a substantial donation from the State. The municipality have commenced operations in connexion with an immense scheme of city improvements, as suggested by M. Bouvard, architect for the city of Paris, who was invited to draw up plans. In accordance with this scheme, the existing viaduct which spans the valley between the old city and the modern extensions will be replaced by a new and more solid structure. Three additional viaducts will be built, the principal thoroughfares will be asphalted, several of the existing streets will be constructed, so as to traverse the city in all directions. Furthermore, the valley to be spanned by the viaducts will be drained and levelled and converted into a public garden. The cost of the projected scheme is estimated at 4,000,000l., towards which amount the State has already contributed 700,000l. It speaks well (remarks the British Consul in reporting upon the project) for the credit of the municipality of the capital that proposals upon very favourable terms have been received from several financial houses in Europe for the large amount required in connexion with the scheme.

Material and Equipment for Warehouses, Canada.

H.M. Trade Commissioner for Canada reports that, according to the *Montreal Gazette* of July 3, a company has been formed, with a total authorised capital of 6,500,000 dollars (about 1,335,000l.), for the establishment of a chain of terminal warehouses from Montreal to the Pacific Coast, in connexion with the Grand Trunk and Grand Trunk Pacific railway systems. The first chain of warehouses will include Montreal, Toronto, Fort William, Winnipeg, Calgary, Edmonton, Vancouver, and Prince Rupert, and as soon as this chain is established steps will be taken to extend it by the construction of additional warehouses

at other places where they are needed. It is stated that contracts have been entered into by which the Grand Trunk and Grand Trunk Pacific railways agree to entrust the new company with all their warehousing business for a period of thirty years. The names of the companies, etc., to which the foregoing notices relate may be obtained by British manufacturers on application to the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

Ferro-Concrete Sheds, Austria-Hungary.

The *Zentral-Anzeiger für das öffentliche Lieferungswesen* (Vienna) of July 21 announces that the municipal authorities of Vienna have approved the plans for the erection of a tramway depot at a cost of 1,750,000 kronen (about 75,000*l.*). This station will comprise a ferro-concrete shed capable of accommodating 296 cars, and, it is claimed, will be the largest tramway depot in the world.

Buildings, etc., Hungary.

The same issue of the *Zentral-Anzeiger* states that the municipal authorities of Debreczen (Hungary) are at present negotiating for the issue of a loan of 100,000,000 kronen, which will be applied in part as follows:—Erection of university buildings, 6,000,000 kronen; erection of a hospital, 3,000,000 kronen; rebuilding or renovating the municipal theatre, 2,000,000 kronen; building new town hall, 4,000,000 kronen; street paving, 5,000,000 kronen; central cemetery and crematorium, 1,700,000 kronen; erection of a market hall, 2,600,000 kronen; building of barracks, 6,000,000 kronen; erection of other new buildings, 3,000,000 kronen. (24 kronen = 1*l.*)

Customs Warehouse, Canada.

H.M. Trade Commissioner for Canada reports that sealed tenders for the construction of a Customs Examining Warehouse at Montreal will be received, up to 4 p.m. on August 8,* by the Secretary, Department of Public Works, Ottawa. A copy of the specification and form of tender may be seen by British contractors at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C. H.M. Trade Commissioner states that, although it does not appear probable that any firm in the United Kingdom will be in a position to tender for the work as a whole, there may be openings for the supply of materials, such as cast-iron pipes, steel structural work, etc.

PATENTS.

APPLICATIONS PUBLISHED.

23,272 of 1911.—Walter Henry Smither: Hot-water supplies for domestic and other purposes.

15,473 of 1911.—William Turnbull: Flushing apparatus for water-closets and the like.

15,670 of 1911.—Albert Hansen and Mandrix: Centraloven A/S Stoves.

15,929 of 1911.—Rohinton Nussurvanji Miza: Reinforced concrete construction.

25,553 of 1911.—John Henry Punched: Concrete and other compositions.

26,704 of 1911.—Carl Heinrich Schol: Manufacture of light slabs, bricks, and the like from blast furnace slag.

422 of 1912.—Harold Williamson Lake (firm of Read & Morrill): Moulds for concrete walls, partitions, floors, ceilings, and the like.

1,283 of 1912.—Timothy Kelly: Door-closing appliance.

2,220 of 1912.—Richard Parker Hill: Means for cleaning water and other pipes or mains.

2,523 of 1912.—Charles Christopher Braithwaite: Valves and apparatus for governing and controlling water supply as in irrigation works, town services, and similar purposes.

3,928 of 1912.—Gellius Andreas Kefoed: Machine for producing interlocking tiles of cement.

4,244 of 1912.—Edward Charles Robert Marks (Hazen-Brown & Co.): Cementing machines.

6,458 of 1912.—John Hugh McCoy: Concrete water and like tanks, and methods of manufacturing same.

7,801 of 1912.—Robert Green: Roofing tiles.

7,802 of 1912.—Robert Green: Roofing tiles.

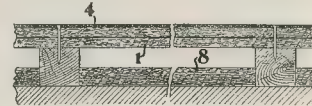
* It will be observed that the time for the receipt of tenders is limited, and therefore this intimation will be of use only to firms having agencies in Canada who can be instructed by cable.

+ All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

SELECTED PATENT.

4,914 of 1911.—Jacob Mazer and the Acoustics Improvement Company: Sound-deadening in buildings.

This relates to means whereby the acoustic properties of halls and buildings are improved, which consist in covering the walls with one or more inner layers 1, 8, of material such as hair felt, having a high sound-absorbing



4,914 of 1911.

capacity, and an outer layer 4 of porous woven material, of less efficient sound-absorbing capacity and preferably fireproof. The intermediate air space between the layers may be omitted, or all the layers may be so separated.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

Blackmore, Essex.—Sabbidge Lodge, 44 a. 2 r. 39 p. f., y.r. 801.	2,150
Laindon, Essex.—Hunt and Browitts Farm, 22½ acres, f.	2,000
Chigwell Hall Farm, 176 acres, f.	3,250
Chigwell Bow, Essex.—Mellers Farm, 68½ acres, f.	3,000
By ROGERS, CHAPMAN, & THOMAS.	
Pimlico.—7, Sutherland-ter. (s.), u.t. 15½ yrs, g.r. 104, y.r. 801.	500
26 and 28, St. Barnabas-st., and Lg. rents 14 <i>l.</i> 10s. u.t. 14 yrs, g.r. 15 <i>l.</i> w.r. 78 <i>l.</i>	320
14, Denbigh-pl., u.t. 19 yrs, g.r. 8 <i>l.</i> p.	250
9, Warwick-st.-mews, u.t. 17½ yrs, g.r. 8 <i>l.</i> , y.r. 401.	110
West Kensington.—Talgarth-rd., i.g. rents 30 <i>l.</i> , u.t. 24 yrs, g.r. 3 <i>l.</i>	435
By STEPHENSON & ALEXANDER.	
Newton Cottage, Glam.—Sycamore Cottages and pasture, 84 acres, f.	6,360
F.g. rents 24 <i>l.</i> 17s. 6d.	1,050
By FLICK & SON.	
Westlote, Suffolk.—Three cottages, f.	210
Knodishall, Suffolk.—Four cottages, f.	250
Theberton, Suffolk.—House and three marshes, 2½ acres, c.	155
Penshall, Suffolk.—Three holdings and paddock, 15 a. 3 r. 33 p., f.	405
Saxmundham, Suffolk.—Carlton Cottage, f.	380
July 23.—By HAMPTON & SONS.	
Caythorpe, Lincs.—Caythorpe Court Estate, 42½ a. 1 r. 39 p., f.	16,040
St. Leonard-on-Sea, Sussex.—11, Waterloo-ter., f., p.	705
Surbiton.—53, Surbiton-hill-park, f., y.r. 601.	520
By BRADY, WOOD, & CO.	
Cudham, Kent.—Bighin Hill, Fern Cottage, and ½ of an acre, f., y.r. 25 <i>l.</i>	400
Crayford, Kent.—Crayford-rd., baker's shop and 2 a. 3 r. 17 p., y.r. 31.	600
Slades Green-lane, marsh land, 5 a. 3 r. 35 p., f.	180
Pasture land, 8 a. 1 r. 1 p., f.	150
By BROWETT & TAYLOR.	
Paddington.—6, 8, and 10, Chilworth-st., u.t. 26½ yrs, g.r. 300, y.r. 255.	1,200
Peckham.—38, Lunden-gt., u.t. 66 yrs, g.r. 61 <i>l.</i> 5s., e.r. 32 <i>l.</i>	150
Walworth.—9 to 23 (odd), Trafalgar-st., f., w.r. 28 <i>l.</i> 12s.	1,490
By SALTER, REX, & CO.	
Caledonian-rd.—No. 383 (s.), u.t. 35 yrs, g.r. 8 <i>l.</i> p.	140
By WALTON & LEE.	
Wembley, Middlesex.—Kenton Grange and 83 a. 2 r. 17 p., f.	11,440
By THURGOOD & MARTIN.	
Disley, Surrey.—Rose and Wisteria Cottages, f., w.r. 20 <i>l.</i> 10s.	260
Merron, Surrey.—Two enclosures, 1 a. 3 r. f., f.	140
Woking, Surrey.—Pumping station, f.g.r. 50 <i>l.</i> , reversion in 28 yrs.	3,000
By STEPHENSON & ALEXANDER.	
Llantwit Major, Glam.—Farms and accommodation lands, 1,419 acres, f.	39,555
By BROWELL & SONS.	
Burton Lazars, Leics.—Agricultural estate, 556 acres, f.	10,900
By DRIVEN, JONES, & CO.	
Seamer, Yorks.—Seamer Estate, 6,973 acres, f. (including timber).	179,110
July 24.—By BAXTER, PATNE, & LEPPER.	
Bickley, Kent.—Clarendon-rd., Foxgrove, f., e.r. 60 <i>l.</i>	700
By NORMAN & SONS.	
East Bedford, Middlesex.—Market garden land, 142 a. 2 r. 31 p., f.	9,680
Thornton Heath, Surrey.—Waverick-rd., St. Winifred's, f.g.r. 7 <i>l.</i> , reversion in 24 yrs.	165
By RUSHWORTH & BROWN.	
St. John's Wood.—15, Cavendish-rd., u.t. 3 yrs, g.r. 2 <i>l.</i> y.r. 15 <i>l.</i>	890
By THURGOOD & MARTIN.	
City.—5 to 8, Lovell-st., f.g.r. 100 <i>l.</i> (rising to 10 <i>l.</i>), reversion in 71 yrs.	1,990
Sand. Surrey.—Enclosure of pasture, 4 a. 2 r. 27 p., f.	145
Heathburns Farm, 155 a. 3 r. 27 p., f.	5,100

Worpleston, Surrey.—Park Barn Farm, 0 r. 4 p., f.	
Loake, Lincs.—Arable and pasture, 16 a. 2 r. 10 p., f.	
Thornton-on-Fen, Lincs.—Arable and pasture, 24 a. 1 r. 38 p., f.	
By KNIGHT, FRANK, & BUTLEY.	
Killearn, Stirling.—Ballinrain Estate, 4 acres, f.	
By WYATT & SON.	
West Wittering, Sussex.—Arable land, 6 r. 8 p., f.	
By HOLSORTH & HUCKETT.	
Birchington, Kent.—Canter-rd., St. Elm Bay Cottage, f., y.r. 601.	
By FLICK & SON.	
Snape, Suffolk.—Abbey Farm, 190 a. 1 r. 1 r. 27 p., f.	
By WOODCOCK & SON.	
Dallingham, Suffolk.—Lower and Brook Farm, 75 a. 2 r. 15 p., f.	
By H. J. CHEFFINS.	
Hadstock, Middlesex.—White House Farm, 43 acres, f.	
By MOORE, GARRARD, & SON.	
Wetheringsett, Suffolk.—Seven farms, 4 acres, f.	
By BARRETT & SONS.	
Ercall Magna, Salop.—Lliffshill Estate, 8 r. 14 p., f.	
By SIMMONS & SONS.	
Winnereh, Berks.—Loddon Bridge Farm, 1 r. 27 p., f.	
King-st. The Pheasant p.h., f.	
By HUMBERT & FLINT.	
Springhead, Yorks.—Grotton Hall Estate, 125 acres, f.	
Whaley Bridge, Chesh.—Mandeville, f.g.r. 53 <i>l.</i>	
Bridge-st. enclosure, 1 r. 27 p., f.	
Bing's Farm, etc., 45 acres, f.	
Manchester, Lincs.—37 to 53 (odd), Oak-st., and 82, New Allen-st., f., w.r. 13 <i>l.</i>	
July 24.—By MADDOX, MILES, & MADD.	
West Westerton, Norfolk.—Marsland, 0 r. 13 p., f.	
By E. J. CASTIGLIONE & SONS.	
Winnareigh, Lincs.—Winnareigh Estate, 3,000 acres, f.	
By FAREBROTHER, ELLIS, & CO.	
Flamsted, Herts.—Fortion of the Beech Estate, 1,125 acres, f.	
July 25.—By CHESTERTON & SONS.	
Willaden.—27, Chandos-rd., u.t. 23 yrs, y.r. 43.	
By DEBENTHAM, TOWNSON, RICHARDS, & HIGHBURY.—12, Highbury-ter., f., p.	
By LEOPOLD FARMER & SONS.	
Bloomsbury.—55, Torrington-sq., u.t. 21 yrs, g.r. 15 <i>l.</i> r. 100 <i>l.</i>	
17 and 19, Wolcott-hill, u.t. 8½ yrs, g.r. 5 <i>l.</i> y.r. 90 <i>l.</i>	
St. John's Wood.—405, Grove End-rd., y.r. 8 <i>l.</i> p.	
By GREEN & SON.	
Marylebone.—98, George-st., u.t. 11 yrs, 30 <i>l.</i> , y.r. 100 <i>l.</i>	
30, King-st. (s.), u.t. 11 yrs, g.r. 50 <i>l.</i> , y.r. 70 <i>l.</i>	
By H. S. HAWLEY & CO.	
Harlesden, Midd.—St. John's, u.t. 8 yrs, 7 <i>l.</i> , w.r. 46 <i>l.</i> 16s.	
Baltham.—36, Broomwood-rd., u.t. 67 yrs, g.r. 7 <i>l.</i> e.r. 12 <i>l.</i>	
Richmond.—85, Chiswick-rd., u.t. 100 yrs, y.r. 50 <i>l.</i>	
Leigh-on-Sea, Essex.—85, Oakleigh-park-rd., y.r. 40 <i>l.</i>	
By C. C. & T. MOORE.	
Plawton.—35 and 97, Sutton Court-rd., w.r. 48 <i>l.</i> 3s.	
1 Mile E. 128, St. Andrew's, Harlow, u.t. 42½ yrs, g.r. 13 <i>l.</i> 10s., w.r. 88 <i>l.</i> 8s.	
260, Burdett-rd., u.t. 51 yrs, g.r. 7 <i>l.</i> y.r. 150 <i>l.</i>	
Plawton.—Milton-rd., f.g. rents 20 <i>l.</i> , reversion in 63 yrs.	
By NEWTON & SHEPHERD.	
Stoke Newington.—52, Midway-park, f.g. reversion in 39 yrs.	
69 and 67, Midway-st., f.g. rents 10 <i>l.</i> , reversion in 45 yrs.	
98, Midway-rd., f.g.r. 7 <i>l.</i> , reversion in 30 yrs.	
King Henry's Hall, f.g. rents 14 <i>l.</i> , reversion in 43 and 57 yrs.	
Pinsbury Park.—35 and 17, Blackstock-rd., 55 yrs, g.r. 15 <i>l.</i> 12s., y.r. 62 <i>l.</i>	
Wallingford, Surrey.—Elgin-rd., u.t. 55 <i>l.</i> , reversion in 54 yrs.	
Peckham.—Brixton-rd., f.g.r. 50 <i>l.</i> , reversion in 48 yrs.	
Upper Hall-st., f.g. rents 30 <i>l.</i> 16s. peppercorn g.r., reversion in 49 yrs.	
Bexley, Kent.—Parkhurst-rd., St. Law f., y.r. 40 <i>l.</i>	
Kentish Town.—Queen's-cree, f.g. rent u.t. 28 yrs, g.r. 17 <i>l.</i> 15s.	
Peckham.—Rye-la, etc., f.g. rents 65 <i>l.</i> 52 <i>l.</i> , g.r. 33 <i>l.</i>	
Poplar.—21, Pimlico-st., u.t. 41 yrs, g.r. 6 <i>l.</i> y.r. 65 <i>l.</i>	
By PINCHON & PINCHON.	
Tottenham.—2 and 4, Argyle-rd., f., w.r. 81, 50 83 (odd), Summerhill-rd., f., 185 <i>l.</i> 8s.	
4 and 6, Lawrence-rd., u.t. 48 yrs, g.r. w.r. 52 <i>l.</i>	
By T. D. & A. R. PRATT.	
Regent's Park.—30, St. Mark's-cres., 31 yrs, g.r. 10 <i>l.</i> , e.r. 60 <i>l.</i>	
By ROBINSON & PARFITT.	
Pimlico.—23, Pallford-st., u.t. 25 yrs, 3 <i>l.</i> 10s., w.r. 44 <i>l.</i> 2s.	

SOME RECENT SALES—continued.

must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

seen, and quantities from Mr.
Rodger, architect, 14, High-street,

ING. The Essex C.C. Highways Committee invite tenders for widening Springfield Bridge. See advertisement in this issue for further particulars.

ENGINEERING, IRON, AND STEEL.

City Architect, Town Hall, upon payment of 11. 1s. Cheques or postal orders are to be made payable to the order of "The Corporation of Manchester."

Specifications may be obtained at the office of the City Architect, Town Hall, upon payment of 17. 1s. Cheques or postal orders are to be made payable to the order of "The Corporation."

9.—**Penarth.**—**ADDITIONS.**—For additions at Lower Penarth. Plans and

FURNITURE, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

AUGUST 14.—Wigan.—PAINTING, ETC.—The Wigan Corporation invite tenders for the cleaning and painting of the exterior of the "Doecker" Hospital, at the Sanatorium, Welley. Specification, etc., may be obtained at the Borough Engineer's Office, King-street West.

AUGUST 20.—Alcester.—PAINTING, ETC.—Painting, varnishing, writing, and otherwise decorating the exteriors of (a) the Co-operative Stores, Evesham-street, Alcester; and (b) the Co-operative Stores, Evesham-street, and George-street, Redditch, in accordance with specification, which may be obtained upon application from the Secretary, Co-operative Stores, Alcester.

AUGUST 20.—Dublin.—PAINTING.—For painting work required at the Wholesale Food Market, East Arran-street. Specification, conditions of contract, and forms of tender at the office of the City Treasurer, Municipal-buildings. Deposit of 1l.

AUGUST 21.—Portsmouth.—PAINTING.—For painting two greenhouses and two raising frames, with the seats and vases, at the Portes Burial Ground. Specification and general conditions at the Borough Engineer's Office, at the Town Hall.

AUGUST 22.—London.—PLUMBING.—For plumbing work, etc., in connection with the fixing of seventeen large sinks at St. James's Infirmary, Quincey-road, Wandsworth, Common, S.W. Forms of tender and specification with Mr. F. W. Piper, Clerk Union Offices, St. John's-hill, Wandsworth, S.W.

AUGUST 22.—Southwark.—GUARDS.—The Guardians invite tenders for fixing guards to certain machinery at their Infirmary, situate at East Dulwich-grove, S.E. Specification, etc., may be obtained at offices of Mr. Sydney Wood, Clerk Union Offices, Ufford-street, Blackfriars-road, S.E.

AUGUST 23.—Kinglake.—SCHOOL.—Mason, smith, joiner, plumber, slater, plaster, asphalt, glazier, tile, and painter work for new school, Kinglake. Schedule of quantities, etc., may be obtained on application to Mr. G. Charles Campbell, architect, Methil, on the depositing of 10s. 6d.

AUGUST 26.—Kingston.—TIMBER.—The Guardians invite tenders for the supply of 100 fathoms of best yellow Swedish board ends, to be delivered at the Branch Workhouse, Kingston-road, New Malden, Surrey. Mr. Chase, W. Daah, Clerk to the Guardians, Union Offices, Kingston-on-Thames.

AUGUST 27.—Epsom.—PAINTING.—Epsom Guardians invite tenders for painting, repairs, and decorations to be carried out at Graysdale, Waterloo-road, Epsom. A copy of the specification, etc., can be obtained on application to Mr. Alcock, G. Ebbutt, Clerk, Epsom.

AUGUST 29.—Newhaven.—GRANITE, ETC.—The R.D.C. invite tenders for about 580 tons of flake granite, and alternative tenders for 530 tons of 2-in. broken Kentish ragstone to Mr. Herbert W. Coupe, Clerk to the Council, Union Office, Newhaven, Sussex.

SEPTEMBER 2.—London, E.—ALTERATIONS.—The Bethnal Green Board of Guardians invite tenders for the execution of certain alterations (chiefly in joining and fittings) to dormitories, etc., at the Infirmary, Cambridge-road, E. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

AUGUST 12.—Colinton.—SEWAGE.—For alterations on the main sewer near Mossie Mill, Colinton. Plans seen and specification and quantities at the office of the Commissioners' Engineer, 15, Queen-street, Edinburgh.

AUGUST 13.—Bath.—SEWER.—Construction of about 800 lined yds. of 9-in. diameter stoneware pipe sewers. Plans and sections of works seen, and specifications and quantities with form of tender, from Messrs. Strachan & Weekes, civil engineers, 9, Victoria-street, Westminster, London, S.W. Deposit of 1l. 1s.

AUGUST 13.—Huntingdon.—SEWER.—The U.D.C. invite tenders for the laying of a new sewer in St. Peter's-road. Plans, etc., can be inspected at the office of the Borough Surveyor.

AUGUST 14.—Hythe.—BARRACK-HILL IMPROVEMENT.—The Corporation invite tenders for making-up Barrack-hill, 800 yds. in length. Plans, etc., may be seen, and form of tender obtained, on application to Mr. Chris. Jones, Borough Surveyor, 54, High-street, Hythe.

AUGUST 15.—Manchester.—ALTERATIONS.—For sanitary alterations at 79, Chester-street, 53 to 63, Leat-street, 3 to 14, Silk-street, Hulme, 20 to 26, Cedar-street, 1 to 3, Bewley-street, 4 and 6, Peter-street, Hulme, 20 to 32, Heather-street, Oldham-road, 73 to 75, Back of Cropper-street, 74 and 76, Osborne-street, Oldham-road. Forms of tender, general conditions, and specifications from the Manager of the Drainage Department, Town Hall, Manchester.

AUGUST 16.—Stourbridge.—MA-bridge and District Water Board invite for laying and jointing about 61 in. iron water mains. Plan, etc., and specification, etc., obtained, at the Consulting Engineer to the William Fildes, F.S.I., Stourbridge, agent of St. 3s.

AUGUST 19.—Birmingham.—The Public Works Committee invite the laying of wood and granite, Lodge-road (Hockley), Bennetts-hill, street, Landor-street, and Arden-road, may be seen, and specification, etc., office of Mr. Henry E. Stilgoe, C.E., and Surveyor, the Council House, on payment of a deposit of 2l.

AUGUST 19.—Romford.—ROAD R.D.C. invite tenders for the construction of 495 yds. of 12-in. surface-water sewer, Brentwood-road, Hornchurch, about 6-in. surface-water drain in Beacons Chadwell Heath, about 113 yds. of 6-in. surface-water drain in Chadwell Heath, S.E., etc., may be seen, and particular application to Mr. W. J. Grant, S.W. Council, Victoria-chambers, Romford.

AUGUST 21.—Kerne Bay.—The U.D.C. invite tenders for the making, etc., of the street known as Fleet Plans, etc., can be seen, and form obtained from Mr. F. W. J. Palmer, the Council, Town Hall, Kerne Bay.

AUGUST 21.—Wroxall.—SEWAGE.—The Council invite tenders for providing 9-in. and 12-in. pipe sewers, and sewerage works at Wroxall. Plans, etc., inspected, and specification, etc., office of the Engineer, Mr. S. R. Thomas-street, Ryde, Isle of Wight, of 1l. 1s.

AUGUST 31.—Cheltenham.—SEWAGE.—Construction of three sets of circular sewage tanks in three sets, percolation filters, 101 ft. diameter, the necessary roads, etc. Upon the 31. 3s. specification, etc., can be seen, drawings seen at the office of Mr. J. M. Inst. C.E., Borough Engineer, Office, Cheltenham.

SEPTEMBER 4.—Walmer.—SEWERS AND FALLS.—The U.D.C. of Walmer invite the construction of about 3,600 lin. corrugated tube and stoneware pipe surface-water drains, 36-in. cast-iron about 450 yds. in length, and concrete tank, etc. Plans, etc., can be seen, at the office of Mr. Herbert W. Barker, the Council Offices, Walmer, upon payment of 1l. 1s.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.
*HIGHWAY SURVEYOR.....	Watford U.D.C.	150l. per annum.....

Auction Sales.

Nature and Place of Sale.	By whom Offered.
*WALLPAPERS, VARNISHES, AND COLOURS, PUTNEY—On the Premises	J. T. Skelking & Holland
*BUILDER AND CONTRACTOR'S STOCK AND PLANT, STOCKWELL—On the Premises	Joseph Hibbard & Sons
*FRESHOLD BUILDING LAND, BEXHILL-ON-SEA—Kursaal, Bexhill-on-Sea	Mabbett & Edgc
SOME RECENT SALES.—continued from page 188.	
By SIMMONS & SONS.	
Canterwell—7, 8, and 9, Wells-cres., f., w.r. 131. 12s.	£800
Mile End—17, 18, and 19, Monsey st., n.t. 57 yrs., g.r. 11, 16s. w.r. 100l. 4d.	400
Southwark—13, 14, and 15, Bath-st., n.t. 28 yrs., g.r. 131. 10s. w.r. 107l. 18s.	195
By SWANNELL & SONS.	
Crosley Green, Herts. The cottages and 13 acres, beneficial lease for 21 yrs. at 65l. increasing to 100l.	1,325
By DANIEL WATNEY & SONS.	
Greenwich—38, Crooms-hill, f., p.	310
By FRANK MATTHEWS & CO.	
Peckham—Goldsith-rd. 381. 11s. reversion in 47 yrs.	7.0
Fenham-rd., f.g.r. 6l. reversion in 44 yrs.	125
By W. & S. SONS.	
Barnham, Sussex.—Station-rd., two plots, f. Yaption-rd., two plots, f.	227
By ROBT. NEWMAN.	
Ivey, Bucks. Two cottages, f., w. & 231. 8s. 1 to 10, Tower Arms Cottages, f., w.r. 113. 2s.	1,070
Lea Farm Cottages and eight villas, f., w.r. 173l. 17s. 8d.	1,840
By HUMBERT & FLINT.	
Littleton-on-Severn, Glos.—Three farms, etc., 374 acres, f.	15,170
By DICKINSON, RIGGALL, & DAVY.	
Thornton-le-Moor, Lancs.—Thornton Farm, 327 acres, f.	900
By PROTHIERE & MORRIS.	
Flatford, Suffolk.—Gibbons Gate Farm, 36 a. 5 r. 7 p., f.	1,030
By HILLIER & HILLIER.	
New Southgate.—Limes-av., Desplene, f., y.r. 45l.	£370
By ALFRED PREECE.	
Enfield.—Birkbeck-rd., four plots of land, f. Wimbledon—Queen's-rd., five plots of land, f. Tooting—Lucan-rd., four plots, f.	100 800 130
Penge—8 and 14, Avington-gr., n.t. 50 yrs., g.r. 18l., gross rental 102l.	170
Streatham—7, 8, and 11, Ellison-rd., n.t. 34 yrs., g.r. 18l., gross rental 102l.	350
10, 12, and 14, Ellison-rd., n.t. 34 yrs., g.r. 18l., gross rental 111l.	360
West Norwood—15 and 17, Buckenham-rd., w.r. 63l. 11s., also f.g.r. 3l., reversion in 65 yrs.	355
Stoke Newington—38, Allen-rd. (s.), f., y.r. 96l.	800
By RIVER & SONS.	
Harlesden—7, All Souls' av., n.t. 88 yrs., g.r. 7l., w.r. 57l. 4s.	800
By H. J. CHEFFINE.	
Ulling, Essex.—Farm, 17 a. 3 r. 30 p., f.	510
By BACCHETT & BARRELL.	
Abourm, Lancs.—Bucknorp and Manor House Farms, 950 acres, f.	17,741
By DANIEL WATNEY & SONS.	
Bishopstone, Sussex.—Bishopstone Farm, six-acre cottage and 88 a. 4 r. 6 p., f.	11,000
Fiddlinghoe, Sussex.—Desans and Holders Farm, 1,578 a. 0 r. 27 p., f.	12,000
Plumpton, Sussex.—Little Wales Farm, 11 a. 2 r. 5 p. Horsebridge Wood, 2 a. 2 r. 20 p., and piece of garden ground, 37 p., f.	1,150 1,800
By WHITTON & LAING.	
Bow, Devon.—Combe Farm, 97 acres, f.	1,650
July 27.—By W. R. J. GARDINER & CO.	
Church Stanton, Somerset.—Strawbridges and Walland Farms, 282 acres, f.	2,805
July 29.—By DANN & LUCAS.	
Swanley, Kent.—The Maltheuses, 38 a. 24 p., f.	84 p.
By DOWSETT, KNIGHT, & TAYLOR.	
Paddington. Somers.-pl., f.g.r. 30l. 23 yrs., g.r. 3l.	100
By FURBER.	
Barking—7 and 8, The Triangle (a), f. 62l.	130
By MAPLE & CO.	
Caddington, Beds.—Woodside Farm, 235 a. f.	235
By RENDELL & SAWDYE.	
Ugborough, Devon.—Carew Estate, 219 a. f. (outlying portions)	219
By KNIGHT, FRANK, & RUTLEY.	
Gullsfield, Montagu.—Massmawr Hall, 700 acres, f.	700
July 30.—By HAMPTON & SONS.	
Hamstead—1 to 6, Eden-mansions 58 yrs., g.r. 30l., gross rental 291l.	291
Near-lighting. Norfolk Hall, f. 100 yrs., g.r. 10l. p.	100
Woburn, Bucks.—Freehold site, 3 r. 10 p.	3 r. 10 p.
By C. W. DAVIES & SONS.	
Islington.—49, Cross-st., f.g.r. 40l.	40l.
By CHARLES SPARROW & SONS.	
Pinchley, U.S. Melrose-villas, n.t. 57 yrs., g.r. 4l.	57
1 to 4, Melrose-villas, f., y.r. 110l.	110l.
By FREDERICK WARMAN.	
Stroud Green—5, Gladwell-rd., n.t. 70 yrs., g.r. 7l. 10s. g.r. 40l.	70
By INNOCENT & SONS.	
Buscot, Berks.—Barkers Meadows, 74 a. 1 p., f.	74
Leckley, Glos.—Priory Mill and 14 a. and 1.	14 a. and 1.

WOOD (Continued).

OILS, &c. (Continued).		£ s. d.
Genuine Ground English White Lead, per ton	30	0 0
Red Lead, Dry	26	10 0
Best Linseed Oil Putty	10	6 0
Stockholm Tar	1	12 0

VARNISHES, &c.		Per gallon.
	£ s. d.	
Fine Pale Oak Varnish	0	8 0
Pale Copal Oak	0	10 6
Superfine Pale Elastic Oak	0	10 6
Fine Extra Hard Church Oak	0	10 0
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their forms scarcely veiled by the draperies which fall down in delicate lines, like falling snow to their feet; how nobly they stand whilst the centuries pass slowly by as a lingering procession—lingering lest they lose such beauty! Mutilation has not stolen their dower of grace, nor the fraying finger of time. They are still surprising as they stand, almost Sphinx-like, so exquisitely poised that any movement would rob them of something of that completeness, that perfection, which was the aim of Attic work.

There is a fragment of a small bas-relief of a charioteer, also in the British Museum. The figure leans forward to keep his balance, whilst his long robe trails out behind, blown from his figure by the wind of the chariot's headlong progress. It is a great moment petrified, the joy of rapid movement, almost of flight, expressed in marble. There is nothing else like it, if it be not the relief of "mænads dancing," in which the fall of drapery is similar, and conveys another idea of motion. Again, the "winged Victory" of the Louvre seems poised ready for flight into the Empyrean.

These blossoms and numberless others may be gathered from Attic soil; for it is as rich as any fabled garden of the Hesperides, different only in this—there is no let or hindrance to the ardent seeker.

Greece and Italy are inseparably linked together, and it has been said that the short age of Pericles and the XVth and XVIth centuries in Italy were the most fruitful for art in the history of the world. Both were periods of transition or awakening, if you will, from the petrified civilisation of Egypt, from the bondage of mediæval ideas. What Mr. L. March Phillips said of the first equally applies to both. He writes:—"It is, in all truth, a moment of birth, comparable almost to the moment, as the great Florentine has conceived it, when the first of our race felt the touch of the divine finger and opened heavy eyes in which the light of intelligence and recognition for the first time was kindled." So we shall find also many delightful flowers of art in Italy. The painting of Botticelli, for example, with the fair Simonetta as central figure, as the sea-born goddess, as the Virgin, as Judith—*La bella Simonetta*, with the

strange and wistful smile, who died in early youth and was borne to her grave with her beautiful face exposed.

For example, the delicate sepulchral sculpture of Mino da Fiesole; the modelled *tondos* of Luca della Robbia, whose light and colour seem to bring down the sky into the dark recesses of Florentine streets; Cronaca's church of San Salvatore del Monte outside Florence, which Michelangelo, for its quietness and grace and unadorned beauty, was wont to call "his fair country-maiden."

These be flowers of high culture, but there are others of a wilder growth, yet beautiful as the dog-rose of an English hedge-row. Some of these, and not the least interesting, are to be found in the Renaissance monuments in our own churches. They do not possess, it is true, the pure artistry of similar Italian work, but they have a quiet and reposeful quality all their own. Nothing could well be more peaceful than these seemly gems of architecture, with their carving and ornaments finely coloured and gilded, with their effigies of the long since dead cut "in monumental alabaster."

Architecture has for its chief use the housing of the living in their varied and manifold activities, it has also always been of service to religion and to the dead. It is this last aspect that at present engages us. Certainly no more fragrant flowers of art have ever blossomed than these dedicated to the memory of our ancestors. Egyptian foolishness conceived a pyramid, and the Greeks, with their bright humanity, expressed the sadness of parting, of "farewell." The Renaissance, with all its pseudo-Paganism, could not, if it would, be rid of Christianity, and its monuments speak of peace and rest. In their presence death is no dread contingency, it seems well to lie stretched out through the centuries free of the turmoil we call life.

In all European countries the Renaissance produced these monuments, many of singular beauty, but all possessed of a fine and notable character. In Italy, at least, the classical stories were carved side by side with those of Christianity. Browning, in "The Bishop Orders His Tomb," shows how Italian prelates viewed art—how sacred and profane things had to be blended together by the unifying power of art. Just as Botticelli depicted the foam-born goddess with draperies and emblems of a Gothic origin, just as Michelangelo in the Doni Madonna introduces "the unveiled human form, the sleepy-looking fauns of a Dionysiac revel, into the presence of the Madonna," so the sculptor endeavoured to reconcile Paganism with Christianity, to carve, indeed, as Browning says:—

"The bas-relief in bronze ye promised me,
Those Pans and Nymphs ye wot of, and I
perchance
Some tripod, thyrsus, with a vase or so,
The Saviour at his sermon on the mount,
St. Praxed in a glory, and one Pan
Ready to twich the Nymph's last garment off,
And Moses with the tables."

And we find in painting, on two opposite walls of the Vatican, Raphael's "Disputa" (which has been defined as the Glorification of the Christian Faith) and "The School of Athens." Whatever antagonism there may be between these and similar, or perhaps

better, dissimilar, themes, the effect of the work of Mino and Luca della Robbia and others of the Italian artists is one of infinite peace and rest. As Walter Pater writes in his gracious way:—"Their noblest works are the careful sepulchral portraits of particular persons—the monument of Conte Ugo in the Badia of Florence, of the youthful Medea Colleoni, with the wonderful, long throat, in the chapel on the cool north side of the Church of Santa Maria Maggiore at Bergamo—monuments such as abound in the churches of Rome, inexhaustible in suggestions of repose, of a subdued Sabbatic joy, a kind of sacred grace and refinement." English sepulchral monuments never reached the pitch of the Italian ones, never attained to the calm perfection of the work of Mino, yet they were beautiful in their own way and full of a spirit of peace and contentment. Before the time of Nicholas Stone, effigies of knights and ladies, prelates and laymen had been executed by thousands of unknown mediæval craftsmen in stiff but not unbeautiful attitudes of rest. Until at last the figures took on the semblance of life or the stately repose of the dead. There they lie through the still centuries listening to "the blessed mutter of the mass."

In a way Nicholas Stone sums up the period when the first flush of the Renaissance in architecture lighted up England. He was born towards the end of the XVIth century, and his working life roughly coincided with the first half of the XVIIth century. It is probable that if he had studied in Italy his work would have developed along different lines. He did not, however, visit that country, and his work shows a strong Flemish tendency, the legacy of some early years spent in Amsterdam. Early in the XVIIth century he took a workshop in Long Acre, and from that time until his death he worked unweariedly at sepulchral monuments, which vary from elaborate pieces of architecture, like the Tanfield tomb at Burford, to simple mural tablets like that to "Mr. Law" at the Charterhouse. Unfettered as he was by a knowledge of the exquisite beauty and finish of Italian tombs, and which we may assume was beyond his scope, he was also free of all its conflicting Paganism and Christianity. We took so much from the Low Countries in the early years of the Renaissance that we have come to consider certain grotesque elements as typically English. They were, however, sympathetic to our tradition of virility. Something too of that morbid contemplation of death in the midst of life which renders some aspects of mediævalism so repellent still remained in art and sounds a very unharmonious note in some of Stone's lovely compositions. Even as late as Roubilac this *macabre* element was present, witness his fine work in Westminster Abbey where a skeleton leans out and stretches upwards from the door of the tomb to the living figure standing above. Contrast this with the great design by Bartholomé in Père Lachaise, which possesses a tragic note almost Greek in its poignancy and beauty. The poor drooping figures pass through a square opening to the unknown. It suggests "Farewell," that saddest of all tombstone inscriptions,

It would not be reasonable to comparisons between, say, Fiesole and Nicholas Stone, gulf separates them. In the garden there will be found rare culture, blooms of so exquisite fragrance and form that it is possible for nature to compass again, and in the more open space free of God's wind and rain and flowers of more robust complexity perfect in form, but with so much beauty of the wind-blown cloud may stand for Mino's works, our Stone's.

And Nicholas Stone, in the sepulchral sculpture, must stand in this country. His figures of contemporary costume, armoured softer garments of courtesy, and great part of exceeding beauty, certain nobility in the cast of a dignity in their mien, is characteristic of his standing figures, as in the bearers of the Sutton monument in Charterhouse. But his greater are the effigies lying stretched out, are all touched with one known quality of gentleness. How he disposes the mort clothes, how he makes of the pillows and all the usually dedicated to woe! In the classical figure he was not so sure, a certain stiffness is characteristic of the pose, although the drapery skilfully arranged. His imitation of Michelangelo in the tombs of Sir Francis and Francis Holles at Westminster, however fine they may be, are far from the grandeur and fundity of the great Florentine in the field Church, in Suffolk, possibly an example of his work that in no way is unsurpassed. In a niche a little way above the square kneeling position, is the figure of a woman lies smiling, clasping a child in her arms. The whole effect is so beautiful, the figures so elegantly carved, that one is held as if by a strange charm. There is no discomfort, no charnel house to the moral, no horrid gaping skull to look into darkness. They lived so long they loved, gleamed for a little like the sunlit foam upon the waves and passed away. And now in the country church they lie together, and wife and child in attitude for ever. All this sculptor possesses something of the effect of this tomb. Many are much more elaborate, more interesting, but naturally, for Stone knew upon how to set his figures in their settings. And what is possible in monumental work, he has put out designs in the colours of marbles. His carved and armorial bearings are another in the interest his work inspires are carved with a fine sense of decorative importance and display equal skill.

With beginnings like these—flowers of art—is it not astonishing that this branch of sculpture should be out or that it should have been relegated to the Euston Road? There are fine sculptors in plenty, but they somehow but rarely touches the

have the execrable monument with his sentimental and his appalling vulgarity. Such, if it does not hold an ent, holds nothing but glaring slabs and ridiculous brass lettering which no one could at effort, even if he had a use before it. Surely it is time survival in taste should touch and lift them out of the so which they are fallen. primary in Italy to write upon the entrance to the Campo words, "Scupla del Migliori Art at least should endeavour not so, to make the cypress osom out again in delicate flowers of art, to make the old once more those lovely be dead, to make, indeed, all re she shows her gracious a school for great thoughts."

ST. PAUL'S BRIDGE, THE POST OFFICE, AND THE TRAFFIC PROBLEM.

last week's issue we published a letter from Mr. Arthur Crow dealing with the important issues which demand settlement in view of the fact proposed to start building on the old Post Office site next few weeks. We now order to illustrate this subject, portion of the City of London, and on this a new road which Mr. Crow suggests to relieve the traffic neighbourhood of the Bank. A new road would form in continuance of Newgate-street, cutting through Aldermanbury, and relieving traffic from Liverpool-street necessity of traversing the heart of London in taking direction, and correspondingly

affording relief to the crowded area round the Bank and the Royal Exchange.

The relation of this question to the approaches to St. Paul's Bridge is shown in a second plan, which we illustrate herewith, in which Mr. Crow has indicated how the space immediately east of St. Paul's Cathedral might be dealt with.

As the first of these proposals, that of a new road, can hardly be said to be yet within the range of practical politics, we should be inclined to lay down as an axiom that any treatment of the approaches to St. Paul's Bridge should be capable of being considered as an independent problem, which, to be sound, must be defensible both from the point of view of the architectural amenities of the situation and also from a practical point of view. If such a scheme fits in and forms a convenient section of a greater improvement, viz., a road diverting traffic from a congested centre, such would form an additional merit, but in the first case we should deal with the smaller problem separately.

From a traffic standpoint there seems to us to be much to be said for the provision of a greater amount of space at the junction of such thoroughfares as St. Paul's-churchyard, Cheapside, Newgate-street, and St. Martin's-le-Grand, and, although the scheme destroys a valuable corner block at the junction of St. Martin's-le-Grand and Cheapside, we consider the loss is more than counterbalanced by the gain, while it may be pointed out it increases the value of the frontage to Foster-lane, which adjoins the Church of St. Vedast, and which would, if this scheme were carried out, front on to the new open space formed. Architecturally the scheme would open up to view the Church and steeple of St. Vedast, one of the most charming of Wren's smaller designs. The destruction of the narrow wedge-shaped block between St. Paul's-churchyard and Old Change seems abundantly justified commercially by the greater value which would be given to the buildings facing

on to the widened road formed, while architecturally no worse or more unharmonious group can be imagined than the great mass of the apse of St. Paul's and the end view of the narrow wedge of commercial buildings which would be otherwise left. We now learn that the London County Council have considered and agreed to the abolition of this block, so that Mr. Crow's suggestion in this respect is embodied in the agreed scheme.

The third element to be considered is that if the scheme were carried out the end of the vista which would face the approach from the bridge would be an elevation of the new Post Office buildings rather than a group of mean-looking commercial buildings fronting on to an irregular or broken curve. The exact alignment of this new frontage would naturally largely depend on the probability or otherwise that some such new thoroughfare as Mr. Crow has suggested may in the future be carried out; but we consider that as to the general desirability and feasibility of carrying out the scheme there can hardly be an adverse opinion. Nor can there be any doubt as to the desirability of bringing about a conference for joint consideration between the Corporation and Government authorities, and that these bodies should ask their expert advisers to consider the questions raised before the new Post Office building is started would seem to be but common sense.

It may be urged that if these buildings are set forward in line with the edge of St. Vedast (practically the boundary of the site), even if the shops on the corner are done away with and a suitable end façade designed, this would, though meeting present wants, doom St. Vedast to destruction if a new road eastward at this point has subsequently to be made. So that we feel the frontage line proposed to be a reasonable one looked at from all points of view. If the scheme as here shown should be too



A Proposed New Road in the City, shown by Dotted Lines. (From the Ordnance Survey Map.)

NOTES.



St. Paul's Bridge, the Post Office, and the Traffic Problem: Proposed New Road.

costly to be at present contemplated in its entirety, it would be quite possible to leave the shops at the corner for the present, designing the end of the new Post Office buildings so that it may be subsequently opened up to view.

It is unfortunate in this, as in other cases, that it should be necessary to ask for changes in schemes which have no doubt been carefully and thoroughly considered, like the plans for Sir Henry Tanner's new buildings at St. Martin's-le-Grand. This is, however, due to no fault of the designer. All that architects have been asked to do for years is to fill in a given site in the best way possible. That has been the extent and limit of their duties. It is now being more widely recognised every day that we must act collectively as a profession in order to do our best to ensure that areas and public places are dealt with collectively on broad and well-considered lines, and that public authorities should take advice on these subjects and form schemes which can be carried out with benefit to the public. But in the transition stage, which we have reached, it obviously must be necessary in many cases to act later when we should have acted sooner, frequently thereby causing no little inconvenience to individuals.

It is certain that until the principles which should govern the lay-out of cities and groups of buildings have received more attention, and our experience has in a measure become codified, it will frequently be necessary to consider and reject schemes which enthusiasts may bring forward without due consideration of practical requirements

or of cost. But the suggestions we illustrate to-day are not in this category; we think they would commend themselves to good business men who had mastered the facts.

With regard to the larger question of an additional road for traffic diversion, we would say that there are very great reasons for considering that such a road must in the near future be made, and on the face of it Mr. Crow's suggestions seem to us to be reasonable. We may add that a rough estimate of the cost of such road as far as freehold interests are concerned places its cost at 3,000,000*l.*, reduced to a net cost of about 1,500,000*l.*, by the resale of portions of the sites acquired and the increment which would be added to the value of property facing on such a new thoroughfare.

Mr. Crow would further propose to widen Newgate-street along its southern side so as to render it a reasonable continuation of Holborn-viaduct instead of a bottle neck between it and Cheap-side. He points out that such an improvement would be made without disturbing the frontages to the Central Criminal Courts and the new Post Office frontage to Newgate-street. This, however, is a question which has not to be dealt with immediately, but it may well be considered in its relation to the changes which have to be made adjoining St. Paul's Cathedral.

THE MANSION HOUSE.

Some necessary sanitary repairs and improvements are about to be effected in the Mansion House at a computed outlay of about 700*l.* It is further proposed to expend 1,400*l.* upon the construction in duplicate of an artesian well.

The Monumental Mason. OUR leader touches upon

of widespread one that is suffering from the well-directed thought being upon it. All through the age of the artist has been bestowed memorials of the dead, mighty alike. The greatest artists that the simplest monument of them meant an opportunity of their best, to enrich the treasury of the world with another art." With our cruder lighter rougher materials, our own not vied out-of-doors with monuments proper to the memorials have been set up in countless under a brilliant sky, notably in and Italy. But we had, in our traditional types of monuments headstone of appropriate beautiful lettering, from old England to the other, down to the end of the XIXth century, many a hallowed acre reared may we ask, "Is it not astonishing this branch of art should have been a long-suffering people, we are the last, at the mercy of the mason, who, all unconscious of the meaning of the word "monument" piles upon us heaps of vulgar form of dishonoured marble and granite. To the architect, the mason or the trained craftsman no doubt has been given the opportunity of something, and he has often on occasion, but for various reasons people at large are at the mercy of onslaughts of the monuments who pursues "the bereaved" execrable designs at a time when they are least able to make protest, they knew how to make it. Some ago we stated, "It is evident that scarcely any article of everyday use has been neglected by the designer," and we believe that the happy outcomes of the interest and appreciation of the arts and the arts which is one of the encouraging outlooks in England. But monuments and headstones are articles of everyday use. They are more than that: they are for all time to be handled with greater respect and care for that, if for no other reason, for one memorial that does not exist there are thousands set up every day inspired from no better source than an illustrated catalogue, prepared by "designers" who cannot set eyes upon even our own examples of the craft, let alone our neighbours across the Channel. They have travelled, however, than the nearest XVIIIth-century yard, and come away unmoved, gives further proof, if any was needed, that the lessons to be learned have not been heeded. There is a certain elevation in the standard of taste" without doubt, but it must call for improvement in other matters, and they will call the will be answered by the trained artists who are not only anxious to answer the call.

We publish in this issue the first of a series of articles by Mr. Martin, A.R.I.B.A., formerly Lecturer to the Universities of Leeds. Mr. Briggs has been subject of Baroque architecture many years, and some of his work was published in 1910 in his "The Heel of Italy." He will give to our readers his observations on this fascinating and condemned phase of design. Baroque has been gained first in the country of Europe, and we feel sure, will be found in the dictionaries, "rough, grotesque, in bad taste," definitions as applied to architecture are often entirely misapplied. Much more finely-conceived architecture comes under the name of Baroque than is acknowledged in England to-day. It will be illustrated by photographs and sketches, and the style in the countries of Europe will be

The old cottages at Guildford have been saved, as announced in the last week, but another street scheme still threatens to deface the charming old-world thoroughfare, Lyne Regis, and the fossil shop at its corner, with other interesting buildings. It forms another "neck of a bottle" explained by us in former issues in this case also there are schemes which could be preserved and which would preserve the most characteristic features of the ancient borough. Unfortunately the Corporation have somewhat tied their hands by entering into contracts for the purchase of buildings, but this might yet be matters, as the sanitary commission these old houses could be seen. The leases do not terminate in a few months it appears that judgement might yet be come in this very small section of the street which many of the people are anxious to see retained.

This is a busy week for those members of the Architectural Association who are availing themselves of the advantages of an organised corner of England rich in architectural interest. With Shrewsbury, the surrounding country explored, and already Much with its delightful Prior's bright Hussey with its manor Moreton Corbet with its castle have been visited. The very nature of our visits of beautiful historic associations. Owing to our columns we are to defer our account of the till next week, when we hope, to reproduce many excellent made on the spot by Mr. Sutton who has undertaken the pleasant, possibly onerous task this year.

THE ROYAL ARCHÆOLOGICAL INSTITUTE AT NORTHAMPTON.

(Continued from page 168.)

TUESDAY, July 30, began with an excursion to Fotheringay, where Mr. W. H. St. John Hope first described the church. It had, he pointed out, been an ordinary parish church from before the Domesday Survey, but was made collegiate in 1411 by Edward Duke of York, who built a splendid choir in place of the old chancel for the dean, precentor, and eleven other fellows, the eight clerks, and the thirteen choristers of the new foundation. The present nave and its aisles with the north porch, the western steeple, and its eight-sided lantern, and a destroyed south porch, were built by William Horwode, of Fotheringay, precursor, in accordance with a contract entered into between him and two commissioners acting on behalf of Richard of York, dated September 24, 1434. By this contract Horwode undertook "to make up a new body of a kirk joining to the Quire of the College of Fotheringay, of the same height and breadth that the said Quire is of; and in length xxiiij fete from the said Quire downward within the walles." In the aisles were to be windows agreeing or "according in all Poynts unto the wyndows of the said Quire, sawi (that) they shall no bowtels haf at all." The contract specifies also the making of west windows to the aisles and nave, and the embattling of their walls, and of "six mighty Botrasses of freestone clen hewyn"; also of a clearstory "groundid upon mighty Pillars with four responents." The pillars were to carry "five arches abot the steupill and abot every Arche a wyndow . . .

of four lyghts according in all points to the wyndows of the clearstory of the said Quire." For the support of the roof there were to be built over the aisles "six mighty Arches butting on either side to the clearestory," and two other mighty arches "butting on either side to the said steupill." The steeple was to be built within the church "upon three strong and mighty arches [?] and vawthid with stoon," and to be square below, but with its upper part "chaungid and turnyd in vijj panes" with "clearestoryl wyndows . . . eche wyndow of three lyghts." All the carriage and "stufte, that ys to say, stone, lyme, sonde, ropes, boltes, ladders, tymbre, scaffolds, gynnes, and all manere of stufte that length to the said werke" were to be found by the Duke of York, who was also to pay William Horwode 300*l.* in all for carrying out his contract. Various discrepancies between the contract (which referred only to the masonry work) and the building, Mr. Hope thought might partly be due to the corrupt text, which was known only from the version printed by Dugdale, and one important section was both defective and apparently misplaced. The choir was unroofed after the suppression of the college and eventually cleared away, with the exception of the arches (now walled up) at its western end between it and Horwode's new body. That into the choir has over it the mark of the roof of the old nave, and above, a window that looked westward from the choir over it. The nave,

aisles, and steeple escaped destruction through forming the parish church. The nave is four bays long, with a narrow easternmost bay filled on either side with "two perpeyn walle . . . of freestone, clen wrought, that is to say, on on either side of the myddle Quere dore; and in either wall three lyghts and lavatories in either side of the wall, which shall serve for four autors, that is to say, on on either side of the middel dore of the said Quere, and on on either side of the said isles." Against the walls now stand two interesting monuments, set over the bones and gravestones of Edward Duke of York and his son Richard, the builders of the choir and nave, by Queen Elizabeth, who removed their remains out of the ruined choir. The aisles are seven bays long, and overlap the steeple, which has on the corners of the square belfry octagonal turrets carrying crested helms of the Duke of York, and on the top of the lantern a great copper vane formed of his badge, the falcon and fetterlock. The church contains a good font of the date of the nave and a beautiful contemporary pulpit (with a Jacobean canopy over the original one) with the arms, etc., of King Edward IV., and has a good series of open wooden roofs. The college cloister and buildings stood to the south of the destroyed choir, and have likewise utterly perished.

From the church the party walked to the Castle, which Mr. Hope described as a good example of the mount-and-bailey castles planted all over the county by the Normans; in this case to control the passage of the Nene. Its defences were still of timber in 1216, but by 1341 the great tower had been built in stone and cement, and the Castle also contained two chapels, a great hall, two lodgings, a kitchen and an oven, and a gatehouse with chamber over, in front of which was a drawbridge. Edmund of Langley is said to have rebuilt the great tower in form of a fetterlock, but Mr. Hope said he was not aware of the fetterlock being one of his badges. Leland ascribes the "refreshing" of certain "very fair lodgings" in the Castle to "Catarine of Spain," and these probably formed the apartments of Mary Queen of Scots for the few months previous to her beheading in the great hall on February 1, 1586-7. The whole of the castle buildings have gradually disappeared, and the only monument of them is a fallen block of rubble from the great tower. Mr. Hope spoke strongly against the proposal to enclose this with an elaborate railing, for which quite a large sum had already been subscribed by well-meaning but foolish persons, and suggested that the money could be spent with far greater advantage in excavating the site of the great hall in which Queen Mary died, and other of the castle buildings.

Tansor Church was next visited and described by Mr. Hamilton Thompson as an interesting example of development of plan from an aisleless chancel and nave to a building with aisles and a western tower. In the chancel are seven stalls with curved misericords, believed to have come from the destroyed choir of Fotheringay College, and with much probability, since they exhibit the falcons and fetterlocks of the house of York.

The journey was then resumed to Oundle for luncheon, and afterwards to Warrington, where Mr. Thompson called attention to the many features of interest in the parish church. It consists of a chancel, nave with aisles and clearstory and vaulted north and south porches, and a western tower and spire, all of excellent work of the middle of the XIIIth century, to which date belongs also the singular separtite vaulted ceiling of wood over the nave. Part of the XVth-century rood screen remains, together with a wooden pulpit of the same date, with paintings of Our Lord and the four doctors, which have been ignorantly "restored." The east end of the north aisle is shut off by a curious enterclose of Renaissance woodwork.

Polebrook Church was the next objective, and was shown by Mr. Thompson to have been cruciform originally, with a tower over the crossing, and perhaps aisles to the nave. Early in the XIIIth century the tower was replaced by a new one with spire at the south-west corner of the church, since there was no room west of the nave, and the remainder of the building, with the exception of the north arcade and chancel arch, was also reconstructed, and north and south porches added. The arcaded walls of the enlarged north transept are noteworthy; also the early XIIth-century font, the rood screen, and the Jacobean pulpit with its hour-glass and stand. A long



Polebrook Church.

discussion was raised by Sir Henry Howarth, who questioned the pre-existence, both here and in other churches visited during the meeting, of towers over a crossing which have now disappeared. Mr. Thompson and others quoted numerous examples in favour of such towers and the proofs of their existence, but the President remained unconvinced.

After tea at Oundle the fine church of that town was visited. This, until late in the XIVth century, undoubtedly had a tower over the crossing, as Mr. Thompson pointed out, but in the XIIIth-century chancel, aisles, and transepts were all enlarged, and subsequently the tower was replaced by the present beautiful XIVth-century steeple, with its crocketed spire at the west end. Late in the XVth century the vaulted south porch, with its upper chamber, was built, and later still the large two-storied vestry on the north of the presbytery. The rood screen has been cut down, but the piers towards the chancel aisles remain, as well as the fine XVth-century pulpit and a gospel eagle lectern of latten. Beneath the south transept is a large bone-hole.

In the evening the annual general meeting of the Institute, for members only, was held, and subsequently Mr. C. A. Markham read a paper on the Ancient Roads and Bridges in Northamptonshire.

Wednesday, the 31st, the last day of the meeting, was likewise the wettest. Brixworth Church was first visited, under the guidance of Mr. Thompson, who cited reasons for its ascription to so early a date as c. 680, and pointed out the evidence for the triple arch that originally divided the nave and presbytery. The church seems to have been burnt by the Danes in the IXth century, and was afterwards patched up for use again by pulling down the aisles and walling up the arches, and carrying up the western porch as a tower, which was subsequently raised and a circular vase added west of it. The polygonal apse at the east end appears, like Wing, to have had a vaulted ambulatory about it, but there are no definite signs of a crypt or *confessio*. The lofty clearstory, with its large window openings, is noteworthy, and there are some interesting remains of the XVth-century rood screen, but not in place. The south chapel and the spire date from the XIVth century.

The journey was then continued to Holdenby House, which Mr. Gotch described as "only a memory" of the largest Elizabethan mansion that had been built in England. It was erected about 1580 by Sir Christopher Hatton from the designs of John Thorpe, and consisted originally of two huge courts divided by the great hall and entered from a great courtyard, with gatehouse and flanking arches, as at Kirby. About 1608 the house passed into the possession of the Crown, and eventually became one of the places of detention for King Charles I. After his execution it was sold, and shortly afterwards hurried into decay. All that is now left of the former glory of the place is a portion of the kitchen wing, which has been converted into a house, the two arches of the courtyard, and some traces of the terraced garden.

The parish church, which stands just to the south of the house, is noteworthy for the fine Renaissance screen, which came from the chapel of the destroyed mansion, and is shown on Thorpe's plan.

After luncheon at Northampton a visit was paid to Earl's Barton Church, with its remarkable Saxon tower. The chief peculiarities of this were indicated by Mr. Thompson, who also called attention to the Norman arcading on the chancel walls and the re-use of parts of it to

form later sedilia. Mr. Hope also added some remarks about the Castle mount hard by, and in reference to the low side windows quoted entries relating to the making of one in the royal chapel in Windsor Castle, on an upper floor, early in the XIIIth century, and of another in the great hall of the Castle (now destroyed) when it was fitted up as a temporary chapel for the dean and chapter in the reign of Richard II.

The journey was then continued to Castle Ashby, where the great mansion of the Comptons, begun probably between 1583 and 1589 and finished in 1624, was described by Mr. Gotch. The ranges of chambers are disposed about a courtyard, but have internally undergone much renovation. Externally the house is remarkable for the Latin texts forming the balustrades of the parapets and for its fine gardens and lay-out.

The day's proceedings closed with a visit to Cogenhoe Church, which was described by the Rev. R. M. Serjeantson, and then the Northampton meeting came to an end.

The meeting, except for the showery weather, was in every way a success, about one hundred tickets having been disposed of, and all credit is due to the Honorary Secretaries of the meeting, Mr. E. L. Guilford and Mr. G. D. Hardinge-Tyler, for the way in which they carried out the arrangements of a very full programme.

THE ROYAL SANITARY INSTITUTE: CONGRESS AT YORK.

(Continued from last week, page 172.)

Ventilation and Warming of Churches.

IN the absence of Mr. J. Osborne Smith, F.R.I.N.S.A., his paper on the above subject was read by Mr. Saxon Snell. Having dealt with the present prevailing unhealthy state of things in churches, he said the requirements necessary to make the interior of churches healthy for use and occupation might be briefly stated thus:—(1) Ample means of cross-ventilation from openings in opposite sides of the building below or near the breathing line, in order to get rid of foul air at the very spot where it is generated. Cross-ventilation is also desirable high up near the flat ceilings, or in the sloping roof spaces, the openings being arranged to check or divert downward currents. (2) The inlets for fresh air to be as short as possible, capable of being readily cleaned, well distributed, and allowing at least 1 ft. super. of clear opening to about ten people. (3) Adequate means for warming incoming air, so that it may be not only warm, but also pure and fresh as possible at the breathing line during services.

Warming and drying air is a source of comfort, especially in a damp climate, but the drying can be so easily overdone as to be inconvenient. High temperatures should be avoided, and provision should be made for supplying additional vapour to the internal air when required. (4) Warmth just below open roofs, clearstories, and tall windows to prevent down-draughts. (5) Jointless solid floors, which can be readily kept clean. (6) Seats and fittings which do not obstruct the passage of light and air, or hinder the cleaning of floors. (7) Means for preventing the deposit and movement of dust. In cold weather, warmth, genial, all-pervading warmth, is desirable inside churches during occupation; the cold, bracing, breezy air, which is so enjoyable when one is moving

about, is not welcome inside, where people are sitting. Provision, therefore, made for:—(1) Warming incoming services, as well as the inside occupation. (2) Preventing the cold wind currents from windows, hopper lights to direct currents up from entrances by double doors, wards, and closed by checkspring, placing radiators or stoves near the (3) Preventing down-draughts by water pipes in roof spaces and by story and other windows. (4) Warming apparatus, well distributed, excessive temperatures either in warm-air flues.

The author laid down the following of warming:—(1) Large close inlets for fresh air are very useful. Underground stoves, the heat, through grating at floor level, but the air is often too dry and dusty. (3) Warm-air apparatus, by which air is admitted either from the outside to a furnace-room or large pipes, and discharged into the through vertical or horizontal grates, is usually an efficient arrangement. Warming air is liable to be constantly passing through flues and over pipes, cleaned only at rare intervals, pressure hot-water apparatus, with having fresh-air inlets. This is generally satisfactory when accessible for cleaning, and radiators in suitable positions. (5) Low-pressure apparatus with pipes in the reasons previously stated, an insanitary method. It is also due to the non-conducting accumulating on the pipes. (6) pressure apparatus, with small-bore outer walls or in channels, in coils skirting of raised wood floor on wheel seats. A useful and economical distributing warmth when pipes above the floors. By all these means air can be admitted to be warmed entering the building, but in many cases has not been done. Hot water radiators which fresh air can be admitted smooth, cleanable ducts above them, cleanly and cheap; effective boilers quite reasonable in price. Therefore, no good reason for placing in underground cellars or channels, allowing the bracing air to be cooled by passing through long dusty flues, water pipes or radiators can readily above the floor and under upper and roofs.

Physics of Air in Relation to Ventilation.

Mr. A. Saxon Snell, F.R.I.B., paper on the above subject, of the following is an extract:—"The movements of air and its behaviour under varied conditions have been observed and recorded by scientists, the results of intricate and costly experiments they have discovered difficulties and expressed them in algebraic and mathematical formulæ of fearsome length and complication. Others (calling themselves 'practical' scientists) have invented systems more or less, upon those laws. In their work, too, is not without too often they are handicapped by blindness to the defects of their



Brixworth Church.



Earl's Barton Church.

to affect those who attempt these things which are, in their nature, impurities, than that which is so supplied by nature. But conditions and ordinary people with a passion for purity suggest that purity (according to the only essential quality in air) of air is affected by so many and circumstances that it is impossible to design a system of ventilation which will automatically adjust itself to all circumstances. The means to be used are as simple as possible, and the occupying the building to make use of these means. In public places where numbers of people congregate, the control of the means of ventilation must necessarily be limited to persons, who would be guided by the Ventilation of the Houses of Commons. The ventilation of the Houses of Commons, for instance, is under the control of special officers, who must always be ready to deal with extraordinary conditions. For those who have comparatively simple problems of ventilation, scientific formulae are likely to be of little use. The fascination of proof by experiment is to be resisted. A general understanding of the physics of ventilation is more helpful and instructive. Of course, when we are confronted with abnormal conditions, we have to use abnormal means.

Means generally involve machinery, and the expenditure of energy other than that which is supplied by nature. The object of this short paper is to suggest a sense all enclosed spaces are for purposes of ventilation; and the fascination of machinery upon the mind is to be resisted. We are inclined to fly to it, and to rely upon natural ventilation. The object of this short paper is to suggest a sense all enclosed spaces are for purposes of ventilation; and the fascination of machinery upon the mind is to be resisted. We are inclined to fly to it, and to rely upon natural ventilation. The object of this short paper is to suggest a sense all enclosed spaces are for purposes of ventilation; and the fascination of machinery upon the mind is to be resisted. We are inclined to fly to it, and to rely upon natural ventilation.

Mr. H. Davies (York), speaking as a member of a number of air tests made in schools and factories, and the testing for carbon-dioxide was not. Architects, however, had to buildings not simply from the point of ventilation, and where they had to it could not be dealt with by ventilation. Further, if they trusted ventilation, especially in a factory, they were bound to have a very extensive system. As they knew, the Staffordshire schools was designed for cross-ventilation, but in the central-hall type of system. The difficulty was that if in one of the classrooms opened the door of the room the system was put to an end. If, however, they stopped the windows were opened, the rest of the building would not be interfered with for the co-operation of architects in the matter of ventilation.

Mr. Snell said he cordially agreed that the architect and the doctor and the chemist should co-operate in this matter. With regard to a factory of the description referred to by Mr. Davies, he would call that an abnormal building. He was not saying that mechanical ventilation was no good, and he agreed that it was good where the conditions required it. But do what they could with mechanical ventilation, it was not so good or so economical as natural ventilation.

Northumberland Schools.

Mr. G. Topham Forrest, Lic.R.I.B.A. (Education Architect, Northumberland County Council), described three Northumberland examples of experimental schools. In the case of the Choppingham School, he said, opened about a month ago, the street or road adjacent to the school site formed what was known as a "barrier" between two collieries of different ownership, so that the school was placed in as treacherous a position as possibly could be chosen. It was customary, he knew, for architects to lay a large raft of reinforced concrete over the whole building area. He was of opinion, however, that this was a wrong form of construction to adopt, and certainly in the case of this school such a treatment would not have materially assisted in minimising the risk of subsidence. Some other means, therefore, had to be adopted, more economical and efficient. From observations and experimental tests carried out, he came to the conclusion that some system of reinforced brickwork would meet the case, as this mode of construction would render the walls monolithic, and make the building infinitely stronger than if built with ordinary walls. Briefly, the system was to reinforce the mortar course with a wire mesh of best quality mild steel wire, galvanised, and having tensional wires running its entire length. This action of the wire mesh, when resisting tensional stresses was to reduce the sectional area, and this tended to close the meshes and compress the mortar, so that the latter developed its greatest strength—i.e., resistance to compression. The resistance arrested the tensional stresses in the wire, and was arrested by being held firmly by the bricks above and below it. With the mesh embedded in the mortar joint, the latter became the strength of the wall, and not a filling only, and the continuous bond rendered the wall monolithic. Reinforced brick walls, by reason of their resistance to tensional and lateral stresses, did not require to be of the same thickness as ordinary brick walls, whose strength was only in proportion to their weight. Heavy brick walls were only as strong as their foundations for weight-carrying purposes, and, should the foundations settle unevenly, cracks would appear throughout the building, but by reinforcing the walls with this 10 or 15 ft. could be taken away from underneath the building, and the walls would still remain intact and span across like a girder. He applied this form of construction to the Choppingham School, which was, he believed, the first complete school of its kind in the country. When the plans were in the first place submitted to the Board of Education they would not give their sanction to them. The Board eventually gave their sanction to the plans, and a loan was granted to the Education Committee extending over a period of thirty years. There were two departments, infants and mixed, each being a separate building. The former was built to accommodate 168 children, and the latter 400. It was with regard to the mixed department that the experiment had been tried. The school was built in three sections completely independent of each other, with the foundations and walls reinforced, the foundations on the Hennebique system, and the walls of the superstructure reinforced with wire mesh of best-quality mild steel wire, galvanised, and having tensional wires running its entire length. The school was built with a 9-in. cavity wall in place of the ordinary 14-in., and consisted of: a 4½-in. outer wall, 1½-in. cavity wall, and 3-in. brick on edge inside. For the classroom walls he had used a 9-in. cavity wall, consisting of two brick-on-edge walls with a 3-in. cavity between, and the partition walls were 3-in. brick on edge reinforced. The cost of the school worked out at 117. 16s. a school place, which was practically the cost of the better-class schools

in Northumberland. When they took into account the fact that building was about 30 per cent. dearer with them than it was in the West Riding, he considered that this school was remarkably cheap, bearing in mind the methods taken to strengthen it. All the walls were built in cement mortar gauged 2 to 1, and every precaution had been taken to ensure the safety of the children. Fire hydrants with long lengths of hose were fitted up inside the building, one in the infants' school and one in the mixed department; and emergency exits were provided, each fitted with panic bolts exactly similar to a theatre. The other two experimental buildings he intended referring to come under the head of the cheaper schools movement, and were both interesting examples. The first example was the new school at Barrington Colliery, about sixteen miles from Newcastle-on-Tyne. The school was constructed of wood on brick foundations. The brick foundations were reinforced in two alternate courses with three rows of best galvanised mild steel wire mesh, similar to that used in the Choppingham school. This mesh was in 2½-in. widths laid longitudinally along the total lengths of brickwork. The wood superstructure was securely fastened down by wrought-iron bolts and plates embedded in the foundations. The outside framing was formed with 4-in. by 3-in. posts, covered with a layer of felt and 1-in. G and T boarding fixed horizontally on the outside, and on the inside matchboarding covered with asbestos sheeting to form a dado. Above this dado the asbestos sheeting was fixed on to the 4-in. by 3-in. posts. The corner posts to the building are 4 in. by 4 in. The floors throughout were of wood joists and boarding supported on sleeper walls. The ceilings were formed with asbestos sheets, and the roofs were covered with Eternit slates laid on spars covered in the first instance with felt. This school worked out at 64. 10s. a school place. For colliery districts where the life of the colliery is uncertain he would strongly recommend a school of this description.

The other experimental building was the new school erected in the village of Hartley, on the east coast of Northumberland, about ten miles from Newcastle-on-Tyne. The school is a timber-framed building with slab casting, ferro-concrete foundations, reinforced with 1-in. steel rods and expanded metal; 4½-in. by 3-in. framing fixed to foundation, with holding-down bolts at angles and about 8 ft. apart around the building, angle posts of 2 in. by 4 in. framed to horizontal timbers fixed to all external angles, doorways, etc., ordinary framing 4½ in. by 3 in., with 4½-in. by 2-in. alternate studdings; 9-in. by 3-in. glazed ware air-gratings fixed at base of all framing, and holes bored through timbers for circulation of air throughout the whole of the framing. Bituminous damp-course was fixed below sole piece of framing; 2-in. "Fram" slabs fixed to framing on outside, rendered over surface with cement mortar floated to an even surface, and rough-cast with mixture of slag and pea gravel; 1-in. internal "Fram" slabs nailed to framing, floated and skimmed with washed hair lime and putty, and finished with putty and plaster throughout. A 3-ft. 6-in. dado was formed with Portland cement back and finished with Keen's cement, face trowelled and smooth. The roofs were boarded with clean redwood grooved and tongued boarding, and slated with asbestos tiles laid diagonally and fixed with copper rivets. The cost of the school worked out at about 54d. per foot cube for the building alone, but the fact must be taken into consideration that the building internally was finished exactly similar to one of brick or stone, and that, owing to the exigencies of this site and bad drainage arrangements, it was found necessary to install an accelerated hot-water installation, and other extras were also incurred. Provided a school of this description was built on a suitable site, it should be possible to erect a building which would work out at 5d. per foot cube, or even under that figure. The school was designed to accommodate 300 scholars, and the price per head works out at 64. 16s. 6d., but to this price must be added 525s., being the cost of out-offices and boundary walling, which were of brick and stone, similar to a permanent building, and also the tar macadam playgrounds and drainage.

(Our report will be concluded next week.)

THE SUMMER SCHOOL OF TOWN PLANNING AT HAMPSTEAD GARDEN SUBURB.

THE first week's session of the Summer School of Town Planning, which we referred to last week, was attended by a good number of keen students and visitors, but not, we think, as many as the great interest of the subject and the names of the lecturers upon its several aspects might have been expected to attract. Two and sometimes three lectures were given each morning in the lecture-hall of the Institute building, which shares with Mr. Lutyens' two churches the small plateau dominating what is fast becoming that phenomenon, hitherto strange to London, a consistently beautiful suburb—consistent, that is, in itself and with the rural part of its surroundings. Already some of its nooks and byways are acquiring the softened charm of old-time villages we know, with something added which, perchance, is of the new time to be. To the end of the week Mr. Ewart G. Culpin had lectured on Examples of Garden City Estates, Mr. Henry Vivian, J.P., on the financial aspect, and Dr. R.A. Lyster, M.D. (Public Health Officer to the Hampshire County Council), on the public health aspect. Engineering and surveying problems had been dealt with by Mr. W. R. Davidge, F.R.I.B.A., F.S.I., A.M.Inst.C.E., and Mr. G. L. Pepler, F.S.I., the first from the municipal surveyor's point of view; and interlarding and uniting all these Mr. Raymond Unwin had given the first half of his series on the general practice of town planning.

As we listened to these practical enthusiasts one after the other, each dealing clearly and definitely with his own department, yet with inevitable overlappings and repetitions, a stronger sense of the unity of the subject grew upon us. Its many aspects, problems, and functions group themselves under the three broad headings of Health, Convenience, and Amenity; and these again interchangeably express a perfect wholeness, a balance of parts, and the fitness which finds its fine completion and fulfilment in that beauty which is the aim of the architect.

The growing public interest in the movement is qualified by a certain shyness, the result of suspicion that it is more costly than the present system of development. This criticism and suspicion must be met; and this is the object of Mr. Vivian's paper.

He contrasts the town-planning and by-law systems, in that while the first devotes a greater area to the houses with a less number on the acre, but a less area to roads, and at least 10 per cent. to open spaces, the second devotes nothing to open spaces, save in the roads and house plots, but a greater area to roads, and allows a much greater number of houses per acre. Informed public opinion admits that a more generous treatment should be given in these three matters. This means taking more land, and that costs more money. The limitation of the number of houses on the acre means that less can be given for the land. On the other hand, it means quicker and steadier development; a greater area of land is taken up in a given time than by the old piecemeal method, and by its superior method of development greater security is afforded to adjoining areas. So that it is doubtful if even the private interest of the landowner would suffer much as a rule, as against the method of keeping the land idle for the higher price. There are not the same chances for the speculators and gamblers in land values, but that is a public benefit, and public opinion recognises that land must not, any more than machinery, be exploited for gain to the risk of the health of the community.

But economies are possible in other directions to meet the added expense of more generous use of land.

Town-planners claim that greater elasticity should be possible in roadmaking. While ample widths should be provided for main highways and traffic roads, and even then rules made to prevent building right up to them, much narrower residential roads might be allowed, and only so much actually paved as adequate for present purposes. It is difficult to estimate exactly the amount of saving thus effected, though certainly considerable. The question arises whether the local authority should take the risk of future expenditure involved. On the whole, their

risk is not great in making the concessions asked, and in return a number of advantages are gained, such as a lower number of houses on given area, consequently improved health of locality, smaller number of empties, and so less loss of rates.

In this connexion Mr. Unwin in one of his lectures gives figures which we only allude to shortly, as we understand they are to be made available to all interested in a pamphlet. He shows, *inter alia*, how reducing the number of houses per acre gross from 25.2 to 10.6 increases size of plot from 98 yds. super. to 398 yds. super., only raises total cost of land and roads from 43s. 8d. to 51s. 13s. 7d. and ground rent per week from 8d. to 9d. per house, and reduces price per yard of plot from 8s. 10½d. to 2s. 7d. Land in each case is taken at 300s. per acre.

In another lecture Mr. Unwin takes the cost of the smallest decent cottage, including land, roads, fences, fees, etc., complete, at a minimum of 180s. He shows that ½ per cent. in the interest on that amount represents 18s. if capitalised—i.e., the cost of a bedroom—and is more help than doubling the number of houses on the acre.

We agree with Mr. Vivian that thousands of pounds in ground rent are probably lost to landowners by lack of imagination and far-sighted policy. He applies a dictum of Lord Morley's—that the curse of modern industrialism is its insecurity—to the common method of development, pointing out how town-planning methods increase security both for landowner, developer, and investor. He also speaks of the necessity of considering large-scale balance-sheets in this matter, not for the first twelve months only, but over a long term of years; and in that case he thinks wise town planning is not likely to be more expensive than present methods. The present loss to the community must also be taken into the account, through inconvenience and loss of vitality caused by congestion of traffic and overcrowding, and the cost of constant necessary improvements. A more give-and-take basis of contract is required between the landowner and the estate developer of the one part and the local authority of the other; and, we would add, a better and more fully informed understanding between the latter and the public who appoint them, and whose interest it is their office to serve.

Mr. Pepler, in two comprehensive lectures, dealt with the engineer's and surveyor's problems, difficulties, and pitfalls from the point of view of the estate developer, acting, not in competition, but, so far as may be, in co-operation with the public authority. He illustrated his lecture by reference to plans of schemes in his own practice.

First of all, three main factors, means and possibilities as to water supply, sewage disposal, and access, have to be considered; the possibility or difficulties of connecting up with existing systems. Then the contour survey of the whole district dealt with must be made, and plan or model prepared. At a very early stage it is necessary to decide whether the delay and cost of preparing a scheme under the Act may be forgone; or whether, in view of nature of proposed development, or of stringency or peculiarity of by-laws, this must be incurred. If the latter, it is well to get the local authority interested at once, and to adopt the scheme to avoid still further cost and delay. Mr. Pepler thinks the authority will probably not town-plan in detail, but, while laying down main highways and traffic roads, and ear-marking areas for the larger open spaces for a long period ahead, will, under clear regulations, leave the filling-in to the changing ideas of successive periods. This, we take it, is a general rule applying to all cases, not to detail more than is to be dealt with at once. It certainly does not come within the province of the local authority except in special cases.

Mr. Pepler went, in some detail, into different systems of water supply and sewage disposal in the case of these having to be provided by the developer. These matters affect lay-out and parts to be developed first. The public prejudice against the private sewage scheme is a practical consideration, and also the position of the works. As regards water, the position of wells, and porous of impervious nature of top strata affect the proximity of buildings and start of development. It may also be requisite to provide for lighting, as at Cuffey, where an air gas plant will be installed, which can be placed among the houses and be added to as required.

Main traffic roads are fundamental and must be wide enough with eye to the future, and

straight and short as may be, to avoid traffic. Residential roads should be so as to give practicable building plots according to class of houses in parts of area. Aspect is not so for large plots as for small; nor is the residential as in traffic roads, latter 1 in 30 is about the maximum former 1 in 10. As a general rule, follow contours, but be variable by considerations. Factory area should be to main roads, canals if any, and so it is not safe to assume sidings.

Mr. Pepler also spoke of the construction of roads, grass margins, access to station and shopping centre of the preservation of all natural and We can only touch upon few of points treated by Mr. Unwin. In roads he said that lack of other open spaces was the most valid inelastic minimum width insisted by-laws. With the greater control town-planning powers, roads may, according to purpose; economic where merely approaches to dwell greater widths and stronger demanded in proportion to actual probable development. This, too, the variety and amenity of neighbour.

Mr. Unwin specified seven different 1. The footpath to groups of houses 10 ft. wide, open to road one end long. 2. The 20-ft. road, with 13-ft. way, 500 ft. long if open one end both ends, with turning places, 3. Non-traffic road, 16-ft. carriage footways, up to half-mile long in places. 4. The 42-ft. traffic road 50-ft. through traffic road with 80-ft. ditto with six lines 3-ft. margins to centre tramways, footways. 7. Up to 100 ft. or 120 ft. An important point is that tramways in centre, with at least narrow footways on both sides.

After illustrating the many forms of new main roads with varied cross-sections of fast and slow traffic ways, tram tracks, footpaths, grass and 3-ft. margins and avenues, Mr. Unwin certain American developments such as forecourts of houses open to road, and them as ornamental grass plot etc. This is well shown at Rochester, U.S.A. as other ornamental road treatments, doubt whether, for several reasons, of thing is applicable to any except country as yet.

Illustrating his remarks by a plan Mr. Unwin made clear the awkward waste of the 36-ft. or 40-ft. by-law houses on both sides out along a steep cross-gradient. By substituting roads 13 ft. to 16 ft. wide with houses side only, about 6s. per house is added making, but from 30s. to 35s. in building each house, so that both are practically, and aesthetically the same this development is apparent.

The esthetic treatment of the street was dealt with, the monotony of the blurring of features by sharp perspective improved by breaks and set-backs in building line and features at the presenting surface square to be by clumps of foliage and adequate features. The inherent advantage of straight street were noticed in spite of influence of public buildings or churches, and also the changing picture of road. All these points were illustrated in the screen and in a walk through the

Going on to speak of road junctions, Unwin referred to the difference between French ideas, the first holding for roads to enter singly, the latter to concentrate junctions in one place. Hénard's diagram of circulating traffic said that where there is much traffic the best system, provided that the line of road is sufficient to take the line of traffic, and sufficiently wide to get through. There is less space than by the ordinary holding-up. Yet it is doubtful whether the holding-up does not outweigh all theorising about points, etc., which may easily be far.

Slightly breaking the line of road with or without the formation of a closing the vista to one or more of

inconvenience to the traffic, but may advantage by easing the corners. Such to be learned from the study of cities, with their irregular streets in the way of securing good grouping, enclosure. The irregularity was more or less consciously planned artistic effects revealed. But it is get the same kind of effects with lines and crossings more formally

place to the importance of different place for civic or subsidiary centres, alluded to the grandeur of the open in Greek cities, which continued, in m. market-place, etc., till well into Ages. And as town life became less public spirit the exception rather rule, so also have these public town their closed street pictures de-

in went on to speak of the develop- in the lecture he made special reference at development of the children's especially in Chicago. Here they thirty or forty, the aim being to have d from 1 acre to 2 acres or more in half a mile of the dwelling- very child. These playgrounds are with implements for play, sand courts, rills, and field house, and are super- retaker or games master or mistress. Every work is given by adults, and ring and unlooked-for result is that rips, following the children in search n, are bringing their clubs, institutes, s round these play places, which coming foci of social life and promise into important civic centres.

in referred to the many other forms ices, and noted that in setting these town plan their special purposes defined from the first. To avoid ontage, those likely to be more or r, such as allotments or the ordinary yground, can be kept in the back- e centre space of large or awkward icks. Those intended for bowls, e purely ornamental or recreational ay be more or less open to the variously treated with regard to g of the houses.

his lectures was wholly devoted by to the civic survey. First he detailed in which must be ascertained or e starting to lay out a site as village e. These are:—(1) The kind of people ve in it, and the distance from main industry. (2) Means of transit and e. Class or classes of employees, ges earned, rents they can pay. (4) and most remunerative houses to necessarily the same. (5) What of each class and total number. (6) ings, other than houses, are neces- e built, allocate sites. (7) What ade for parks and open spaces, and e required; considered also, as an from point of view of revenue. (8) ough main road or connecting ed. (9) Preliminary estimate before an. What ground-rent required to ate return for development.

own extension planning on the large survey is a much bigger matter. The er, like the architect, must study his st know the town in every aspect of actors of place, work, and folk, as eddes puts it; to whose wide know- high authority in this matter Mr. rred. This knowledge must be e and compared for the town-planner in rent departments, and presented to aphic form. Such particulars as and force of winds, amount and days amount and movements of traffic, e changes, and movements of popula- e very much else, can be graphically diagrams and maps. Much is done this way, but much more is needed. rd to London, after what has been been recommended to be done, in the new main roads we are still in the sition that there is no one with any ee the recommendations carried out. e three Government offices, there is the County Council, and eighty local s, all with powers as to the traffic or rning. But things still continue to e for want of a co-ordinating e for the whole. We shall return to n's lectures later.

Dr. R. A. Lyster, M.D., B.Sc., D.B.H., Medical Officer to Hampshire County Council, said town planning was based upon the reasonable demand that everyone should have the chance of living in decent and wholesome conditions. Such minimum conditions are air space and ventilation, warmth, light, cleanliness, water supply, sanitation, dryness, and these have to be attained at reasonable cost, or the deficiency of houses causes high rents and overcrowding, and therefore either the numbers must be increased by grants in aid or wages raised to enable high cost to be met.

Landowners have been allowed to develop their land independently, and the result has been irregular development and overcrowding.

Housing and town-planning powers have been given to the wrong authorities; they should only be given to large county boroughs and county councils. Public health progress has been very uneven; factory conditions are far behind housing, hindered by the powerful vested interests involved; owners of small house property are usually poor. Factory inspection should be carried out under local supervision.

Bad housing conditions lower the vitality of the people, but no disease can be proved to be due to that cause. It is, for instance, one of many factors causing consumption; but housing reform and town planning will not alone stamp it out. It is necessary to go beyond the first steps in the investigation of these matters. One of the commonest causes of consumption is infected milk, and here again a strong vested interest makes it difficult to deal with tuberculosis in cows.

General infectious diseases probably do not attack slums more commonly than better-class houses, but, once broken out, spread far worse there.

Typhoid-fever has an affinity for dirty, insanitary, and overcrowded houses, and good water supply is driving it out. Bad drains never cause typhoid and diphtheria, but predispose thereto by lowered vitality. The lowering of infant mortality is essentially a matter of better food.

Dr. Lyster advises not to base arguments for housing and town planning upon statistical evidence now available. Unless properly "corrected," it may be quite misleading, as it is certainly quite unnecessary.

The movement aims at placing people on a higher plane of living than is possible for the majority at present.

We hope to commence our next article with notes on the lectures dealing with the problem from the points of view of the other municipal officers.

GENERAL NEWS.

Professional Announcements.

Mr. J. T. Blackwell, architect, 53, High-street, Kettering, has taken into partnership Mr. Charles Ridley, A.R.I.B.A., who has had some years' experience in the profession. The practice will be carried on at the above address, as heretofore, under the style of "Blackwell & Ridley."

Manchester School of Architecture.

Under the auspices of the University and the Education Committee applications were invited recently for a Professor of Architecture, the vacancy being occasioned by the resignation of Professor Capper, owing to ill-health. The appointment has been given to Mr. A. C. Dickie, A.R.I.B.A., of London.

Visit of German Town-Planners.

The visit of Continental town-planners to England from August 18 to August 29 promises to be an event of some interest. The visitors will number over 150, and the chief objective will be the inspection of the various Garden City and Suburb schemes in the country, which are now being copied in various parts of Germany. The arrangements are being made by Mr. Ewart G. Culpin, Secretary of the Garden Cities and Town-Planning Association, 3, Gray's Inn-place, W.C., who will be glad to give the opportunity to any English town-planners desirous of meeting the visitors. During their stay in England the headquarters of the party will be the Grafton Hotel, Tottenham Court-road, London, W.

Gresham College.

The plans and designs for the rebuilding of Gresham College, upon the site at the corner of Basinghall and Gresham streets, have been prepared jointly by Mr. Sydney Perks, City Surveyor, and Mr. D. Watney, surveyor to the Mercers' Company. The premises will comprise a lecture-hall, measuring 68 ft. by 40 ft., and having sitting-room for an audience of 500 persons, with offices above for the professors and executive staff.

The Princess's Theatre, Oxford-street.

We learn that the site of the Princess's Theatre is soon to be cleared for the erection, at a cost of some 600,000*l.*, of an hotel to accommodate 1,000 visitors. The theatre, which has been untenanted for several years, was built in 1880, after designs of C. J. Phipps, with 2,150 seats in the auditorium. Phipps's plans comprised a stage and wings 71 ft. by 42 ft.; pit, gallery, and royal box doors in Winsley and Castle streets, and foyer, with a balcony over the principal entrance—a very uncommon feature in that day of a London playhouse. The ground (nearly 21,500 ft. super.) is held under a lease, to expire in July, 1940, from the Howard de Walden Estate, at a rent of 1,600*l.* per annum. The site is that of the Queen's Bazaar, which, after a fire in 1829, was rebuilt for the "Physiorama" and similar exhibitions. The house was then taken by Hamlet, the wealthy silversmith of Cranbourne-street, for whom Nelson and Crace remodelled and decorated the interior, and was reopened on the night of October 6, 1840, for English opera and the then novelty of promenade concerts.

College Gateway, Worcester.

Conjointly with Mr. W. H. St. John Hope, Mr. R. F. Wells designed and executed in terracotta a set of eleven figures which have just been set up in the niches of the outer side of the Edgar Tower, or College Gateway. The statues are illustrative of the story of the see from its foundation by Ethelred, with Bosel as first bishop, 679, to the close of the Xth century, when the conventual church of St. Mary supplanted St. Peter's as the cathedral of the diocese.

Removal of Two Long-Established London Firms.

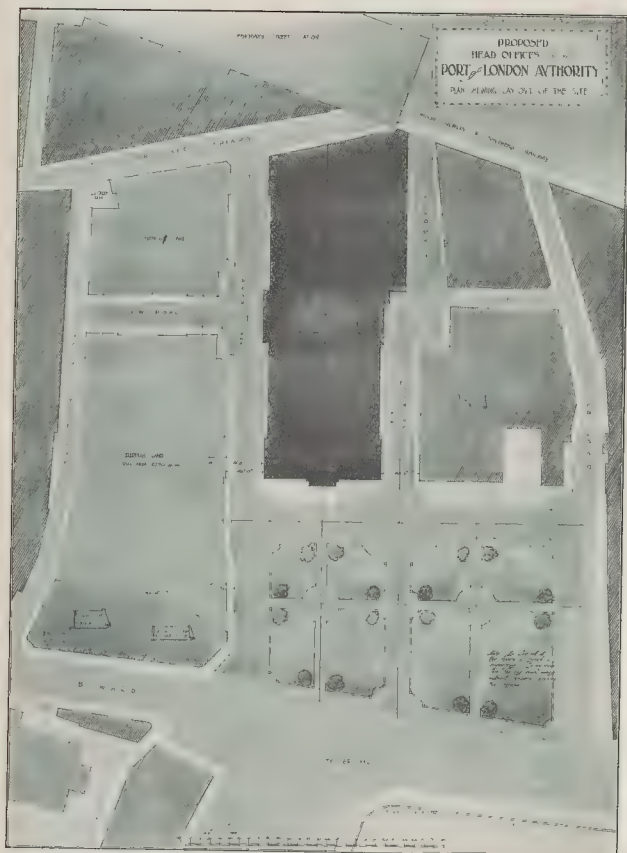
Messrs. Arthur Ackermann & Sons have just migrated from Regent-street, where they have continued since 1825, to No. 157*a*, New Bond-street, formerly the Mendoza Gallery. The firm was founded in 1783 in premises, formerly those of Lillie, snuff and perfume dealer, at No. 96, in the Strand, at the corner east of Beaufort-buildings (Savoy-court), by Rudolph Ackermann, who introduced into this country the illustration of books, mainly upon topographical subjects, with aqua-tints, lithographs, and similar coloured plates.—Messrs. Newton & Co., makers of optical, mathematical, electrical, and scientific instruments, who claim to be the oldest established firm of optical instrument-makers in the world, have removed from No. 3, Fleet-street, near Middle Temple Gate, to No. 72, Wigmore-street, W.; they have also opened a branch establishment at No. 37, King-street, Covent Garden. The firm, now consisting of Mr. H. C. Newton and Mr. R. S. Wright, were founded by a cousin of Sir Isaac Newton in 1704, and possess a business receipt dated in that year. They have occupied premises in Fleet-street during more than 200 years past.

An Ancient Theatre in Paris.

Madame Caristie-Martel, of the Comédie-Française, and granddaughter of the architect Auguste Caristie, who excavated the Roman amphitheatre in Orange, has begun a similar work in respect of the Arènes de Lutèce, in the Quartier Latin, where many old and decayed dwellings have been cleared away. A large stage is fitted in the middle of the ancient Roman amphitheatre, and room is provided for about 2,500 spectators upon the original tiers of the auditorium. Madame Caristie-Martel intends to give a series of classic spectacles, contests, and games in the revived Arènes.

BOOK RECEIVED.

MODERN ROAD CONSTRUCTION. By Francis Wood, M.Inst.C.E., F.G.S. Illustrated. (London: Charles Griffin & Co. Ltd., Strand. 4*s.* 6*d.* net.)



Port of London Offices: Block Plan. Competitive Design by Mr. J. Reginald Truelove, A.R.I.B.A.

ILLUSTRATIONS.

Port of London Offices.

MR. J. REGINALD TRUELOVE was one of the six competitors selected to complete their designs for the new Head Offices of the Port of London Authority. In connexion with his scheme, illustrated in this issue, Mr. Truelove writes:—

"In the first scheme the tower was placed in Savage-gardens-square, where the post-office now is placed. It closed the vista of a new roadway across Trinity-square and through Savage-gardens. The tower was in the nature of a campanile, and, as the ground slopes gradually from Savage-gardens-square to the grounds of the tower, an uninterrupted view of the tower, right to its base, was obtained from 540 ft. away. The tower was practically on the central axis of the square. It would have emphasised the real centre line of the square, and so made an orderly lay-out. When Trinity House is rebuilt—as it must be some day sooner or later—then the tower would have risen from the centre of a great group of maritime offices. However, in obedience to one of the clauses in the final conditions the tower had to be moved, but for accommodation purposes the area had to be retained. This explains the irregularity of the Savage-gardens frontage. Even then the block over the post-office would make a good feature at the end of the street.

One of the principal features of the design is the lay-out of the surplus land, which, as calculated, would return a considerable proportion of the original outlay, which, it is understood, is somewhere near a million pounds.

The through road runs direct from Tower Hill to the neighbourhood of Fenchurch-street Station, the surplus land frontages face the main façade of the Port Authority's Office. The land so arranged would have commanded a very high rental. The figures are 290 ft. in the main road, facing the Port Authority Offices, and 170 ft. facing Trinity-square, to say nothing of the uninterrupted frontage towards Seething-lane, and the smaller new road terminated by the Port Authority Office centre pavilion.

The planning of the offices was conceived on the simplest and most direct lines, and it is maintained that here the public would find its way to any individual office in the building without the help of officials on point duty."

The Liverpool Repertory Theatre.

This theatre, converted out of the old Star Music Hall into a municipal theatre, is run on the lines of the Repertory Theatre, Glasgow, and Miss Horniman's Theatre, Manchester.

It is owned by over 1,000 shareholders, and the dividends are limited to 6 per cent. The essential requirements were provision for social intercourse, a good stage, and comfortable seating throughout.

The stage of the old Star Theatre being only 21 ft. in depth, property was acquired in the rear, and everything behind the proscenium arch was rebuilt. The auditorium was re-decorated and re-seated and tiers of boxes on either side were removed, and single boxes introduced in their stead. Under the auditorium there is provided a large foyer, a feature of the theatre, approached by wide staircases not only from the stalls and pit, but also from the circle.

This foyer, originally a beer-cellar, has now, by excavating, been converted into a place of

public assembly, where the audience congregates from all parts of the house. The foyer is the refreshment-room and off lobbies approaching it are ante-rooms.

The stage, which has been enlarged in depth, has been provided with modern stage equipment, and behind green-room.

Over the green-room is a painting under it a carpenter's shop, so that scenery may be produced on the spot. The stage have also been provided with dressing-rooms in addition to five existing over the wings, also room for a comptroller, stage-manager, electrician.

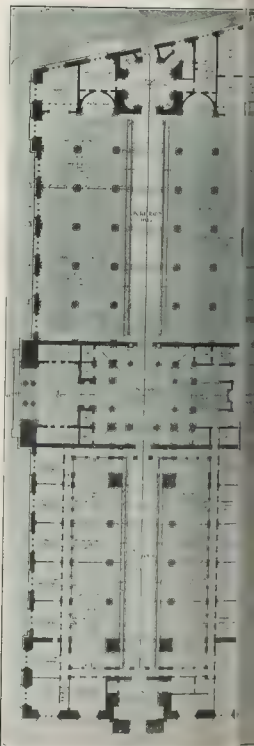
The decoration is based on the last century work of France, simplicity of position being realised by taking the scenium arch up to the full extent of the proscenium wall, and by treating the rich balconied openings in a plain wall.

The foyer, where less restraint is recalled as the basis of its design the a Roman villa and the trailage of garden.

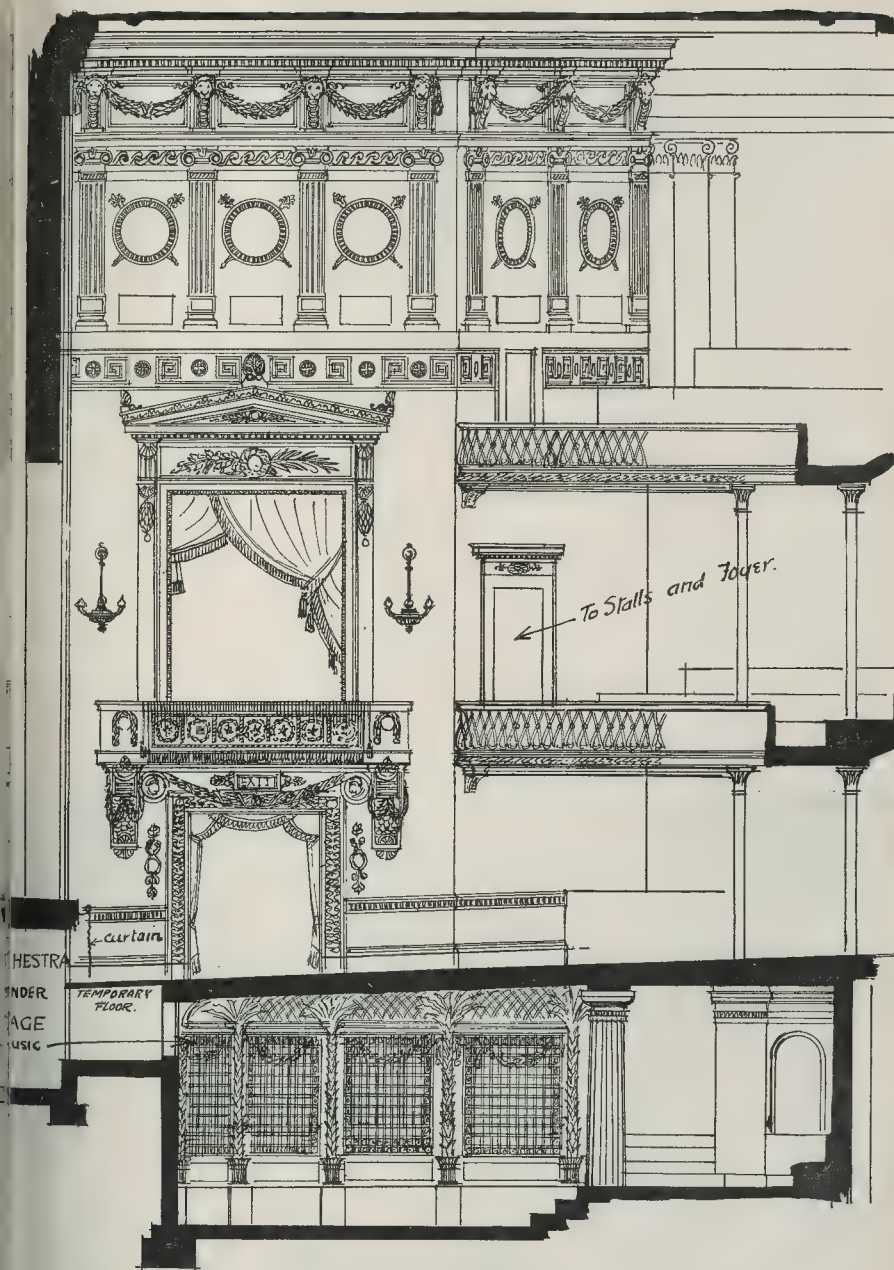
The general contractors were Messrs. who completed the whole of the work, this being the contract for the plasterwork was executed by Messrs. Son, and the work is especially recommended for its spirit and refinement. The painting and decorating was done by Messrs. John Hunter, and the electric fittings by Mr. Banks, and the Messrs. Killick & Cochrane.

Baroque Architecture.

The illustrations of work by Michelangelo Palladio are used in connexion with the first of a series, which begins on the page to which we refer in our "Note" on



Port of London Offices: Ground Plan. Competitive Design by Mr. J. Reginald Truelove, A.R.I.B.A.



The Repertory Theatre, Liverpool : Section.

Professor S. D. Adeshead, F.R.I.B.A., Architect.

COMPETITION NEWS.

of current Competitions is printed on

Model Colliery Village.

The Welsh Navigation Steam Coal Ltd., promoted a competition for a model colliery village in the Ely between Llantrisant and Tonyrefail. The competitions were not open to many who might otherwise have

entered, but the response, we believe, was good. The First Premiated Design (201) was won by Mr. Ed. W. Meredith, 52, Greystones-road, Ecclesall, Sheffield.

Magazins Modernes, Strasbourg.

Illustrations are given in *L'Architecture* for August 3 of M. A. Marcel's design which obtained one of the two first prizes in this important competition promoted by the Société

Française des Grands Bazaars at Strasbourg. Among the jury of assessors were M. Pascal and M. Laloux, members of the Institute of France. As an example of shop architecture on the grand scale this design is worthy of study. M. Marcel's equal in the competition was Professor Oberbaurat, of Karlsruhe. The second prize was won by Messrs. Muller & Mosselet, of Strasbourg; the third prize by M. Chaussemiche, of Paris; and the fourth prize by Messrs. Berninger & Kraft, of Strasbourg.

CORRESPONDENCE.

Public Appreciation of Architecture.

SIR.—The subject of the leading article in the *Builder* of August 9 is one of considerable importance. Some real appreciation of architecture by the public is a condition so much to be desired that it is strange more effort is not put forth to bring it about. The present time finds us with interest somewhat generally awakened in the subjects of town planning, garden cities (so-called), and—in our Metropolis, at least—in the newly-formed London Society. This is something to the good, and such a time seems opportune for driving home the important bearing on all these things of a general elevation in the standard of public taste.

Possibly no truth is more emphatically borne out by a study of the history of aesthetics than that the condition of the arts, at all times, has followed—more or less correctly—the general state of public taste. If the arts advanced—as in the heyday of Florentine culture, for example—it was because the people valued and encouraged them; if they declined—as in the decadent period of Rome—it was because the public were consumed with other interests or pleasures, and the general taste had become lowered. A review of the course of the Italian Renaissance indicates this application of the law of cause and effect very obviously, and it is apparent, too, in the corresponding period of our own history. Even the layman and the worker of those times thought and spoke with appreciation of Vitruvius, Alberti, Vignola, and Palladio—or rather what they represented to them; but we never hear them mentioned now. The fact is important only as indicating a vital change of view, and we ourselves cannot be acquitted of indifference to the example of the great architects of the past and the standard of refinement and taste set up by them.

Among the hopeful signs of the setting in of a change we may note: The encouragement now being given to art teaching in some of our Universities; the broadening treatment of architectural education generally (as in the case of the Royal Institute); the training of craftsmen in aesthetics as well as in the practical aspects of their work; and, incredible as it may

seem, some glimmerings in our daily newspapers of the truth that the amenities of towns and cities, and art in what we might call its universal or everyday aspect, are matters of concern for all citizens, irrespective of class or education, and not merely of the select and cultivated few. We shall have gained considerably if the truth of this comes to be generally admitted. The subject, to quote from your leader, is "of vital concern to architects; and none should be so qualified as they to inform and lead public opinion." On this account one is tempted to suggest the opening of a conference by the Royal Institute and the allied architectural societies of the United Kingdom in an endeavour to influence public opinion in the right direction. To do so would appear a vast undertaking, but it need not prove so, and someone must make a beginning. It is, anyway, perfectly certain that art, in its comprehensive sense, will make no very real progress until some general public appreciation—such as you indicate is desirable—is effected.

FREDK. R. HOENES.

FIFTY YEARS AGO.

From the *Builder* of August 16, 1862.

Road-Making.

A FRENCH inventor has recently built, or at least designed, a steam-roller to consolidate gravel and macadamised roads. The *Mechanics' Magazine* says:—A pair of cylinders, inclined at forty-five degrees, act on an outside crank on one end of the axle of the main roller or drum. The front axle has wheels as broad as can be, and is controlled by steering-gear similar to that used on steam-carriages and traction-engines. It is said that this machine will be better than horse-drawn rollers, because it can run both backwards and forwards with equal facility, be easily reversed, and work on a short piece of road until it is sufficiently consolidated.

* * It is not, indeed, such a long while since some 3 in. of metalling was raked over

the road and left to the action of the wheels of passing vehicles to a smooth and resisting surface. Drivers of horse-drawn vehicles, though they were to follow close tracks of each other, overlapped little until, at the end of some time, the rolling-in process was nearly accomplished.

The steam-roller, when it did appear in this country, was so long time as to be an object of curiosity such an everyday occurrence now across a road under repair forewarned familiar notice "beware of the steam-roller," beyond causing annoyance scarcely remarked. To-day, for one engineering firm alone, as we know, stocks as many as 200 steam-rollers for purposes of hire. When the once taken shape, there were advances in the type of construction made. The scarifier, however, in addition, fixed either in front of or dragged as a trailer, its purpose was to pick up the surface of the road, and the metalling. Driving power has improved in common with other steam-engines which are now on the compound principle, i.e., the steam from the high-pressure cylinder is utilised for the low-pressure cylinder. At work has a certain fascination, and the rapidity with which the surface is picked up and the saving of man-power impresses the most casual passer-by. Traffic may be good at tearing surfaces, but it is not good at rolling down, and the steam-roller and are indispensable in these days of wheels.—ED.

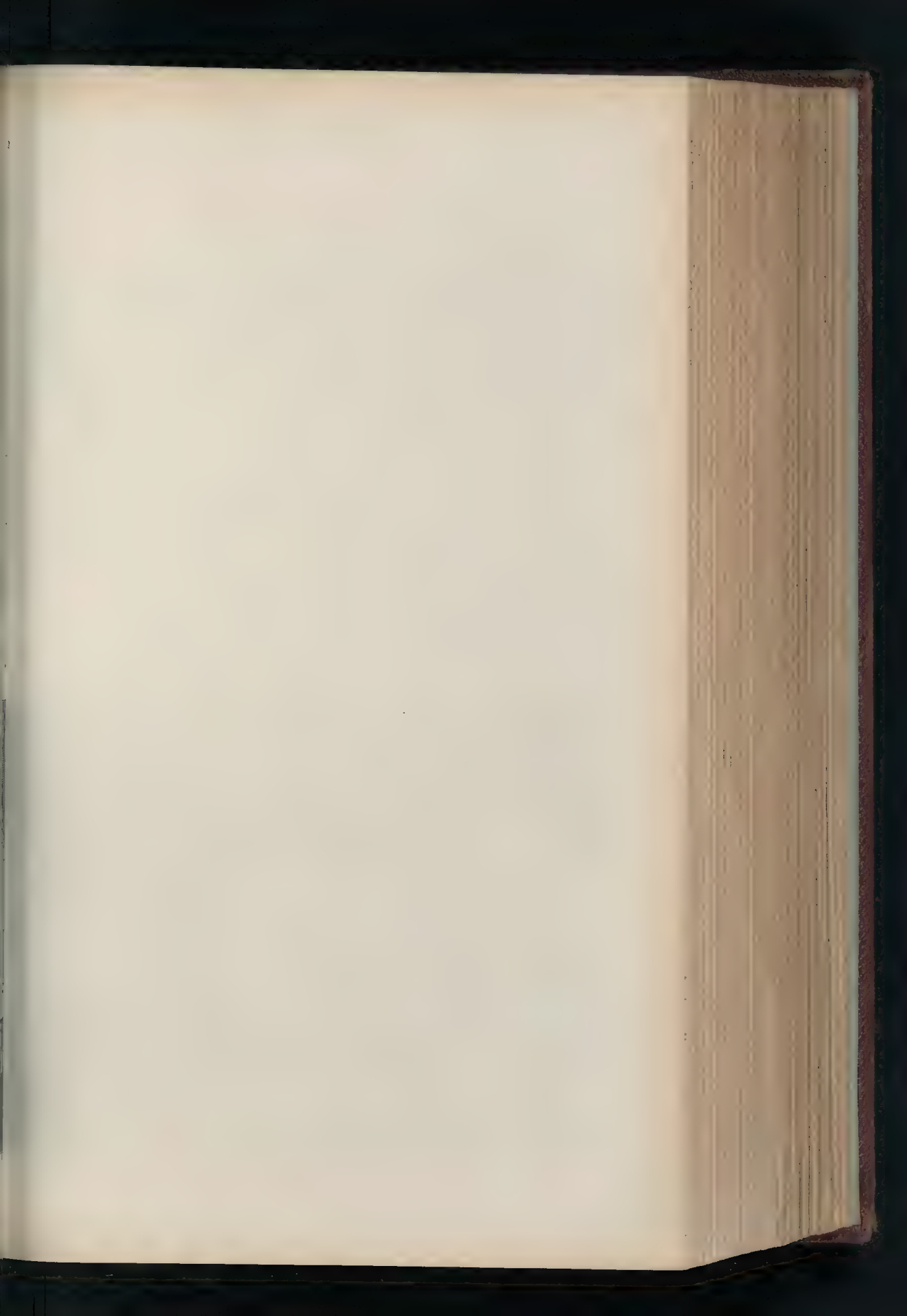
THE SINGLE TAX.

A letter on this subject, from Mr. V. Wallis, of Maidstone, is unavoidably until next week.



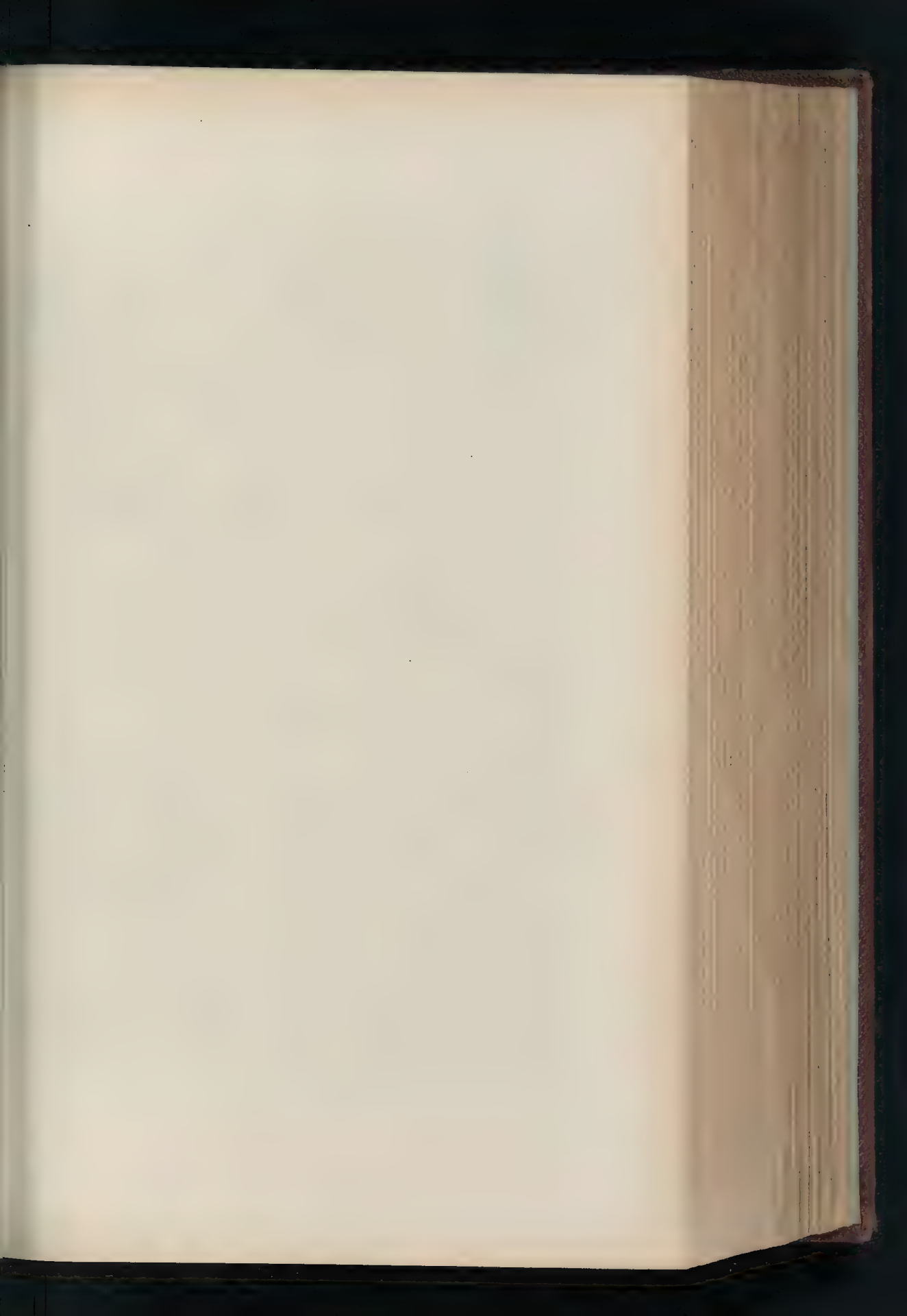
The Repertory Theatre, Liverpool. (See page 202.)

Professor S. D. Adshead, F.R.I.B.A., Architect.



THE BUILDER, AUGUST 16, 1912.

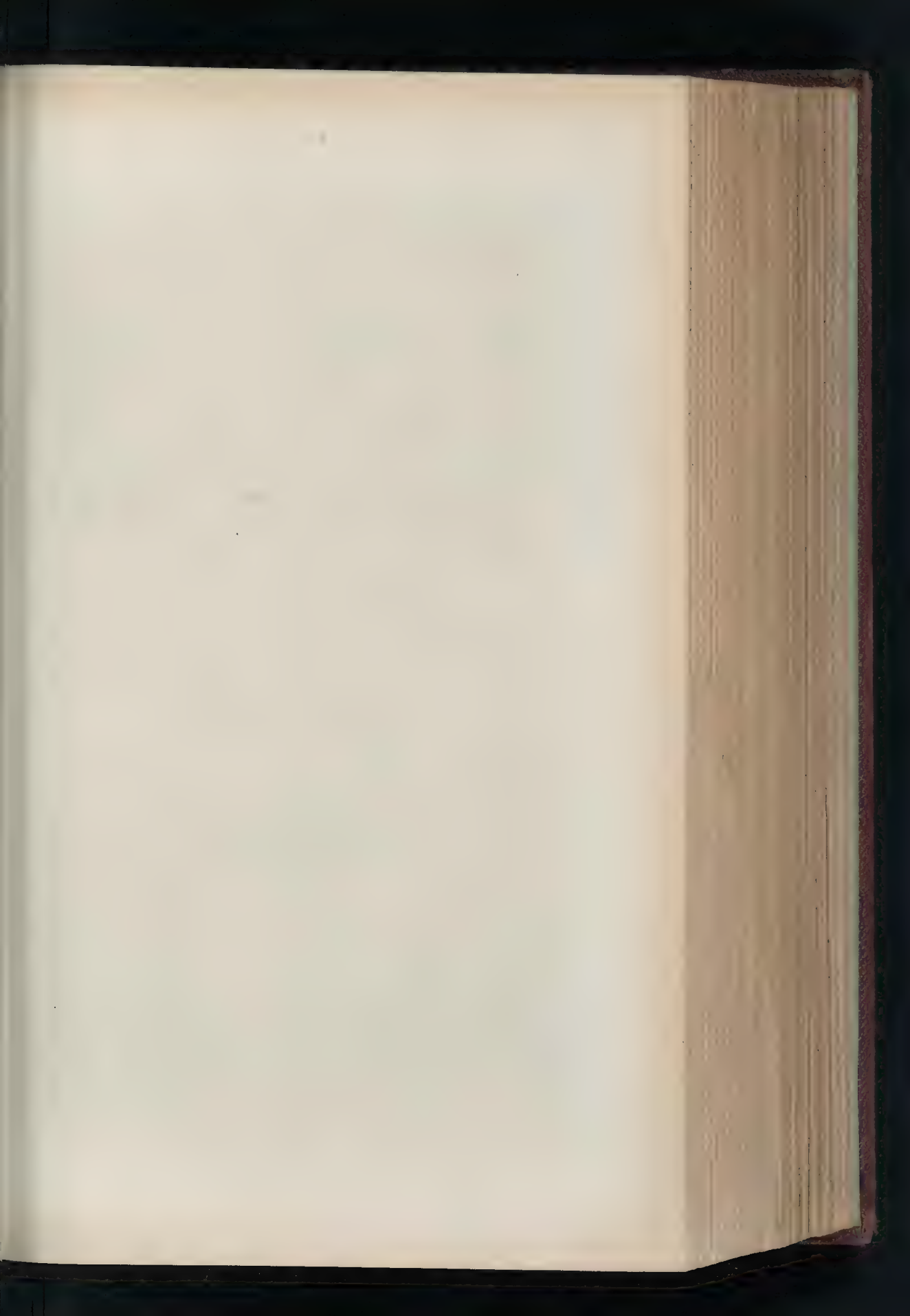






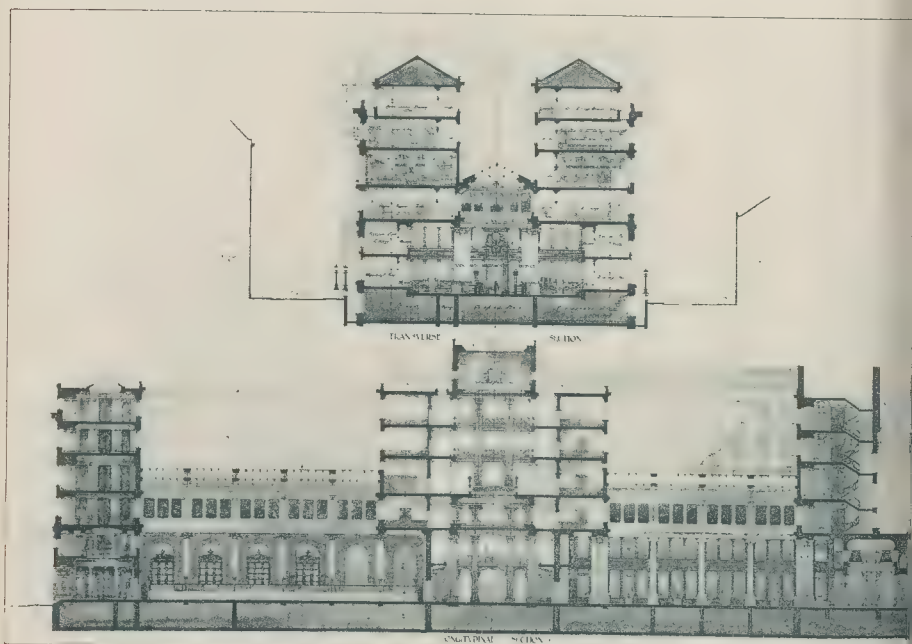
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PORT OF LONDON AUTHORITY. DETAIL OF COMPETITIVE DESIGN FOR THE
NEW HEAD OFFICES.—BY MR. J. REGINALD TRUELOVE, A.R.I.B.A





SIDE ELEVATION.



TRANSVERSE SECTION.

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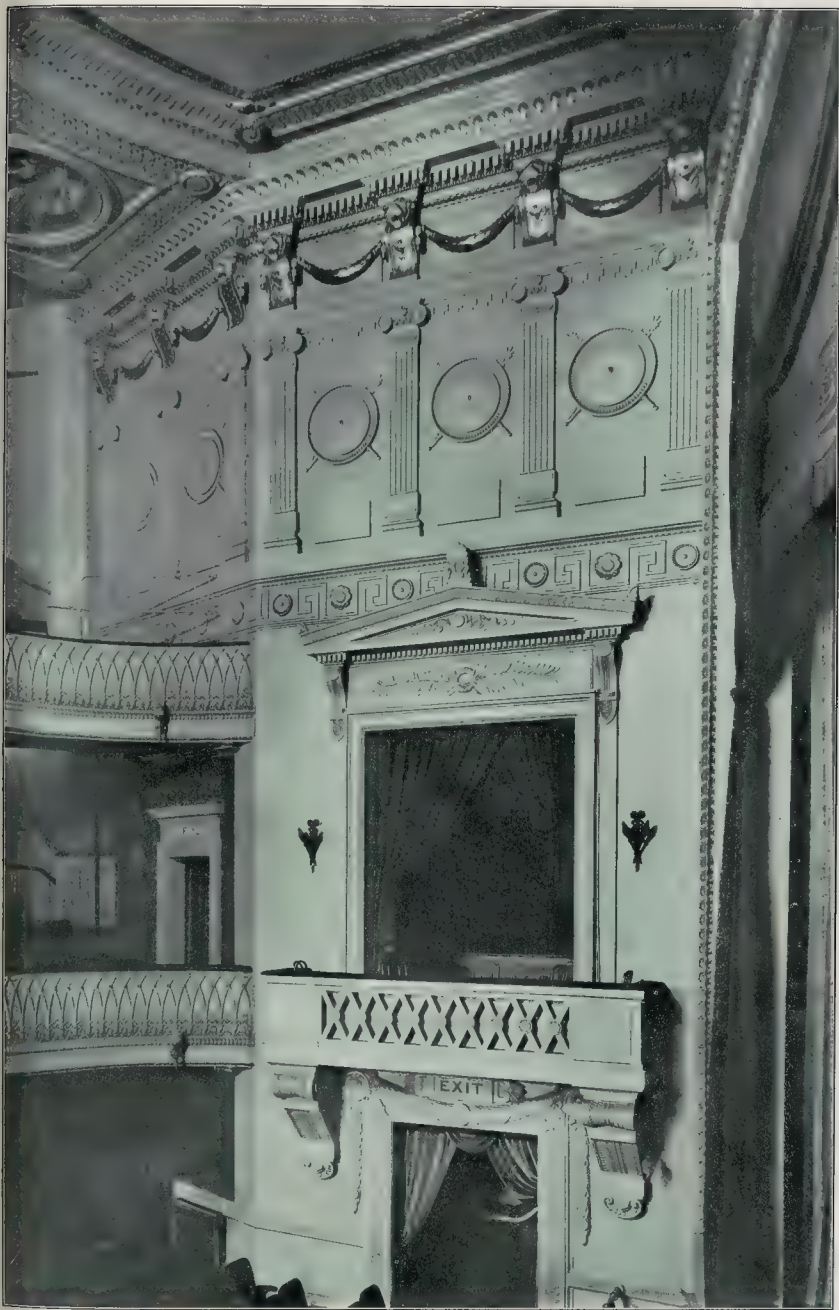
PORT OF LONDON AUTHORITY COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.

By Mr J. REGINALD TRUELVE, A.R.I.B.A



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By MR. J. REGINALD TRUBLOVE A.R.B.A.



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THE REPERTORY THEATRE, LIVERPOOL.—PROF. S. D. ADSHEAD, F.R.I.B.A., ARCHITECT.



Photo. Engraving Co.

S. GIORGIO, VENICE.—By PALLADIO.

ILLUSTRATING RENAISSANCE WORK IMMEDIATELY PRECEDING THE BAROQUE PERIOD.

"BAROQUE ARCHITECTURE," I.

Springer & Co., Ltd., Printers, 69 & 70, Dean St., Euston, W.

MONTHLY HISTORICAL REVIEW.

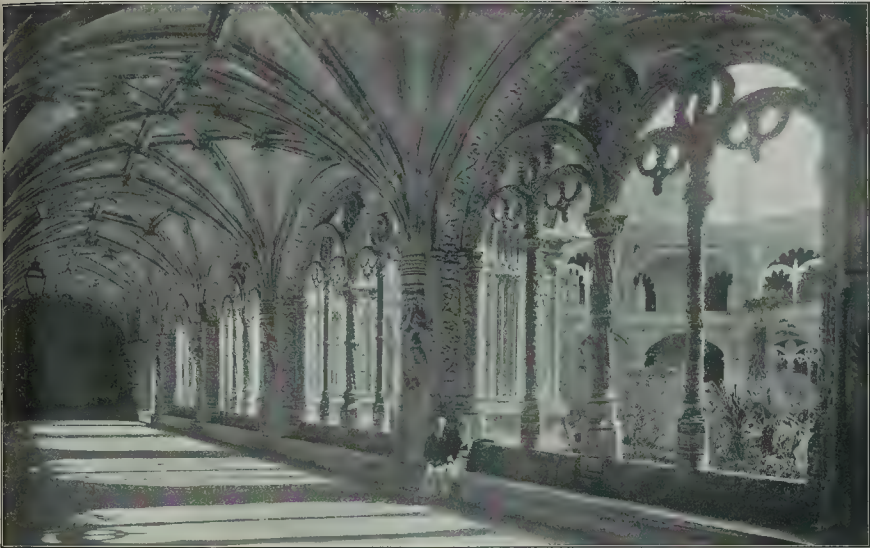


Fig. 1. Convent of Belem : The Cloisters.

THE ARCHITECTURE OF PORTUGAL.—VI.

(Continued from page 80.)

Examples of Portugal's characteristic style best known to foreigners are the buildings at Belem, some 3 miles down from the centre of Lisbon. They consist of the tower of São Vicente and the Hospital of the Jeronimites, which is separated from the mainland by an approach by John II. (1481-93) to guard his approach to his capital, and finished by his successor in 1520. The fort, which was separated from the mainland by an approach by the Tagus, now silted up, was destroyed by Garcia de Resende of Evora. It consisted of a tower some 40 ft. square and 100 ft. high, with a fortified bastion of the plan projecting from it into the river and surrounded by a wall enclosing a cloister (Fig. 2). The most remarkable features externally are the circular corbels out from each angle of the tower and bastion, and crowned by shaped stone roofs with knobbed pinnacles. The machicolated parapets whose openings are formed into the shape of shields and the Cross of the Order of Christ, the picturesque arcaded balconies of which are carried on stone corbels. The tower of Belem is, as a whole, of business-like sobriety, but such ornamental detail as it has is entirely late in style of the Manoelino sort, with considerable use of cable mouldings, and shows the influence of Renaissance influence except in the entrance doorway. The Jeronimites on the other hand, is one of the most richly decorated buildings in the country. It was erected by Dom Manoel in offering for the discovery of the route to India, and founded in 1498, but not completed till 1564. It comprises a church, a cloister, and a tower—the tower of Maria do Belem—with the monastic garden round a cloister on the north side,

and a wing over 600 ft. long extending westward in the axis of the church containing the undercroft of the dormitory and probably intended to form one side of a second cloister never carried out. Boutaca acted as architect till 1511, and Lourenço Fernandes after that, till the arrival of João de Castilho in 1517. The general disposition of the church, the earliest portion of the scheme to be built, would thus appear to be due to them, though the work seems to have been carried up but a little way by that date. About the same time as João there also arrived Nicolas the Frenchman, probably accompanied by assistants, who

executed the Renaissance ornament to be found in the doorways and windows of the church. It is certainly one of the most remarkable churches in Christendom. Externally something in the colour of the limestone—the same as that used at Batalha and closely approximating to marble—as well as in the enriched windows and doorway widely spaced in a large expanse of plain wall, calls to mind the Cathedral of Como, while internally the soaring columns and the wide spaces of mysterious gloom, shot through with rays of tinted light, inevitably suggest the duomo of Milan. The windows, rather too big in scale, are

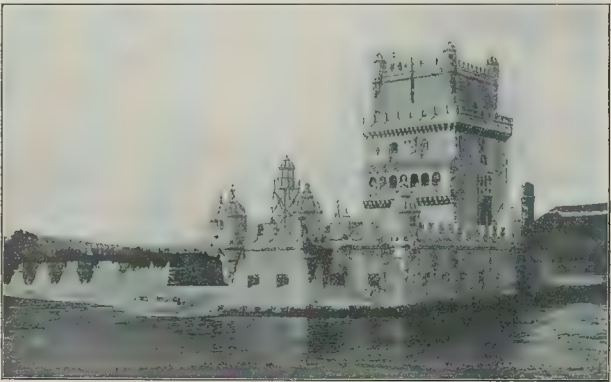


Photo. by Marias & Silva.

Fig. 2. The Tower of Belem.

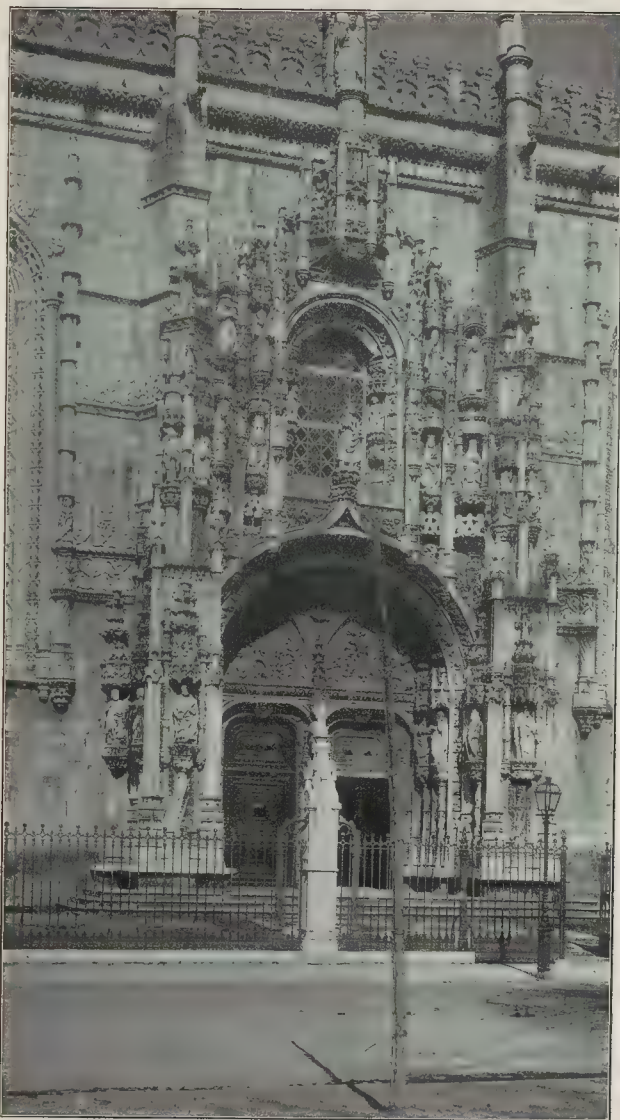


Fig. 3. Church of the Hieronymites at Belem : South Portal.

untraceried and round-headed, with deep external splay enriched with Manoelino ornament and flanked by a pair of banded shafts. The great south portal (Fig. 3) is a finely-conceived but intricate composition. Between two buttresses reaching to the openwork parapet a pyramidal arrangement of elaborate niches and statuary, crockets, and finials, frame in a round-arched and deeply-recessed double doorway and a window above it, and culminates in a lofty pinnacled canopy in two tiers.

The plan of the church is a peculiar one. The nave consists of five bays, but at the west the towers occupy the first bay of the aisles and the gallery runs out over the whole of the second. The transept, only slightly wider than the western arm, measures 95 ft. by 65 ft. It opens into a square chapel north and south and an apsidal choir of later date to the east.

The great wonder of the church lies in its vaulting (Figs. 4 and 5), a more fully-developed example of a system of which a hint had been given three-quarters of a century earlier at Villar de Frades. Aisles and nave are carried up to the same height of about 80 ft., and there is neither arcade to divide the nave from the aisles, nor transverse ribs to divide them into bays except at the entrance of the transept. Springing direct from the top of the piers, vaulting ribs of similar curvature, like those of an English fan vault, radiate in all directions, but, contrary to English practice, the fans do not touch or intersect, but are divided by portions of what is in effect a barrel-vault, stiffened by a rib system. The transept being undivided by piers, its vault soars even higher than that of the nave, and yet this mighty vault is of such solid construction as to have stood unshaken

when Lisbon was rocked to its core in the historic earthquake of 1755. The weakest point from the point of view in the design of the interior lies in (Fig. 4), which are slender octagons, only some 6 ft. in diameter, separated by strings, while the sides are carved with rather coarse work. One of the most original effects in the westward vista (Fig. 5) is the lower portion is lost in cavernous under the choir gallery, and, as gleams light up the richly-worked work of the Coro Alto. The chapter-house, and other monuments, as well as the cloisters, are likewise vaulted in a great variety of beautiful fashions. The piers, nearly square and in two stories, are strange Indian-looking tracery of arcade is deeply set back under a series of elliptical arches thrown from pier, one of them crossing each other (Fig. 6). The faces and piers, as well as the soffits and the arches, are carved with intricate work. The ensemble thus formed, over and over again, is as it is, has yet a weird suggestion of the exotic delights of a palace rather than the setting of a Christian religious house. almost the swan song of Manoelino the foreign artists who, under the Portuguese, were swarming into the country, as we have seen, already in the new art of Italy.

BAROQUE ARCHITECTURE I.—BAROQUE ARCHITECTURE ITS BEGINNINGS IN ITALY

OF all the many phases of architecture surely none which has suffered more from misunderstanding and ignorance than Baroque architecture. For years it has laboured under a curse, the curse of a name whose origin is lost in obscurity, whose meaning is doubtful of its value. But, like the majority of nicknames, it has caught a hold on the imagination, and is remembered in all its pristine brightness by the average man of to-day who knows little or nothing of its complete ignorance as to its origin. The purpose of this series of articles is to attempt some description of the criticism of the style in the principal countries of Europe, our first concern must be with Italy, generally accepted limits, our next step is to consider how far limitation is justified.

What, then, is Baroque architecture? Even Dr. Murray's infallible definition does not help us here beyond a point. The word is found in the form most familiar to us, in Spanish, in modern Portuguese, and in Italian. It has come from Africa to Portugal, and from Portugal to the present connexion it occurs in the name of Saint Simon (1760-1825). A plausible hypothesis is, that from the Latin (*verruca*) "a wart," it is applied by jewellers to ill-shaped stones (*barocca*), and at a later date to the bizarre, and the decadent in art in nature.

A second theory derives it from the term, *barocco*, meaning a figure of which draws conclusions from the but this is discredited by authorities. The first explanation, however, has a certain rational basis it may not have been remarked perhaps worth setting down hesitates before ascribing any greatness to Cellini, who surely of all men lived had too good an opinion of himself. But may not he and his fellow have carried this strange word of smiths' work to architecture? The statue of Perseus at Florence at the details of its beautiful pose these strange, uncommon, and departing from the well-trodden

once art, may we not imagine a jeweller-friends and admirers to the work the first slang word to their tongue-tips, a word in at their benches? The idea is no doubt, yet we know that in some smaller works of art we find the design which afterwards came called "Baroque" long before it the realms of architecture. And, we must account somehow for a which has become so important after its origin.

aside further speculation in this as futile, we next come to the of what is generally understood as baroque architecture, and how far justified in the position they have. At the outset we find another obstacle, for many writers draw no distinction between the words "Rococo" and "Baroque," which are in no way synonymous. The former term is usually applied to the purely bizarre or over-decorated examples of any post-Renaissance architecture and corresponds to "fantasy" in the Gothic period. We probably apply it also to many examples of Renaissance days.

Baroque is almost as uncertain in its meaning as "Baroque," but is usually derived from the French word *rocaille*, describing a rustic rockwork, and is French by origin. In France, and to some degree in Italy, there actually was a Rococo style in the middle of the XVIIIth century, and, especially, Spain, and England its influence. If the object of these articles is to perpetrate paradoxes it might be said that Baroque architecture is Italian, described by a French name, while Rococo is essentially a French phase, and is known by an Italian term. But a Rococo building often loosely described as an over-decorated building in any style, a Baroque building is a more definite example of a usually florid style, and one is a term applied to isolated buildings, the other in general to the buildings of a more or less historical period. And any Baroque buildings are Rococo, but not follow that all are. If this age of Ruskin it would be an irony for printing here in black type, term No. 1:—

terms 'Rococo' and 'Baroque' are interchangeable." being conceded, we arrive at another objection—that Baroque is used as a general term, yet that in all countries we find examples of architecture period so pure, so severe, and so



Fig. 4. Convent of Belem: Interior of Church, looking East.

obviously free from "the germ of the baroque corruption," that they cannot by any possibility be classed as anything but work of the Renaissance. An answer to this may be found very readily. Suppose we examine the more familiar architecture of our own country in the same way.

Are we to discontinue describing the Jacobean period as such because a Leeds merchant chose to build a Gothic church in Charles I.'s reign? Or must we cease

to talk of "Georgian" because in the Yorkshire villages we find many houses erected in the XVIIIth century with mullioned windows and semi-Tudor detail? A definition of an architectural period cannot be absolute, but it generally applies to ninety examples out of every hundred.

The Baroque period dates from the time when architects began to revolt against the pedantic rules of the Later Renaissance schoolmen, and it lasts until they tired



Photo, by Martins & Silva.

Convent of Belem: Interior of Church, looking West.



Photo, by Martins & Silva.

Fig. 6. Convent of Belem: Angle of Cloister Garth.



St. Peter's, Rome: From the West.

By Michelangelo. Illustrating the tendency to adopt Baroque elements in Michelangelo's later work.

of their untrammelled freedom and returned to their pedantry once more. As with contemporary movements in literature and other arts, its limits in architecture are different in every country and in almost every city of Europe. In some countries, such as Spain, it reaches the point of insanity, but its grades seem to be personal rather than local, and an exceptionally florid building is usually due to the work or influence of one wild brain, rather than to a prevailing tendency.

Baroque architecture is a normal development from Bramante's or Peruzzi's Renaissance types in Italy, of other Renaissance masters in other countries. It was encouraged by similar tendencies in painting and, as we have said, in minor arts such as goldsmiths' work.

For architecture is always the last art to feel a revolutionary change. It is too structural, too permanent, too eternal, one might almost say, to be blown from its course by every trifling æsthetic movement.

Lastly, the buildings of the Baroque period may, with few exceptions, be recognised by the general principles of their design and not by the abundance of their ornament alone. These conclusions might be emphasised in the Ruskin manner as *Aphorism No. 2*:-

"Baroque Architecture may be limited to an historical period, varying in date in different countries and cities, but in general beginning as the Renaissance spirit declined to pedantry and ending with the return to pedantry in the XVIIIth century. Its buildings may be recognised by the general principles which govern their design rather than by the abundance of their ornament."

Having defined to some extent the meaning of Baroque architecture, we will proceed to compare some of the criticisms which have been made of it as a whole.

As one reads these passages one cannot but regret that architects have so little to do with the forming of public opinion about their own craft. For while they are laboriously pursuing their calling as honest men should, bespectacled dilettanti with long hair from "our older Universities" are proclaiming to the world what the world should think about architecture, what styles are inherently good and what inherently bad (as if any style could in reality be either). So, although modern intellect in our profession has long ago embraced Baroque, consciously or unconsciously, though its characteristics are to be seen in most of the best public buildings of our day, the cultured man in the street is little further than he was when Ruskin told him to beware of "the foul torrent of the Renaissance."

Mr. Fergusson, for example, is now generally recognised as a critic whose most level judgments were on Oriental rather than on Western architecture, yet his influence on the British public has been enormous. His pen is not quite so bitter in relation to isolated Baroque buildings as we should expect, yet his conclusion is characteristic of most Victorian writers on the subject:-

"The history of Italian art may be summed up in a few words. During the XVth century it was original, appropriate, and grand; during the XVIth it became correct and elegant, though too often also tintured with pedantry; and in the XVIIth it broke out into caprice and affectation till it became as bizarre as it was tasteless. During the XVIIIth it sank down to a uniform level of timid mediocrity, as devoid of life as it is of art." Even if we allow something for this writer's well-known acidity, we find his opinions echoed in more recent times. Take, for instance, some of the thirty lines in Mr. Banister Fletcher's popular "History of Architecture," for this is all the space

devoted to a style which loomed over Europe:-

"The Rococo period presents an anarchical reaction, frontages, broken curves in elevation and a strained detail are the characteristics. Columns are placed in front and cornices made to break. Broken and curved pediments, scrolls, and twisted column features of the style. In the ornamentation is carried to an extraordinary degree without fitness or suitability, and exaggerated and badly designed often over-emphasised by sculptured figures in attitudes. . . . Carl Bernini, and Borromini are more famous who practised form of art. Among the most examples are the Roman S. Maria della Vittoria by S. Agnese by Borromini, churches at Naples."

Mr. Anderson's well-known book on Renaissance architecture is equally abrupt, but practically ignores mentioning him only in connexion of his work at St. Peter's. He ignores most of the principal Rome, and sums up his views in his final sentence, as follows:-

"By such freaks and capricious building of the era, certain of the Venetian works in composition, is more or less

More judicious and informing than these are to be found in books of a more historical nature, sources from which we have in all the works most in v

eral students we find the Baroque dismissed in a few paragraphs, cold and empty in tone. In fact, no hint is given that Baroque has its redeeming features, nor is he best informed of its extent, many undoubtedly Baroque in character some mysterious way excluded style.

justification were needed for a long series of articles to this may be found in these extracts from the most widely-read handbooks of the present day. There are many in our profession who at one time accepted these criticisms literally, and in the position of the present day, when first he visited Italy, believing that Baroque there was no good to be had, that in studying it lay the quickest road to perfection.

He expected to find in Italy a few brazen, but he found examples of the style still standing among cities of pure Renaissance and Pazzi chapels, a sort of living link to the lost souls of those who had created them, a stern and dreadful warning to all young architects.

Instead he found Rome a Baroque city, a classical quarter where the Baroque was laid. He sought for a pure building and discovered it with its faulty, measured its mouldings, and found it in a Baroque garden. He became enthusiastic about the Baroque, but remained placid till he saw Bernini's colonnade.

It is with all of us as we travel through Italy, or, for that matter, through other countries, too. In Venice and in Rome Baroque architecture dominates the nearly every smaller town away from the distant Lecce or up to Trieste Baroque architecture supplies the most beautiful and interesting features of the gardens and fountains, the terraces were almost all built during the XVIIth century.

It is easy to deceive a layman into believing that Baroque style is inherently bad by trading in the name and throwing dust in his



[Photo, by Gargioli.]

Doorway in Via Tomacelli, Rome.



[Photo, by Gargioli.]

Palazzo Cagiali, Rome: Window.

eyes, but you cannot persuade an architect of to-day that the work which followed the Renaissance movement had no redeeming features, that its greatest achievements are as nothing compared with the infantile stages of earlier days. There are those who would place Cimabue and Giotto far above the vigorous Michelangelo, and with such people argument is useless.

We have passed the time when histories of art rang down the curtain at the year 1550, and the epilogue is as interesting and most certainly as instructive as the phases which precede it. Indeed this age of eclecticism, when every man prides himself on being able to appreciate everything, should be a particularly auspicious occasion for considering in some detail and with an open mind the monuments of Baroque architecture in the principal countries of Europe.

There are good reasons why in this brief survey the first place and the most careful study should be given to Italy, for in Italy we find Baroque architecture in its most diversified and interesting forms.

The charm of Renaissance culture in Italy lies in its infinite variety, in the varying genius which inspired art and literature in each individual city. The courts of the Renaissance, more pagan than in Imperial Rome, were brilliant centres where the

high-born and the talented jostled in merry intercourse with townsmen and common people.

It was to a happy, joyous, immoral Italy—a pagan, sociable, and wonderfully intellectual land that there came two upheaving movements, so that in a short time the whole character of the people, their art, their literature, their religion, and their very customs changed completely.

The first was the Reformation with all that it caused and led to, the second was the influence of Spain.

The Church in Italy at one time appeared to be hard pressed to defend herself against the Reformation movement, but liberal tendencies from within proved a strengthening factor and saved her from disaster. Her ultimate triumph over heresy, her wonderful success in stamping out opposition in every form, is largely due to the invigorating influence of the great XVIth-century Orders, the Capuchins, the Theatines, and, above all, the Jesuits.

There is nothing more remarkable in that century than the formation of this Society of Jesus and its instant magnificent triumph. The Theatines and Capuchins had done wonders towards creating a more devotional and serious spirit within the Church, but the Jesuits became in a very few years masters of the situation. Their rules and tenets appealed to the minds of educated men, their

vows secured complete secrecy and complete subservience, above all, their wonderful new educational system ensured that the next generation would have imbibed their principles and would spread them through the world. It was the success of the Jesuits which carried the Church to victory through the difficult times of the Reformation; it was the wealth and power of the Church which is responsible in one way or another for almost all the most famous buildings, religious, palatial, or monumental, of the Baroque period.

The influence of Spain is of almost equal importance to us. We find in Renaissance times a fine democratic burgher spirit existing all over Italy, a striving among artists and writers to excel one another for their craft's sake, a strange freedom from social barriers, and a glorious abundance of *joie de vivre*. The Spaniards changed all this. Black garments for gentlemen of rank displaced the gorgeous fabrics which formed so staple a part of Italy's manufactures, cloistered seclusion or dishonest intrigues for ladies took the place of the easy and stimulating manners of the Renaissance courts. An elaborate code of etiquette ruled the world of society. It was deemed ignoble to work with hands or brain, and militarism took the place of civic pride. Every comfort was sacrificed among these erstwhile gay Italians in order to share in the trumpety titles bestowed by Spain, to make a brave show before the world, to display a dazzling retinue of servants and carriages. It is, then, to the Spanish supremacy that we owe the formality and ostentation of this period, the inordinate craze for heraldry and external ornament, the fine staircases and façades, the stateliness and the dignity of it all.

Music and science began about this time to make great strides in Italy, for writers were debating their art by becoming fulsome flatterers, and artists came at last to be often only the employees of wealthy patrons, so that intellect sought a new object.

But one must not forget that this whole Baroque movement had its parallel in other countries, in the "quaint conceits" of the English Euphuists or the *Précieuses* in France. There was an artificiality in the atmosphere which explains many things, and the hypocritical stiffness caused by an admixture of Spanish etiquette with the counter-reformation concealed as loose a moral code and as pagan a mind as ever marked the Renaissance. The Baroque movement was largely due to the Jesuits and the Spaniards, but we will examine in detail the usual opinion that it first found vent in the work of Michelangelo and Palladio.

It is difficult for one who believes, in common with most of his generation, that Michelangelo and Palladio were by far the greatest architects of the Renaissance to wholly appreciate the view-point of those who swear by Peruzzi's mouldings or Brunelleschi's dome, by Giotto's tower or Sangallo's churches.

Rather than Ferguson's talk of his "dreadful vulgarities" and "fantastic details" we think of Michelangelo in the words of an anonymous writer whose criticism lies by me as "one to whom the service of beauty was a religion." We remember his long struggle against enemies and circumstances, and how he lived all his life in the midst of intrigue and treachery, though he was a lover of simplicity and solitude. We recollect his reply to the Cardinal who had been persuaded to hold an indignation meeting during the building of St. Peter's, and who protested that the choir would be too dark. On being told that there were to be three windows more than they knew of, the Cardinal complained that this was the first they had heard of it. "I am not, nor do I mean to be, obliged to tell your lordships or anybody else what I ought or wish to do. It is your business to provide the money and to see that it is

not stolen. As regards the plans of the building, you have to leave them to me."

He was far above them, a man whose name is famous when the Pope and the Cardinals, the jealous clerk of work, and the pettifoggish committee are all forgotten. He will remain one of the world's greatest men when his carping critics' platitudes are out of date.

A pedantic hack with a 2-ft. rule and a book of Orders may find mistakes in Michelangelo's detail; that does not alter the fact of his magnificent achievements of art, of his sculptural architecture, or his architectural sculpture and painting. He is responsible for the "barocco corruption" only in so far as he first introduced into Italian Renaissance architecture a boldness of conception and a vigour of execution which may, in all justice, be considered, not as the first step of the decline, but as the grand culmination of this great period.

And what of Andrea Palladio and his city of Vicenza? Palladio's reputation has withstood many severer attacks, and will resist many more. Every year his genius is the more appreciated and his

are furnished with the fairest to demonstrate their own excellent and surprising inven-

The words italicised show was no stickler for pedantry bears it out; yet in this case, a fairer to him, and in all ways m to admit that he prepared Baroque, as did Michelangelo eccentricity or vulgarity, but by and appropriate originality of powerful mind.

Palladio's inventive faculty the direction of the general a design rather than in its le details, yet in each respect his reproach. As regards the form exhibits a wonderful freshness applying his orders to any sort of building. He it w familiarised people with the as a new feature in building borrowed from ancient Roman many things that the pure-soul of the Early Renaissance shrin uplifted hands.

The "motif Palladio" is no Diocletian's palace at Spalat, probably first reused in the X by Peruzzi.

Palladio certainly broke established custom in some can detail also. His use of sculpt has aroused much criticism, and the idea of reclining figures from and Sansovino. Though he broken pediments, we find brot tures in several cases (again a late classic models). His villas display all the ostentation and of the Baroque examples, yet position is for the most sus-

suspicion. It is both despicable and ignorant him with the poverty of the mat misfortune placed to his hand, beautiful palaces because the peeling off their façades, and patrons were, in many instances monious to provide him with th which he designed his buildings.

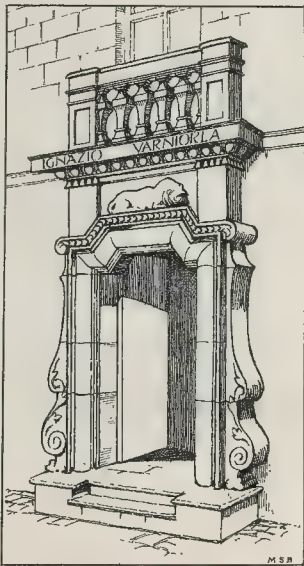
A purist who will abuse the st will find himself hard put to it to marble of 1450, and to say wit Renaissance marble-covered ce more laudable than a str Palladian palace. But there similar points of which our f architectural critics of architec very determined and so remark Palladio's genius has been admira up by Mr. Banister Fletcher in the

"He was not slavishly bound rules as to the proportions of columns and their entablatur many another, he was an exten saying that a genius can be which are made for smaller me

To determine whether Pa Michelangelo can be actually held for the introduction of Baroque into Italy is by no means easy, almost so when we view their l comparison with what appear accepted views on Baroque a They may have prepared the wa certainly did not venture on th path themselves.

MURAL PAINTING

The design illustrated on the ne exhibited at the recent Exhibition Painting, held at Crosby Hall, was successful in obtaining the of 25, in Section 8. It is the v Stanley North, who, under the m of Boreas, drew forth the crit newspaper which stated that it w petent and craftsmanlike design, the best period of Gothic decorati has also, we understand, met v commendation of Mr. Aitken, of t Gallery of British Art.



Doorway at Assisi.

principles adopted. Nor does it seem that his genius is so utterly at variance with Michelangelo's. He, too, strove for the dignified and the grand, but from the standpoint of the architect rather than of the artist-of-all-trades. He adhered a little more closely to rules because from boyhood he had been brought up on rules, whereas Michelangelo came to them late in life. It was not in his rules that Palladio's genius lay, but in his application of the accepted Orders to all the varied problems of architecture, in his ingenuity and inventive faculty. So although his latest biographer says that:—

"His style in general has been defined as a mean between the severe use of ancient forms and the licentious style of those who reject all rule whatever."

He also quotes Palladio's own words on public buildings:—

"Wherein, because they consist of larger dimensions and that they are beautified with more curious ornaments than private ones as serving for the use and convenience of everybody, princes have a most ample field to show the world the greatness of their souls, and architects

as is shown, represents St. George on a dragon. It is executed in tempera on a background of flat gold. The knight takes place on a sword between the palace and the town, and the King's in her bridal robes, bound to a tree, with the last sheep unslain by St. George, wearing a wreath of plucked from the bush near the direct and calm in his righteous cause. The scene is covered with flowers, which form a pinlike pattern in many hues. The more stealthy than strong, bends his frantic efforts to guard its deadly this is a fight between vice and her than a test of mere physical The whole scheme has a pleasing il-over pattern, there being, broadly three lines—the gold background, the of the horse, and the green sward. The position is very decorative in its flat. The trees on the gold are con- and the palace and town carry the horse through the picture. The harness, the cross on the tabard, and the roofs of the houses, has its The black helm on the ground and of St. George form a note which is decoration. The blue bridal robe dress, with its pattern of gold, is again the lining of the tabard and the

size painting will be executed on the London County Council School Street, St. George's-in-the-East. The painting is similar to that used in the of the ten portraits in the National probably of the second or third of our era, from Hawara Cemetery, Egypt, and discovered by Mr. W. M. The pigments are mixed with laid on in the melted state. Wax is almost unchangeable by time, and its is most assured, for the pigments are in their medium as to be from the bad atmospheric conditions

HISTORICAL NOTES.

NO LESS than three estates formerly connected with monasteries are for sale. Two of these contain ruins of priories—Hardham, near Pulford Monk's Horton, near Hythe. The is the fine house of Monks, near Monk's Farm, and many acres of grounds. It is seldom such a glut of historical properties come under the and the fact is worthy of a record in

A HANDSOME dwarf chancel screen has been erected in this church to the memory of the late Mr. J. Wrigley, J.P., and a former churchwarden, prominently identified himself with work of the district. The screen is in oak, and has been designed by Mr. Hindale, of Carlisle, and is in two bays and south, each consisting of six carved and canopied panels with carved ends are returned east so as to form stalls. Already there are several windows in this countryside church, which fair to become one of the most in the county.

THE castle of the famous Rob Roy built in the XIIIth century on an island in Loch Dochart, and known as Loch Dochart Castle, has been taken by the Scottish Historical Antiquarian, and is being renovated to ensure its permanency. The castle formerly belonged to the Campbells of Lochawe, and is the property of Mr. William Christie, who has given substantial financial assistance to the castle is said to have served Bruce after a defeat by the Lord of

IN the Norwich Consistory Court Mr. Chancellor North recently gave judgment in the case of the removed footpace from the chancel of St. Andrew, Ipswich. The step in question had been the subject of several times, and at last the Rector took upon

himself to remove it, without first obtaining a faculty authorising him to do so. The Chancellor's decision states that no structural alteration may be made in any part of a church without a faculty, backed in the first place by the vestry duly summoned, and then formally issued by the Chancellor of the Diocese in his own Court, authorising what is proposed to be done. The fact that it was sought to remove what, in the first place, had been illegally introduced or erected did not take the matter from the jurisdiction of the Court. No incumbent may be a judge in his own cause. It was urged by the defendant that the step was removed by his orders as it was a source of danger to the celebrant at Holy Communion. The Court ordered that, as the step had been removed without a faculty, it must be restored.

Hackney (Old) Church.

A FUND is opened for the repair, at an estimated cost of 500*l.*, of the tower of the old parish church of Hackney. It is also proposed to obtain a faculty for conveying the site and fabric to the Borough Council. The XIVth-century tower and Sir Henry Rowe's chapel (1614) are all that remain of the old parish church, dedicated to St. Augustine, of which the nave and chancel were rebuilt in 1517 by Sir John Heron and the Rector, Christopher Urswick. The present parish church of St. John was erected in 1792-7, for 2,500 sittings, after James Spiller's designs in the Græco-Doric mode (sometimes attributed to Sir Robert Smirke), and is remarkable for its plan—that of a Greek cross, the four arms, with pediments, being 21 ft. deep, and for the large area at the crossing 63 ft. square, which is covered by the roof that has no interior support. The steeple and five porches were added in 1812-3. A curious hand-pillory, on wheels for flogging, was found in the tower about twenty years ago. Edward de Vere, Earl of Oxford, was buried, 1604, at the foot of the tower; amongst the earlier memorials preserved in the new church is that of (1537) Henry, fifth Earl of Northumberland, Henry VIII's rival for the hand of Anne Boleyn and a judge at her trial.

The Old Conduit-Head, Queen-square, Museum. Popularly known as the Devil's, or Chimney, Conduit, it lay beneath the soil in the garden of Chalfont House, No. 20, Queen-square, and supplied water to the Grey Friars Convent and, latterly, Christ Hospital. The hospital continued to derive water from that and other sources in Bloomsbury, amongst

them being those in Red Lion-square, in the fields now traversed by Bedford-place, and in and about Lamb's Conduit-street. The Queen-square conduit-head seems to be of early XIVth, or perhaps late XIIIth century date; a flight of steps descended to the vault covering a tank, the stone masonry, in good preservation, having many initial letters and a date "1600" cut therein. Some fifty years ago there were in the garden of No. 30, East-street a pump and spring with a stone bearing an inscription stating it was "the head of the spring Lamb's Conduit Water." In 1577 William Lamb, citizen and Clothworker, rebuilt the Snow-hill conduit (1497) and laid pipes therefrom to a head just beyond Great Ormond-street. That well-head was shifted in 1746 after the building of the Foundling Hospital to the yard of the adjacent "Lamb" tavern where, in 1851, J. W. Archer found under the pavement a flight of steps, a bricked vault, and the well. Archer's drawings of the "Lamb's Conduit" in Long-yard and that in East-street are in the British Museum.

Egyptian Blue Enamel. THE famous blue enamel or glaze produced by the early Egyptians, and of which many fine examples remain to this day, appears to have been prepared with a copper oxide, and the process was employed as early as the year 1600 B.C. Enamel has for basis a fusible and colourless glass, rendered opaque and coloured by the aid of metallic oxides, fused, powdered, and washed before being applied to the surface to be enamelled. The process is completed by firing the whole in a suitable furnace.

Long Marston Church, Norfolk.

A FACULTY has been granted in the York Consistory Court to the Rev. Edmund Baddeley, the Rector of Long Marston Church, for the erection of some carved oak panelling at the east end of the church, and the placing in the edifice of a tablet containing a list of former rectors of the parish. The church, dedicated to All Saints, originally stood on a hill a mile distant, but the structure was taken down in 1400, and built on the present site with the same materials. It is a stone building in Norman and Early English styles of architecture, containing chancel, nave, north aisle, and embattled western tower, with pinnacles. It was restored in 1869 under the direction of the late G. Gilbert Scott, R.A., and contains memorials to the families of Thwaites (1602), Thompson (1740), Roundese, Micklethwaite (1681), and Smith (1820). In the chancel are some choir stalls bearing much carving.



Design for Mural Painting. By Mr. Stanley North.

THE BUILDING TRADE

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND:

SUMMER MEETING AT NOTTINGHAM.

(Concluded from last week, page 183.)

IN accordance with arrangements, Mr. J. F. Mathieson, one of the National Health Insurance Commissioners, and Mr. G. W. Irons, of the Board of Trade, invited members to question them on any points on which they desired information regarding the Insurance Act. Numerous questions were asked and answered, the chief interest being centred in a reply by Mr. Irons regarding the option which employers have of arranging with the Labour Exchanges to stamp their cards. This gentleman said that any employer entering into such an agreement could engage his workmen where he pleased, but labour which was engaged outside an Exchange could not be part of the arrangement for stamping cards by the Exchanges. They would continue to stamp the books of the men who were in employ at the time the arrangement was made and of those men who were subsequently engaged through an Exchange, but men engaged in other ways after the arrangement had been made would have to have their cards stamped by the employer. At Leicester practically every large builder had come into the arrangement, and they had given facilities which they believed would result in all the cards and all the books being kept at the Exchange, and the men being engaged through the Exchange. The system was working quite smoothly at Leicester, and he had similar reports from Burnley, Preston, and Bolton.

Asked how the Labour Exchanges would register disputes in the building trade, Mr. Irons said that their only means of registering disputes was that they would provide facilities both for the employer and for the secretary of the unions concerned to say exactly what the dispute was. All applicants for work would be told if the union had a dispute with an employer, and they could please themselves whether they would go or not.

Mr. Mosse (Liverpool) asked whether, supposing there was a dispute with an individual firm, the Labour Exchange would register the dispute without communicating with the employer or with the employers' association.

Mr. Irons replied that, as a matter of fact, there was no obligation upon the Exchange to do either one thing or the other. If either side notified them of the dispute they would notify it to the workman. If they had the two statements they would communicate them to the applicant for employment, but if they had only one statement they could only give the one.

Mr. Mosse said that in view of that statement he thought it behoved the Federation to leave the Labour Exchanges severely alone. If they tied their hands to take all their labour from the Labour Exchanges in twelve months' time every operative in the building trade would apply to those places for work, and should an employer have a dispute he would have to look out the whole of his men, and he would not be able to get fresh men by advertising in the newspapers as he could at present.

Mr. G. H. Wright (Birmingham) raised the question of position of contractors under the Insurance Act who had entered into contracts prior to the Act, and who, therefore, had not been able to recoup themselves the extra charges they would have to pay. He said that, as a rule, when any new burden was imposed upon contractors by Act of Parliament, they had definite notice that the Act would come into force at a particular date, and they were able to cover themselves. In the case of the National Insurance Act contracts had been entered into during the first six months of this year, and not a single contractor knew before July 14 whether the Act would come into force on the 15th or not. Under the Act the King in Council had power at any moment before July 15 to postpone the Act until January 15, 1913, and contractors evidently assumed that it would not become law until then. He did not suppose that a gathering like that could go fully into such a question, but he thought the

Council might take the matter into consideration to see whether it would be possible to recommend all contractors who had entered into contracts during the first six months of 1912 to make some claim upon the building or works proprietor for a recoupment of the money they would have to pay in the form of national insurance until January 15 next. It might be advisable to take counsel's opinion on the matter.

Mr. W. Thomas (Cardiff) said that in that town a contractor had made application to the Corporation for his extra expenses on a contract owing to the Insurance Act, and the Town Clerk had advised the Council to take counsel's opinion. He suggested that it would be well for them to let the matter stand in abeyance until they learned what the Cardiff Corporation did.

Mr. A. J. Forsdike (Sheffield) said he hoped the Federation would get counsel's opinion. He had no doubt that there were many gentlemen present who were in the same position as himself. He had two contracts running that were made before January 1, 1912, and therefore it was absolutely impossible for him to make any provision whatever for this extra charge. He thought that each of the affiliated associations should take this question seriously into consideration and arrive at a common understanding so as to give their architects notice that they would eventually make a claim for the charge.

Mr. Mosse proposed a resolution asking the Administrative Committee to take counsel's opinion on (a) what is a contractor's position with regard to the Insurance Act, parts 1 and 2, under contracts entered into prior to the Act being passed, and still being carried on? (b) what is a contractor's position under the Act of contracts entered into after the Act was passed but before the Act became law, and still being carried on? and, further, to draft a clause to avoid such burdens being imposed in future in respect of contracts running.

Mr. W. H. Hope seconded the resolution, which, after some discussion, was carried.

The Secretary read a communication from the Engineering Employers' Association asking the Federation to recommend their members not to pay the workmen's contribution under the Insurance Act.

The President said he took it that would generally be done, but he thought they should make an exception in the case of indentured apprentices.

After some discussion a resolution was agreed to to this effect.

On the proposition of the President it was agreed that the next meeting of the Federation should be held in London.

The President moved the following resolution re Valuations under the Finance Act, 1909-10:— "This Conference of building trades employers of the United Kingdom records its unanimous and strong protest against the practice of undervaluing house property by the official valuers under the Finance Act, 1909-10, which obtains, many of the valuations being 5 per cent. to 15 per cent. under prime cost. As a result the confidence of investors is shaken, sales are stopped, and severe depression exists in this branch of the building trade, and serious loss accrues to those engaged therein. This Conference respectfully asks that the Government will institute an inquiry, which it has confidence will result in improved methods of valuation being adopted." He said he had a few cases illustrating the position in Nottingham. The first valuation he had referred to a block of property which cost him 3,455*l.* to build—the prime cost. The provisional valuation of that property was 3,075*l.* The site value of that provisional valuation was put down at 354*l.* and the prime cost was 60*l.* 15*s.* He had other instances where the depreciation amounted to anything between 15 and 25 per cent. He had a letter in his possession from one of the most reputable firms of estate agents, in which they said that their experience had taught them that all classes of houses and buildings had suffered a decline in value in consequence of the Finance Act of 1909-10. Investors had become so frightened, and lenders of trust moneys had become so alarmed, that the calling in of mortgages had practically ruined many

small people. There was no doubt that the method of valuation was having a very damaging effect upon the building trade, and they were fully justified in protesting.

Mr. Mosse said that the Government Committee to go into the question of valuations, and he would therefore that instead of asking for an inquiry, they should ask the Government to receive the Federation.

The President said he was pleased with what Mr. Mosse had said, and was willing to fall in with his suggestion, and should ask the Government to receive the Federation.

Mr. Smethurst seconded the resolution.

Mr. W. Moffat said he hardly thought the resolution was strong enough, and if that they had had at Nottingham were written to the extent which the President suggested, all he could say was that he was more fortunate than they were at Nottingham. He had the case of certain land firm was interested. A sale took place at 14*s.* 6*d.*, and recently a sale took place at 14*s.* 6*d.* The provisional valuation was 6*l.* 10*s.* 6*d.* The case was a piece of land of 300*l.* It was sold in 1865 for 300*l.*—the value at the time it was sold with building contracts was 1,400*l.* in 1872, and the value at the time was probably about 1,600*l.* The valuation was 385*l.* Another case was a piece of land in one of the best suburbs in Birmingham, which so the executors' reserve at the sale was 400*l.* The provisional valuation was 400*l.* was needless.

Mr. Sinclair (Scarborough) and Mr. W. Moffat supported the resolution, and Mr. Smethurst strongly criticised the resolution, in which the provisional valuation was made, and pointed out that Mr. L. in reply to the deputation which had come to him from the Federation in 1910 stated that any increment which was added to the man's skill and brains having been capital did not come within the Finance Bill. He moved that the Administrative Committee be requested to consider the advisability of taking the case before a referee to see whether it was correct or not.

Mr. Thomas (Swansea) seconded the resolution, which was carried.

Votes of thanks to the Mayor for the hall, and to the President for concluding the proceedings.

GENERAL BUILDING

NEW CHURCH OF ST. MARY, DORSET.

The new Church of St. Mary, Dorset, which has taken the place of the iron structure erected fifteen years ago, has been designed by Mr. C. E. Ponting, architect, and is capable of seating 100 people. When completed the tower will be 123 ft. high and 25 ft. square to the buttresses. A feature of the tower is the lofty east end, with its richly decorated window, which together with the tower at a height of 53 ft. is a conspicuous landmark. The new church is a simple nave, with a chancel, aisles, and transepts, and a south transept and the chapel of the Annunciation. The chancel is 132 ft. long and 40 ft. wide, and is a fine example of a temporary church, and there is a series of oak rising on each side of the window. The church was illustrated in *The Builder*, December 1, 1911.

TAUNTON PARISH CHURCH.

It has been decided to complete the restoration of the ancient Parish Church at a cost of 650*l.*, towards which has been raised in a few days. The restoration will comprise repairs to the windows, and the removal of the old roof-screens, and the erection of a new close screen. The structure stands on an old Augustinian priory, and is a fine example of a temporary church, and there is a series of oak rising on each side of the window. The church was illustrated in *The Builder*, December 1, 1911.

LONDON SCHOOLS.
 none of the original Board schools, New-road, Clapham; Creed-place, Clapham; Caledonian-road, Islington; Starham; and Vicarage-road, Woolwich, reconstructed. Works now in progress London County Council include the of four secondary schools, two central one special school, and one technical the extension of the school of art; adding or enlargement of twenty-three and the execution of minor improvements—twenty-seven schools.

TOOTS, BROOMFIELD, CHELMSFORD.
 Council Schools at Broomfield contain classrooms, with accommodation for children in each room, 200; one with accommodation for sixty; 60; one classroom, with accommodation for forty-eight children, 48; total, on the north side, separated from the main by a 6-ft. corridor, are the girls' cloakroom, boys' cloakroom, teachers' room, with lavatory, etc.; two as a wash-up place for the caretaker, arching corridor (which will also be a coker's room), 38 ft. 6 in. by 17 ft., as into the playground. The school throughout with open fires and a hot-water pipes and radiators. The works were Messrs. C. & W. H. Pertwee, Chelmsford, and the builder was Mr. T. J. Chelmsford.

NEW BUILDINGS IN LONDON.
 Public Library, North Kensington; Mr. T. P. Figs, architect, 28, Ealing-road, South Ealing, W. 7, Ealing-road, South Ealing, W. 7, 120 and 122, East-street, City-road, Messrs. Lovegrove & Papworth, architect, Old-street, E.C. Telephone Exchange, Victoria, S.W.; Messrs. Galbraith builders, 46, Camberwell-green, S.E. 5, 10-11, Finsbury-circus, E.C.; Mr. D. architect, 5, Verulam-buildings, W. 1, W.C.; Mr. W. E. Blake, builder, Hampton-street, W.C. Three houses, Palmer's Green, N., and twelve George-road, Southgate, N.; Mr. Goring, builder, Fox-lane, Palmer's N. Additions to British Museum, W. 1, W.C.; Mr. W. E. Blake, builder, Hampton-street, W.C. Offices for Trustees and Lunacy Commissioners, street, Kingsway, W.C.; His Majesty's Works, Storey's-gate, Westminster.

RELATIONS AT THE FRENCH GALLERY.
 ing the ancient lights action, Wallis v. the French Gallery in Pall Mall altered so that the lighting shall not be by the extensions to the United Kingdom now being carried out by Messrs. R. & Walford. Mr. William Wood, R.I.B.A., will superintend the work of the French Gallery.

NEW BATHS, LIGONEL.
 new slipper and Lassar baths have been ordered from the designs of Mr. J. G. of the City Surveyor's department, of about 2,000. The main facade of 118 ft. long with a total depth of 38 ft. The central block contains the ladies' entrance, offices, waiting and superintendent's quarters. The contractor was Mr. Isaac Copeland and the heating work was carried out by A. Sayers.

FIRE-STATION, EAST GRINSTEAD.
 E. Woolam, the Borough Surveyor, the plans for the new fire-station, has been erected at a cost of about £10,000. The contractors for the work were C. & H. Gasson.

TRADE NEWS.
 the direction of Mr. H. Foxall, B.A., architect, Carlisle, the "Boyle" of ventilation (natural), embracing latest patent "air-pump" ventilators, has been applied to St. Outhman Catholic School, Union-street, Carlisle.

James Brooks, Son, & Adkins are architects for a chapel now being erected by the Baptist Church, Holland-road, London, by Messrs. E. A. Roome & Co., architects, E.C.

plan New Picture Palace, Manchester, ventilated by means of Shorland's exhaust roof ventilators and special ventilators, supplied by Messrs. E. H. & Brother, Ltd., of Fallowfield, Manchester.

O'Brien, Thomas, & Co., of 17 and Thames-street, E.C., and Excelsior Hat-cham, London, S.E., have recently

supplied to Worthing two of their school grates with porcelain enamelled faience mantels and canopies. The new isolation hospital at Shepton Mallet has also been fitted with the D. O. Boyd hygienic double-fire ward stoves with porcelain enamelled casing for the ascending smoke pipe. In addition to these, grates have also been supplied to Wishford for the local school, also to various schools under the Huntingdon Education Committee and the Buckinghamshire Education Committee.

FLEET (HANTS) SEWERAGE.

At a meeting of the Fleet Urban District Council held on August 1 the Fleet Urban District Council passed a resolution adopting the scheme prepared by Mr. T. J. Moss-Flower, G.E., 28, Victoria-street, Westminster, and Bristol, for the main sewerage of Fleet, Hampshire. It was decided to enter into a formal agreement with Mr. Moss-Flower for him to act as engineer for the scheme. The scheme involves upwards of 16 miles of sewers, lifting plant, new disposal works, etc., and the estimated cost is 30,000. The scheme adopted was submitted in a limited competition, the adjudicator being Mr. H. Percy Boulnois, M.Inst.C.E.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Training centre (12,000); Mr. J. A. Allan, architect, 25, Union-street, Aberdeen.

ATHERTON (MANCHESTER).—Four houses, Birch-road, and offices, Orchard-street, for Messrs. Bakemore & Co., Ltd., bolt and nut manufacturers, Atherton.

BATLEY.—Warehouse for Messrs. J. T. & J. Taylor, Ltd., woollen manufacturers, Station-road, Batley.

BIRMINGHAM.—Extensions to sanatorium, Vardley-road (29,000); Mr. H. E. Stilgoe, Surveyor, Town Hall, Birmingham.

BISHOP AUCKLAND.—Hospital (7,000); Mr. R. B. Thompson, architect, Market-place, Bishop Auckland.

BLITH.—School (10,000); Messrs. Fenwick & Robson, architects, Pearl-buildings, Newcastle; Messrs. Robinson & Waddell, builders, Blith.

BRANCEPETH (CO. DURHAM).—School (4,000); Mr. W. Rushworth, Architect, Shire Hall, Durham.

BRANDON.—Alterations to school, High-street (3,500); Mr. F. R. Hughes, Secretary, West Suffolk Education Committee, Bury St. Edmunds.

CARDIFF.—Workmen's dwellings; Mr. W. Harpur, Engineer, City Hall, Cardiff.

CHESHAM.—Post-office; Mr. Jesse Mead, architect, Berkhamsted-road, Chesham.

COVILLY.—Hospital; Mr. J. T. McCarthy, architect, Central-chambers, Leicester.

COGGESHALL (ESSEX).—School (5,000); Mr. F. Whitmore, architect, Duke-street, Chelmsford.

COVENTRY.—Electric sub-stations in Gordon and Teleshill roads, also additions to offices at electric light works; Mr. J. E. Swindlehurst, Surveyor, Town Hall, Coventry.

DERBY.—Tuberculosis dispensary, extensions to sanatorium, etc.; Mr. J. Ward, Surveyor, Town Hall, Derby.

DONCASTER.—Liberal club (2,500); Messrs. Garide & Pennington, architects, 24, Wesley-street, Castleford; Messrs. Dennis, Gill, & Sons, builders, Nether Hall-road, Doncaster.

DUNDEE.—Training college (26,000); Messrs. J. Hinny & Co., builders, Rosefield-street, Dundee.

EASTBOURNE.—Additions to offices, Grove Hall (674); Mr. M. Hookham, builder, Springfield-road, Eastbourne. The following plans have been passed:—Additions and alterations, 23, Langney-road, for Trustees of Y.M.C.A.; Mr. S. G. Seales, architect, additions.

"MAIRA HOUSE," Carlisle-road, for Mr. C. B. Ingham; Messrs. G. Bainbridge & Son, builders. Four houses, Hampden-avenue, Hampden Park; Mr. W. R. Box, architect; Mr. Lizard, builder. Additions to school, Green-street, for Managers, St. Mary's Boys' School; Messrs. William Newman & Sons, builders.

PRIMITIVE METHODIST CHURCH, Whitley-road, for Trustees of Primitive Methodist Church; Messrs. G. Baines & Son, architects.

EDINBURGH.—Additions to stores of Mr. W. Thyne, wholesale stationer (2,200); Mr. T. G. Marwick, architect, 43, York-place, Edinburgh. Villa, Murrayfield-road (2,400); Messrs. Gibson, Skipwith, & Gordon, architects. 5, Old Bond street, W. Additions to workshops of Messrs. J. Cochrane & Co., golf

ball manufacturers (2,000); Messrs. P. & J. Henderson, 20, Leith-walk.

ELLESMERE PORT.—Chapel (1,718); Mr. J. Jones, builder, Ellesmere Port.

EXETER.—New railway-station; Mr. Sutcliffe Marsh, engineer, G.W.R. offices, Taunton.

FOLKESTONE.—Plans have been passed for additions to No. 22, Shorncliffe-terrace for Mr. A. Hughes; Mr. R. Moody, architect; Mr. E. Gibbons, builder. And for a motor garage at Sanroyd Lodge, Trinity-road, for Mr. W. Rees; Mr. C. Jenner, builder.

GLASGOW.—Granary at Meadowside for the Clyde Trustees; sawmill, Baird-street, St. Rollox, for the Glasgow Timber Exporting Company, Ltd.; addition to drapery warehouse, Paterson-street, for the Scottish Co-operative Wholesale Society, Ltd., 95, Morrison-street, Glasgow.

GLOUCESTER.—Fire-station (1,500); Mr. R. Read, Surveyor, Town Hall, Gloucester. Additions to Hatherley-street Schools; Mr. E. A. Pryer, architect, 18, Clarence-street, Gloucester. Additions to grammar school; Mr. W. B. Wood, architect, Queen-street, Gloucester.

GRIMSBY.—Extensions and alterations to workhouse and new infirmary; Clerk, Guardians' Offices, Grimsby.

GRONANT.—School; Mr. Samuel Evans, Surveyor, County Council Offices, Mold.

GUISBOROUGH.—Nurses' quarters adjoining infirmary (722); Mr. J. G. Porteous, builder, 36 and 38, Redcar-road, Guisborough.

HAMPSHIRE.—School, Romsey; technical school and pupil teacher centre, Sholing; additions to school and headmaster's house, Burley; alterations and additions to school, Crofton; enlargement at Denmead School; reconstruction of school, Lymington; and enlargement of School of Arts, Winchester; Architect to the Southampton County Council, The Castle, Winchester. Additions and alterations to police-station, Totton (900); also six attendants' cottages and accommodation for nurses at Hants Asylum; Mr. W. J. Taylor, Surveyor, The Castle, Winchester.

HARROGATE.—Tower to St. Peter's Church (2,200); the Vicar.

HIGHBRIDGE (EXETER).—School; Messrs. Samson & Coulthurst, architects, High-street, Bridgwater.

HORSHAM.—Infants' school, adjoining Denne-road School (1,975); Mr. H. W. Bowen, West Sussex County Council, Worthing-road, Horsham.

HOVE.—Proposed garage, "Westcourt," New Church-road; Messrs. J. Parsons & Sons, builders, 176 and 178, Church-road, Hove. Underground lavatory (1,080); Mr. H. H. Scott, Surveyor, Town Hall, Hove.

IPSWICH.—Convent; Mr. J. S. Corder, architect, Wimborne House, Tower-street, Ipswich. Jarrold-Drill hall; Messrs. Wright & Chapman, architects, Grainger-street, Newcastle. Hospital (6,000); Mr. G. T. Brown, architect, 51, Fawcett-street, Sunderland.

KILMACOLM.—Villa (2,200); Mr. W. B. White, architect, 219, St. Vincent-street, Glasgow.

KINGSWOOD (BRISTOL).—Schools for the Zion Methodist Church; Mr. W. H. Dinsley, architect, 12, Cleveland-street, Chorley, Lancs; Mr. C. Bryer, jun., builder, Bridgwater, Som.

KIRKMICHAEL.—Police-station, Parkgate (2,000); Mr. J. M. Bowie, architect, 53, Buccleuch-street, Dumfries.

KNOWESLEY.—Alterations to parish church for the Vicar.

LARGS.—Garage; Messrs. Fryers & Penman, architects, Bath-street, Largs.

LEIGH (LANCS).—Chapel for the Trustees, United Methodist Church, Wigan-road, Leigh. Lintithgow-Facery (5,000); for Messrs. Newland & Sons, agricultural implement manufacturers, Provost-road, Lintithgow.

LIVERPOOL.—Customs house at pierhead (100,000); H.M. Office of Works, Storey's-gate, Westminster, S.W.

LANDRINDOD WELLS.—Additions to Pump House Hotel; Mr. B. L. Pritchard, architect, Castle-street, Brecon; Mr. C. Hopton, builder, Ridgebourne, Landrindod Wells.

LUTON.—Chapel, Reginald-street, for the Trustees, Old Baptist Union.

MAIDSTONE.—Residences; Messrs. Lovegrove & Papworth, architects, 374, Old-street, E.C.; Guild of Decorators' Syndicate, builders, 29 Newman-street, W.

MASHAM.—Town Hall (3,000); Trustees of the late Lord Masham.

MENSTON.—Additions to hospital (3,000); Joint Isolation Hospital Committee, Guardians' Offices, Wharfedale.

MIDDLESBROUGH.—Bakery for Co-operative Society; Mr. W. E. Haslock, architect, Albert-road, Middlesbrough.

NEW HARTLEY.—Four hundred houses for the Seaton Delval Coal Company, Ltd., Exchange-buildings, Newcastle.

NEWPORT (MON).—Additions to Metropolitan Bank of England and Wales; Mr. H. J.

* See also our list of Competitions, Contracts etc., on another page.

Griggs, architect, Commercial-street, Newport; Mr. R. W. Moon, builder; 1, Park-square, Newport.

Pelton.—One hundred and ten houses; Mr. W. Ridley, Surveyor, Urban District Council Offices, Chester-le-Street.

Pendleton.—Buildings, Broad-street, for Messrs. Saunders & Warburton, corn merchants, 29, Broad-street, Pendleton. Alterations to Conservative Club, West-street, for the Secretary.

Pontypidd.—Church and institute (1,714L); Mr. E. Rees, architect, Taff-street, Pontypidd; Messrs. E. Jones & Sons, builders, 23, Morgan-street, Pontypidd.

Prescot.—School (10,000L); Dr. H. L. Snape, County Hall, Lancaster.

Preston.—St. Cuthbert's Church; Mr. Temple Moore, architect, 44, Bedford-row, W.C.

Queenborough (Kent).—Offices and tile works; Mr. W. L. Grant, architect, High-street, Sittingbourne; Mr. L. Seager, builder, London-road, Sittingbourne.

Kayne (Aberdeenshire).—Extensions to public schools (2,100L); Messrs. D. & J. R. MacMillan, architects, 105, Crown-street, Aberdeen.

Redcar.—Court-house (1,200L); Messrs. King & Sons, builders, King's-road, North Ormesby.

Salford.—Electric theatre, Trafford-road, for the proprietors. Alterations to workhouse, Eccles New-road; Clerk, Guardians' Offices, Salford. Alterations and additions to Town Hall (2,042L); Messrs. J. Gerrard & Sons, Ltd., builders, 1, Church-street, Salford. Conveniences, Hope Schools, Eccles Old-road, Pendleton, and 329, Great Cheetham-street East, Broughton; Mr. Joseph Corbett, Engineer, Town Hall, Salford.

Seaton.—Church institute (2,500L); Mr. W. Gush, Manor Office, Seaton.

Sedgefield.—Additions to workhouse; Mr. J. Stones, Surveyor, Council Offices, Sedgefield.

Sheffield.—Extensions at the Neepsed Power Station (6,750L); Messrs. Abbott & Bannister, builders, 132 and 134, Machon-bank, Sheffield.

Sunderland.—Hospital (5,000L); Messrs. W. & T. R. Milburn, Fawcett-street, Sunderland.

Swindon.—Church hall (2,000L); Messrs. Bishop & Fisher, architects, Regent-circus, Swindon.

Tophill (Portland).—School (500 places); Mr. T. Brett, County Offices, Dorchester.

Torquay.—House, Barton (640L); Mr. F. G. Moore, architect, 9, Fleet-street, Torquay; Messrs. R. P. Yeo & Sons, builders, 35, Torwood-street, Torquay.

Troon.—Church corner of St. Meddins-street and the South Beach (6,800L); Messrs. Clifford & Lunan, architects, Glasgow.

Wednesbury.—Extensions to public buildings, Education offices and baths (6,500L); Messrs. Guest and Sons, builders, Amblecote, Stourbridge.

Wellingborough.—Alterations and extensions to Park-street School (4,713L); Messrs. E. Brown & Sons, Ltd., builders, Castle-street, Wellingborough.

Westhoughton.—School off Bolton-road (9,200L); Dr. H. L. Snape, County Hall, Lancaster.

Whitley Bay.—School (11,000L); Mr. G. T. Forrest, architect, Moot Hall, Newcastle; Mr. J. F. Newbould, builder, Tynemouth-road, North Shields.

Wigginton (Herts).—Alterations and additions to Church of England School; Mr. Huckvale, architect, Tring; Mr. G. Rowe, builder, Wigginton.

Wolverhampton.—Extensions to workshops at car depot (5,850L); Mr. G. Green, Engineer, Town Hall, Wolverhampton.

Yorkshire (East Riding).—Schools, Cottingham (3,692L) and Howdon (2,878L); Mr. J. T. Levitt, builder, 84, Holderness-road, Hull.

Yorkshire (North Riding).—Tuberculosis hospital and extensions to asylum (1,185L); Mr. W. Birch, builder, Barbican-road, York.

QUESTIONS IN PARLIAMENT.

In the House of Commons, Mr. Nannetti asked the President of the Board of Trade whether the building of the Labour Exchange offices in Dublin have yet been commenced; if not, what is the cause of the delay; and will he speed on the building of these long-delayed premises? Mr. Robertson, in a written reply, stated that he was informed by the Irish Department of Public Works that the plans of the permanent building for the Irish Divisional Office and Dublin Labour Exchange have been completed, and that tenders for the building will probably be called for in the course of a few days. As he had already informed the hon. member, the building is being erected by the owners of the site, and not by the Department of Public Works. Difficulties have been experienced in estimating the requirements of the combined Labour Exchange

and Unemployment Insurance staff, which will be housed in the building, but he did not anticipate any further delay.

Captain Jessel asked the First Commissioner of Works if he can state whether funds will permit of permanent pavement being laid down at the bottom of St. James's-street, on that portion under the jurisdiction of the Office of Works, during the recess, in view of the strong representations from the Commissioner of Police and the Westminster City Council? In a written reply, Mr. Wedgwood Benn stated that the First Commissioner intends to carry out this work at an early date.

LONDON COUNCILS.

Barnet.—A Committee has been appointed to consider the question of town planning and to report thereon. The respective merits of paving with tarred stone and tar-paving were reported on by the Surveyor, and it was decided to tar-spray Wood-street at an estimated cost of 50L when a favourable opportunity occurred. Tenders are to be invited for demolishing the old Barnet Brewery. The question of the preparation of a scheme for dealing with the site is to be dealt with prior to advertising for architects' plans for the erection of new Council offices. Fresh tenders are to be invited for erecting twenty-two workmen's cottages, Tottenham-lane. The following plans have been passed:—Mr. E. G. W. Dawker, additions to the Old Ford Manor Golf Club House; Mr. T. Cude, six houses, Normandy-avenue; Mr. J. Hardy, motor garage, Oakhill, Bells-hill. A plan has been lodged by Mr. A. M. Ingham, for additions to the Constitutional Club.

Bethnal Green.—Dr. George Padlock Bates, in his annual Report on the sanitary condition and vital statistics of Bethnal Green which has just been issued, states that he had found since he last made a systematic house-to-house inspection under the Housing, Town-Planning, etc., Act, 1909, in the Digby-street district, that a large amount of repair work, including in many instances actual rebuilding, had been carried out, the chief defective portions remaining being a large block of back-to-back houses in Digby-street and Digby-walk, and the aged and worn-out condition of a number of other houses. On consideration he was not very hopeful that a new representation would be more successful than the previous one, but as a rehousing scheme for this district would give an opportunity for carrying out a much-needed public improvement, namely, the widening of Green-street, he requested the Public Health Committee to view the area with him. As the result of such visit it was decided to serve full notices under the Act of 1909, where necessary, and to exert pressure upon the owners of property to carry out extensive repairs. Ninety notices under sect. 15 were served with the result that a large amount of work had been carried out; most of the defective houses had been thoroughly stripped, walls and woodwork repaired, and afterwards papered and painted throughout. Nine old houses at the corner of Baker-street and Green-street had been pulled down. He regretted that, notwithstanding the strenuous efforts of the officers of the Public Health Department, the Brady-street district had steadily deteriorated since his last house-to-house inspection in 1904, prior to a representation of the area under the old Housing Act.

Finchley.—Negotiations have been going on for some time past between the District Council and the County Council re widenings in Great North-road, Ballards-lane, Regent's Park-road, and Woodhouse-road, and the District Council have now put forward proposals under Clause 37 of the County of Middlesex Light Railways Order, 1903. These proposals briefly are that the District Council is to be empowered to spend upon the carriageways up to 59,000L, and on the footpaths up to 11,655L, that the County Council is to pay such proportion of the cost (not less than half of the actual expenditure) as they pay to other districts in the county; also that the County Council is to make a contribution of a moiety of 3,000L. The District Council have passed plans for the new church of St. Barnabas, North Finchley.

Friern Barnet.—Plans and estimates by the Surveyor for the erection of fifteen workmen's dwellings in Sydney-road, at a cost of 3,150L, have been approved.

Hornsey.—The Fire Brigade Committee, reporting on a new fire brigade scheme, recommended that a firehold site fronting Fortis Green be purchased for 920L, and that a fire station with station-officer's residence and separate residential quarters for five firemen should be erected thereon, at an estimated cost of 5,610L. Alterations were also proposed at

the Central and South Harrington at a cost of 170L, and 420L. Alderman Grayson said it would be to build a fire station such as at Muswell-hill at less cost than that. The Committee had already blocked 2,000L by having a separate block of men's dwellings. Alderman Sloane said the old station might be used as a branch library, or the Electricity might like to make certain developments. Committee's recommendations were. Additional office accommodation provided at the Electricity Works at a cost of 150L. The tender of Messrs. Griffiths & Co. has been accepted making up the passage-way at Royal-parade, Colney Hatch-lane. Plans have been passed:—Archer, 101, Queen Victoria-Salvation Army hall, Tottenham; C. J. Halsey, alterations and additions, 416, Archway-road, Highgate; Baily, Park-road, alterations and additions, "Ellendale," Crescent-road, Crouch End; Frank Bethell, Knifield, shop and way-road, Highgate; Mr. Frank hope-road, alterations and additions, Crescent-road, Crouch End; Messrs. Samuel & Co., Ltd., Park-avenue, alterations and additions to No. 1, Mr. Edward White, dress-maker, at No. 14, North-road, Highgate, has been lodged by Messrs. W. & Sons, for alterations and additions, Queen's-parade, Muswell Hill-road.

Richmond.—Application is to be made to the Local Government Board for a loan of 918L, for improvement of Sheen-road and Warple-way. A plan has been sanctioned by the Local Board for the extension of the L. and the Surveyor has been instructed to prepare detailed plans and specifications for the purpose of the work being put in hand. The Street Improvement Committee have approved plans for three shops and a garage proposed to be erected on Nos. 1 and 2, George-street. Plans passed for Messrs. Boore & Partners, erection of three houses in North-street. The Urban District Council at their next meeting in September consider a proposal to purchase D. Watford.

FOREIGN AND COLONIAL.

Cement Trade of Dalmatia.

Mr. Vice Consul Lucas-Shadwell on the trade of Dalmatia (Austria) states that there are four cement works in Dalmatia situated at or near Spalato, which have suffered severely from the acute crisis through which the cement industry passed, the Dalmatian are now, thanks to the "combine" they are associated with the other cement factories, doing satisfactorily. In 1911 the Dalmatian works produced 1,000,000 metric tons of cement, while the port, according to the official figures, the latest available, was 8,000 tons; in 1911 a much larger quantity have been exported. Dalmatian cement is shipped to Trieste and to the Austrian coast, and also to Turkey, Argentina, Brazil, India, Vessels of the Austro-American Line at Spalato to load cement for American ports.

Building in New Zealand.

The issue of New Zealand's Commerce of June 14 states that the erection of the new building of a Wellington firm has been completed. The new building is a branch of the Bank of New Zealand. The building will be constructed of reinforced concrete, with concrete roof, and a lift will be provided for floors, which will be let out as offices. The successful tenders were made known by the architects on application to the Intelligence Branch of the Board of Works, Basinghall-street, London, E.C.

Building and Paving Material.

The *Diario Oficial* of June 13 contains text of a Bill under the terms of which the President of the Republic is authorized to contract, on behalf of the Municipality of Concepcion, a loan amounting to 1,000,000 pesos, not exceeding 500,000 pesos annually, for the purpose of erecting buildings, and also for the improvement and lengthening of streets, and squares in Concepcion.



BAAPTIST CHURCH, ELTHAM PARK, KENT.

Building has recently been completed at £100,000. It occupies an elevated site at the corner of West Mount-road and Glenure-avenue. The original design (as it appeared at the Royal Academy Exhibition of 1905) included a massive tower, but sufficient ground was not forthcoming to erect this. The design, as carried out, is marked by simple lines, harmonious colour tones, and fine materials. The walling is in "red" bricks showing pleasing variety of pattern. The stone dressings and window sills are from Ridge Park, Corsham. The roof is covered with rustic tiles. Internally the nave is covered with rough plaster, the roof is lined with light brown solignum, the choir is merely flat-varnished, the iron-work of the chancel and lobbies in terrazzo. The seating, pulpit, and wall panels are in Canadian oak slightly darkened and wax-polished. The choir is in white marble and tiles. The steps are in white Mansfield stone. The chancel and lobbies in terrazzo. The vestries have wood-block floors. The windows have leaded glazing, with decorative tracery of Norman slabs, etc. There is a gallery constructed of ferro-concrete, the nave arcade and pillars. Four hundred and fifty sittings are provided, and the

church is capable of future enlargement by extending the aisles, which at present are merely ambulatories. There are three spacious vestries and two sets of lavatories. Heating throughout by low pressure hot-water apparatus. Lighting by electricity with holophane fittings. Ventilation on the "Natural" system, with wall inlet panels (besides window-casements) and roof extractors. The general contractors were Messrs. J. Garrett & Son, of Balham-hill, S.W. The architects were Messrs. John Wills & Sons, of Derby and London.

PATENTS.

APPLICATIONS PUBLISHED.*

- 17,223 of 1911.—John Wilson: Apparatus for use in building concrete structures.
- 18,053 of 1911.—Heinrich Korrodi: Light indicator for doors.
- 20,679 of 1911.—Engelbert Prosig: Machine for manufacture of artificial slates and such like.
- 20,701 of 1911.—James Lee: Houses, sheds, and like buildings.
- 21,689 of 1911.—Karl Freund and Robert Richard Kuhn: Means for fastening window-sashes.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.



- 23,227 of 1911.—David Campbell: Movable water-excluding bars for casement windows, sashes, and the like.
- 24,512 of 1911.—Edward Kersey: Flushing-tanks.
- 24,577 of 1911.—William Henry Roughsedge: Moulds for use in the construction of concrete buildings.
- 24,812 of 1911.—James Coster Edwards: Manufacture of imitation stone blocks.
- 28,888 of 1911.—George Charles Vernon-Inkpen: Concrete piles for foundations and similar purposes.
- 702 of 1912.—Curt Bernhard and Wilhelm Lever: Balusters.
- 1,802 of 1912.—Logan Willard Mulford: Pavement-light, floor-light, vault-light, and roof-light construction.
- 2,464 of 1912.—Samuel Spreckley: Stoves for greenhouses, boilers, or geysers for domestic and other purposes, and the like.
- 3,491 of 1912.—Heinz Brandenburg: Theodolites for measuring horizontal and vertical angles.
- 4,432 of 1912.—Charles Christopher Braithwaite: Valves and apparatus for governing and controlling water supply as in irrigation works, town services, and similar purposes.
- 4,527 of 1912.—Heinrich Kückenhöner: Washing machine for sand, gravel, or the like.
- 5,357 of 1912.—Thomas Mason: Window-holders for sliding sashes.
- 7,691 of 1912.—Heinrich Christian Ferron: Metallic roofing and the like.
- 9,506 of 1912.—William Roper: Metal casements.
- 9,519 of 1912.—Albert George Monro: Guard for closet seats.

SELECTED PATENTS.

- 7,487 of 1911.—Max Mannesmann: Building-blocks.

This relates to building-blocks of concrete which are made the thickness of the wall and

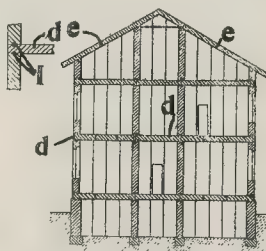


7,487 of 1911.

the height of a story, and of angle, T or + shape in plan or section, with limbs of equal or unequal length. The opposing limbs of the + shaped blocks may be either in or out of line.

- 7,483 of 1911.—Max Mannesmann: Concrete buildings.

This relates to concrete-slab walls which are erected rapidly from slabs and angular corner

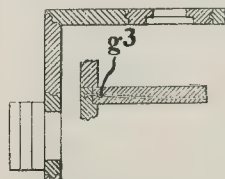


7,488 of 1911.

posts of the same height as the respective stories. The floor and roof slabs *d*, *e* are laid on the wall sections, and metal ties *l* are laid in grooves in all the horizontal joints, and cement is grouted in all the joints.

- 7,490 of 1911.—Max Mannesmann: Concrete buildings.

This relates to concrete buildings constructed



7,490 of 1911.

PATENTS—continued on page 218.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk advertised in this number:** Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xvi.; Auction Sales, Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertiser bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary. The date given at the commencement of each paragraph is the latest date when the tender, or the names of those who submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

AUGUST 30. — Saxon Snell Prize.—Fifty guineas, with medal, is offered for essay on "The Lighting, Heating, etc., of an Operating-Room for a General Hospital." Particulars from the Sanitary Institute, 30, Buckingham Palace-road, S.W.

SEPTEMBER 1. — Goolle. MUNICIPAL OFFICES.—Premiums 30l. and 50l. Particulars from Mr. R. Tyson, Council Offices, Goolle.

SEPTEMBER 8. — Chorley. SCHOOL.—The Chorley Education Committee invite designs for Council school for 600 children. See advertisement in issue of July 12. Premiums 30l., 20l., and 10l. Deposit, 2l. 2s.

SEPTEMBER 30. — Dublin. UNIVERSITY COLLEGE: New Buildings.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

SEPTEMBER 30. — Lilanely. SCHOOL, etc.—The Lilanely Education Committee invite competitive designs and estimates for school buildings and domestic subjects centre at Stebonheath-terrace. Assessor, Mr. G. E. Halliday, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.

*** OCTOBER 14. — Balham. SWIMMING BATH.**—The Wandsworth B.C. invite designs for a Public Swimming Bath. See advertisement in this issue for further particulars.

OCTOBER 29. — Glasgow. DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit, 1l. 1s.

OCTOBER 31. — Huddersfield. TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100g., 50g., and 25g. Deposit of 2l. 2s. See advertisement in issue of August 2 for further particulars.

NOVEMBER 1. — Ottawa. MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174).

DECEMBER 1. — Bulgaria. DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173).

DECEMBER 2. — Carlisle. SCHOOL BUILDINGS, etc.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

JANUARY 1. 1913. — Rangoon. MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 500r., 200r., and 100r. respectively for first, second, and third. See advertisement in issue of August 2 for further particulars.

NO DATE. — Doncaster. SWIMMING BATH, etc.—FOR YORKSHIRE INSTITUTION FOR THE DEAF.—Premiums, 50l. Information from Mr. B. D. Crouch, 6, Hall-gate, Doncaster.

NO DATE. — Jordanhill. Glasgow. PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 638.

NO DATE. — Motherwell. HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

AUGUST 17. — Exeter. HOMES.—The Guardians of the Poor of the Parish of Exeter invite tenders for the erection of Children's Homes. Plans, etc., may be seen, and quantities obtained, at the offices of their architect, Mr. R. M. Challice, 14, Bedford-circus, Exeter, upon payment of 1l. 1s.

AUGUST 19. — Marshfield. HOUSES.—Four houses at Marshfield. Names to Mr. Walter Rosser, architect and surveyor, Risca and New-bridge (Mon).

AUGUST 19. — Monmouthshire. SCHOOL WORKS.—Monmouthshire Education Committee invite tenders for carrying out the following work:—(1) The erection of a new public elementary school, to accommodate 700 children, at Philipstown, New Tredegar; (2) the erection of a domestic arts centre at Abergavenny; (3) extensions and alterations to the Georgetown

Girls' Council School, Tredegar. Plans, etc., may be seen, and bills of quantities (for the Philipstown and Georgetown schools) obtained, at the office of Mr. John Bain, F.R.I.B.A., C.C. Offices, Newport, on payment of a deposit of 2l. 2s. in respect of the Georgetown school (cheque only, made payable to the Monmouthshire Education Committee).

AUGUST 19. — Penbury. REPAIRS.—Kent Education Committee invite tenders for the execution of painting and repairs required to be carried out at Penbury Council school. Specifications prepared by the Committee's Architect, Mr. Wilfrid H. Robinson, of Caston House, Westminster, can be seen at the offices of the Correspondent, Mr. A. T. Simpson, 23, Church-road, Tunbridge Wells.

AUGUST 19. — Pontefract. RESIDENCE.—Works required to be done in the erection and completion of a new residence, Pontefract-road, Fursion, for Mr. Spurrthwaite, Esq., of W. J. Tennant, architect and surveyor, Pontefract.

AUGUST 19. — Treforest. CHURCH ADDITIONS.—Additions and alterations to Wesley Church, Treforest, for the Trustees. Plans, etc., may be seen, and form of tender obtained, upon application, to Mr. F. Hill, confectioneer, Park-street, Treforest.

AUGUST 20. — Beverley. COTTAGE WORKS.—Altering and enlarging two cottages, situate on the River Hull, near Hull Bridge and Hempholme Lock. Full particulars may be obtained on application to Mr. W. Evans, Surveyor, New-ark, Beverley.

AUGUST 20. — Chepstow. RECONSTRUCTION.—The Monmouthshire Territorial Force Association invite tenders for the reconstruction of premises at Chepstow, to be used as a drill hall. Plans, etc., may be seen, and copies of quantities obtained, at the offices of the architects, Messrs. Habershon & Fawcett, F.R.I.B.A., 4, High-street, Newport, Mon, on payment of 2l. 2s.

AUGUST 20. — Leeds. ALTERATIONS TO OFFICES.—Works required in the alterations to offices, Bedford-street, East-parade, Leeds, for the Leeds Board of Guardians. Plans, etc., on application to the architect, Mr. G. F. Croft, Bowman, 5, Greek-street, Leeds.

AUGUST 20. — Morval. FARM BUILDINGS.—Cornwall C.C. Small Holdings and Allotments Committee invite tenders for the erection of farm buildings and a dairy at Lydcott Farm, Morval. For plans, etc., apply to the County Land Agent, County Hall, Truro.

AUGUST 21. — Aberdeen. JOINT PASSENGER STATION RECONSTRUCTION. CONTRACT NO. 13.—Steel verandah platform roof and a passenger footbridge at the north end of the new station. The drawings may be seen at the office of the Engineer, Mr. James A. Hume, Mill-street, Aberdeen, where copies of the specification, etc., can be obtained on payment of 1l. 1s.

AUGUST 21. — Basingstoke. REPAIRS.—Internal and external repairs, decoration, re-drainage, and conversion into weights and measures office, The Danes, Plans, etc., at the offices of Mr. W. J. Taylor, City Surveyor, The Castle, Winchester. Deposit of 10s. 6d. for specifications, etc., by cheque, payable to Hants C.C. and crossed "Capital and Counties Bank."

*** AUGUST 21. — Lewisham. DRINKOLITH.**—The Lewisham B.C. invites Tenders for purchase and pulling down of buildings known as the Council's place of shelter, adjoining cemetery, Verdantia. See advertisement in this issue for further particulars.

AUGUST 21. — Lower Penarth. WORKS EXTENSION.—The Directors of the South Wales Portland Cement and Lime Company Ltd. invite tenders for Contract No. 9 of the proposed extensions of their works at Lower Penarth, near Cardiff. Plans, etc., may be seen, and bills of quantities obtained, at the office of Mr. John W. Hodger, architect, 14, High-street, Cardiff, upon deposit of 5l.

AUGUST 22. — Cardiff. CHAPEL.—New chapel, Pomeroy-street, Butte Docks, Cardiff, for the Trustees of the Mount Stuart Welsh Congregational Church. Plans, etc., may be seen, and bills of quantities obtained, on payment of 1l. 1s. deposit at the offices of the architects Messrs. James & Morgan, Charles-street-chambers, Cardiff.

AUGUST 22. — Rawtenstall. ERECTION OF COTTAGES ON CARR FARM ESTATE.—The Corporation invite tenders for the materials and labour required in the erection of cottages on Carr Farm Estate, Rawtenstall. Plans may be seen, and quantities obtained, etc., on application to Mr. James Johnson, Borough Surveyor, Rawtenstall, on payment of 2l. 2s.

AUGUST 23. — Southampton. OFFICES, etc.—Proposed new offices, central and mobilisation

stores, Carlton-terrace, Southam drawings, etc., may be seen at the architect, Mr. R. H. P. Bevis, A.I. grove-chambers, Southam. Bills of quantities may be obtained on payment of the sum of 2l. 2s.

AUGUST 23. — Sowerby Bridge. REPAIRS.—Masons', carpenters', and plumbers' work required in reinstatement at Lower Willow Hall Mills, Sowerby Bridge. Plans, etc., may be seen at the offices of Messrs. R. H. Son, architects and surveyors, 22a, street, Halifax.

AUGUST 26. — Dublin. STAFF PAVING COMMITTEE OF THE DUBLIN CITY TENDERS FOR THE BUILDING OF NEW TENDERS IN EAST HANOVER-STREET.—Plans, etc., may be seen at the City Architect's office, by the City Architect, Mr. J. J. O'Connell, at the City Treasurer, Municipal Buildings, Dublin, on payment of 2l.

AUGUST 26. — Tredegar and Beaufort. ALTERING AND REPAIRING HOTELS FOR MESSRS. A. BUCHAN & CO. TREDEGAR ARMS, TREDEGAR; BEAUFORT ARMS, BEAUFORT.—Plans, etc., may be seen at the hotels or at office of Mr. Thomas Ricketts, Clifton-street, Aberdare, on payment of 1l. 1s.

*** AUGUST 27. — Manchester. ALTERATIONS TO THE COUNTY COUNCIL WORKS, etc., invite tenders for alterations and additions to Manchester County advertisement in this issue for further particulars.**

AUGUST 27. — Pembroke Dock. THEATRE.—An electric theatre in Pembroke Dock. Plans, etc., can be seen at Mr. A. Claypole, Starbuck Hall, Haven, on deposit of 1l. 1s.

*** AUGUST 29. — Birmingham. COMMISSIONERS OF H.M. WORKS AND BUILDINGS.**—Invitations to submit tenders for alterations at Brunswick Park C.C. See advertisement in this issue for further particulars.

*** AUGUST 29. — East Barnet. ALTERATIONS.**—The Hertfordshire County Council invite tenders for alterations at Brunswick Park C.C. See advertisement in this issue for further particulars.

AUGUST 29. — Northwich. U.D.C. invite tenders for the erection of a new wash-house. Particulars may be forwarded upon an application to the Clerk of the Council, accompanied by a deposit of 1l. 1s.

AUGUST 29. — Portland. FRIAR WING STATION. UPWEY.—The U.D.C. invite tenders for the erection of a brick pump-house for the Friar Wing Station, Upwey. Plans may be seen, and specification, etc., obtained, at the offices of Mr. R. Stevenson Henshaw, Waterbury Council Offices, Portland, on payment of 3l.

AUGUST 31. — Aberystwyth. DWELLINGS.—The time for delivery for the works (Militia Barracks) will be extended from August 8 to August 15. Particulars may be obtained from the Infirmary in Great Western-road. Names to the architect, Mr. W. A. R.I.B.A., 12, Queen-street, Glamorgan.

AUGUST 31. — Exeter. CORPORATION invite tenders for the public hall, police-courts, offices, a new Corporation-street, Water-street, and a new Police-station. Plans, etc., quantities, etc., obtained, on application to the Borough Surveyor, Exeter, on payment of 3l. 3s.

AUGUST 31. — Potterhanworth. BRANSTON R.D.C. invite tenders for eight cottages at Potterhanworth. Plans, etc., may be seen, and copies of the specifications obtained, upon application to the Town Clerk, 23, St. Clement's, Coln. A deposit of 1l. will be required.

AUGUST 31. — Tipton. ENGLAND HOUSES.—Tipton U.D.C. invite tenders for the erection of a new hall for Tipton Gasworks. Specification, etc., obtained on application to Mr. Sidney, Engineer, Gasworks, Tipton.

AUGUST 31. — Minehead. U.D.C. invite tenders for the convenience and ladies' cloakroom at the new public house, etc., and drawings inspected by appointment of 2l. 2s. with the Clerk to the Bank-street.

BUILDING—continued.

given at the commencement of each is the latest date when the tender, or of those willing to submit tenders, is to be received.

BR 2.—Brentwood.—ENLARGEMENT.—The Commissioners of H.M. Works, tenders for the enlargement of the Post-Office. See advertisement in our further particulars.

BR 2.—Dartford.—WORKS.—The invite tenders for the execution of works at the Workhouse, West-hill, Dartford, may be seen at the offices of Messrs. J. & H. Hobbs, architects, Lowfield-street, from whom forms of tender may be obtained.

BR 3.—Barnet.—COTTAGES.—The D.C. invite tenders for workmen in the Cottage-lane. See advertisement in our further particulars.

BR 4.—Leeds.—TELEPHONE EXCHANGE.—The Commissioners of H.M. Works, etc., invite tenders for the erection of Leeds new Telephone Exchange. See advertisement in this issue for particulars.

BR 5.—Bolton-on-Dearne.—SCHOOL.—The Riding Education Committee invite separate tenders for Bolton-on-Dearne (Builder, joiner, slater, plumber, painter, ironmonger, and smith, etc.). Plans may be seen and specifications obtained, on application to the Education Committee, Bolton-on-Dearne.

BR 6.—Golear.—SCHOOL ADDITIONS.—The Riding Education Committee invite separate tenders for the following:—Class-rooms, Council school, and classroom (Builder, joiner, slater, painter, ironmonger, and smith, etc.). Plans may be seen and specifications obtained, on application to the Education Committee, Golear.

BR 7.—Portsmouth.—BOILER-HOUSE.—The Portsmouth Guardians invite tenders for the erection of a boiler-house, and a steam engine, and a chimney, and a water tank, on the Common. See advertisement in this issue for particulars.

BR 8.—Clacton.—ELECTRICITY SUPPLY.—The Hackney B.C. invite tenders for the extension of Electricity Works at Clacton, N.E. See advertisement in our further particulars.

BR 9.—West Ham.—ERECTOR.—The West Ham Guardians invite tenders for the erection of workshops on a site at the Reformatory, Aldersbrook-road. See advertisement in this issue for particulars.

BR 10.—Dublin.—NEW PUBLIC WORKS.—The Commissioners of Public Works, invite tenders for new public offices, and a new public office, at the site of the Reformatory, Aldersbrook-road. See advertisement in this issue for particulars.

BR 11.—Bigin Hill.—SCHOOL.—The Clacton U.D.C. invite tenders for the erection of a school, Bigin Hill. See advertisement in this issue for particulars.

BR 12.—Craghead.—HOUSES.—Twenty houses, for Messrs. Thos. Hedley & Co., Architects, 13, Mosley-street, Manchester. A deposit of £1. 2s. for plans.

BR 13.—Morrison.—HOUSES.—Twenty houses, for Messrs. Thos. Hedley & Co., Architects, 13, Mosley-street, Manchester. A deposit of £1. 2s. for plans.

BR 14.—Stafford.—PREMISES.—The Commissioners of Public Works, invite tenders for new public offices, and a new public office, at the site of the Reformatory, Aldersbrook-road. See advertisement in this issue for particulars.

BR 15.—Fredericton.—ALTERATIONS, ETC.—The Commissioners of Public Works, invite tenders for alterations, etc., to the premises of Messrs. Johnson & Co., Architects, 13, Mosley-street, Manchester. A deposit of £1. 2s. for plans.

BR 16.—Yeovil.—ELECTRIC THEATRE.—The Yeovil Electric Theatre, invite tenders for the erection of a theatre, Yeovil. A deposit of £1. 2s. for plans.

BR 17.—London.—GIRDERS.—The Secretary of the India Office, invite tenders for the supply of girders. The conditions of sale may be obtained on application to the Secretary of the India Office, Whitehall.

BR 18.—Droghda.—SEWAGE CARRIER.—The Droghda Corporation invite tenders for the construction of a sewerage carrier, Droghda. Plans may be seen and specifications obtained, on application to the Droghda Corporation, Droghda.

BR 19.—London.—GIRDERS.—The Secretary of the India Office, invite tenders for the supply of girders. The conditions of sale may be obtained on application to the Secretary of the India Office, Whitehall.

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AUGUST 23.—New Waltham.—BRIDGE.—Whitby R.D.C. invite tenders for the construction of a new stone road bridge at New Waltham, near Goshland. Drawings, etc., may be seen at the office of Mr. A. E. Young, Architect and Surveyor, 77, Buxton-gate, Whitby.

AUGUST 23.—Richmond, Yorkshire.—HEATING.—The Richmond Union invite tenders for the heating of the Richmond Union Vagrant Ward and laundry room. Plans, etc., can be seen at the Workhouse.

AUGUST 24.—Manchester.—BOILER.—The Waterworks Committee invite separate tenders for one Lancashire steam boiler, with superheater, mechanical stoker, fuel economiser, steam and feed pipes, etc., and for two sets of vertical steam pumping engines, to deliver against a pressure of 1,120 lbs. per square inch. Specifications, etc., may be obtained on application to the Secretary, Waterworks Offices, Town Hall, Manchester, on payment of 11. 1s. per copy.

AUGUST 24.—Manchester.—BRIDGE REPAIRS.—The Corporation of Manchester invite tenders for repairs to various bridges. Specifications, etc., may be obtained on application at the City Surveyor's Office, Town Hall, Manchester, on payment of 21. 2s. All cheques or postal orders are to be made payable to the order of the Corporation of Manchester.

AUGUST 24.—Plymouth.—BARGE.—The Corporation of Plymouth invite tenders for the supply and delivery, at Plymouth, of a steel or iron bottom discharging hopper barge. Mr. James E. Young, Engineer and Surveyor, Municipal Offices, Plymouth.

AUGUST 26.—Warrington.—RAILINGS.—The Finance and Estate Committee invite tenders for cast-iron railings and two gates. Drawings, etc., may be seen, and forms of tender, etc., obtained, at the office of the Borough Surveyor, Town Hall.

AUGUST 26.—Fulham.—LAUNDRY MACHINERY.—The Metropolitan Asylums Board invite tenders for installation of laundry machinery at the Western Fever Hospital, Seagrave-road. See advertisement in this issue for further particulars.

AUGUST 29.—Wellington Somerset.—HORSE-BRIDGES.—The District Councils invite tenders for the taking down and rebuilding of Hornsey Bridge. Drawings, etc., may be seen at the office of the Clerk to the B.D.C., Wellington. Bills of quantities on payment of 11. 1s.

SEPTEMBER 2.—Worthing.—EXTENSION OF PIER.—The Directors of the Worthing Pier Company, Ltd., invite tenders for the taking down, widening, and reconstruction of a portion of the pier at Worthing. The drawings, etc., may be seen, and copies of the bills of quantities obtained, at the office of the engineers, Messrs. James Mansergh & Sons, 5, Victoria-street, Westminster, on the deposit of cheque or banknote for 51.

SEPTEMBER 4.—Birmingham.—STEEL SUPERSTRUCTURE.—The Great Western Railway Directors invite tenders for the supply and erection of the superstructure to bridge over Sandy-lane, Birmingham. Plans, etc., may be seen, and forms of tender, etc., obtained, at the office of the Resident Engineer at Snow-hill Station, Birmingham.

SEPTEMBER 4.—Clacton.—PUMPING MAIN.—The Clacton U.D.C. invite tenders for supplying and laying about 1,266 yds. of 11-in. cast-iron pumping main. Copies of the specification, etc., may be obtained, upon payment of 11. 1s., from the Engineer, Mr. Sydney Francis, A.M.Inst.M.E., Town Hall-buildings, Clacton-on-Sea.

AUGUST 23.—Barnsley.—PAINTING, ETC.—The Guardians of the Barnsley Union invite tenders for painting, colour washing, and cleaning the internal and external wood and iron work of the Union and Relief Offices, Pitt-street, Barnsley. Particulars, etc., may be obtained on application at the Clerk's Office, Union Offices, Pitt-street, Barnsley.

AUGUST 19.—Halifax.—PAINTING.—The Health Committee of the Halifax Corporation invite tenders for the painting work required at the Health Depot, Hall-street, and to various urinals. Specifications may be seen, and forms of tender obtained, on application to Mr. James Lloyd, M.Inst.C.E., Borough Engineer, Town Hall, Halifax, upon payment of the sum of 11.

AUGUST 19.—Kirkcaldy.—PAINTING.—The R.D.C. invite tenders for the painting of the bridge over the Wamphol at Kirkcaldy. Specifications may be inspected at the office of the Surveyor of the Council, George-street, Wigan.

AUGUST 20.—Wesham.—DECORATING OFFICES.—The Corporation of Wesham, invite tenders for decorating the internal and external walls of the Wesham Union Offices, Wesham. Specifications may be seen at the office of Mr. Fred H. Brown, Clerk to the Guardians at Wesham.

AUGUST 21.—Nottingham.—CLEANING, ETC.—The Markets and Fairs Committee are prepared to receive tenders for cleaning and painting the large chapel at Keighley. Written applications for specification, etc., to be made to Mr. Wilson Bailey, architect, 48, Devonshire-street, Keighley.

AUGUST 22.—Manchester.—PAINTING.—The Parks Committee invite tenders for painting, etc., at the Clayton and Cambrian-street Recreation Grounds and George-street and Delamere-street Recreation Grounds. Specifications may be obtained at the office of the City Architect.

AUGUST 19.—Barnsley.—PAINTING, ETC.—The Guardians of the Barnsley Union invite tenders for painting, colour washing, and cleaning the internal and external wood and iron work of the Union and Relief Offices, Pitt-street, Barnsley. Particulars, etc., may be obtained on application at the Clerk's Office, Union Offices, Pitt-street, Barnsley.

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Town Hall, upon payment to the City Treasurer of 10s. 6d. for each copy. All cheques or postal orders are to be made payable to the order of "The Corporation of Manchester," and crossed.

AUGUST 23.—Walsingham.—PAINTING.—For the painting and renovation of the Walsingham Primitive Methodist chapel and schoolroom. Specifications may be seen on application to Mr. John Butterill, Front-street, Walsingham, S.O.

AUGUST 24.—Cardiff.—PAINTING.—The Guardians invite tenders for internal painting at Cardiff Workhouse. Specification, etc., may be obtained from Mr. Arthur J. Harris, Clerk, Union Offices, Queen's-chambers, Cardiff.

AUGUST 27.—Manchester.—PAINTING.—The Corporation Tramways Committee invite tenders for the painting of the exterior of the car-shed, car works, permanent-way buildings, etc., situated at Hyde-road, Manchester. Specification, etc., may be obtained on application to Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester, on deposit of 11. 1s.

AUGUST 28.—Manchester.—ELECTRIC-LIGHT FITTINGS.—The Education Committee invite tenders for providing and fixing electric-light fittings at the Altherton-street Municipal School, Deansgate, Manchester. A copy of the specification and quantities may be obtained at the Education Offices, Deansgate, Manchester, on a deposit of 11. 1s.

AUGUST 23.—Newhaven.—GRANITE, ETC.—The R.D.C. invite tenders for about 530 tons of flake granite and alternative tenders for 530 tons of 2-in. broken Kentish ragstone. Mr. Herbert W. Coupe, Clerk to the Council, Union Offices, Newhaven, Sussex.

ROADS, SANITARY AND WATER WORKS.

AUGUST 19.—Birmingham.—PAVING.—The Public Works Committee invite tenders for the laying of wood and granite pavements in Lodge-road (Hockley), Bennett's-hill, Great Charles-street, Landor-street, and Arden-road. The drawings may be seen, and specification, etc., obtained, at office of Mr. Henry E. Shilgoe, City Engineer and Surveyor, the Council House, Birmingham, on payment of a deposit of 21. 2s.

AUGUST 19.—Romford.—DRAINS.—The R.D.C. invite tenders for the construction of about 425 yds. of 12-in. surface-water drain in Brentwood-road, Hornchurch; about 82 yds. of 6-in. surface-water drain in Beaconsfield-terrace, Chadwell Heath; and about 132 yds. of 6-in. sewer in Willow-road, Chadwell Heath. Specifications, etc., may be seen, and particulars obtained, on application to Mr. W. J. Gurney, Surveyor to the Council, Victoria-chambers, Romford.

AUGUST 21.—Chapel-en-le-Frith.—CHAPEL-EN-LE-FRITH AND WORMHILL WATER, DOVE HOLES RESERVOIR.—The R.D.C. invite tenders for the construction of a concrete service reservoir at Dove Holes, near Buxton. Plans, etc., by the Council's Engineers, Messrs. Brady & Farthing, A.M.M.Inst.C.E., Town Hall, Chapel-en-le-Frith, may be seen, and the conditions of contract, etc., obtained, on deposit of cheque for 21. 2s.

AUGUST 22.—Blagdon.—WATER WORKS.—A bridge R.D.C. invite tenders for laying about 2,200 yds. of 3-in. cast-iron pipes (Aldwick extension). Plans, etc., may be seen at the office of the Engineer, Mr. Arthur Powell, M.Inst.C.E., Bill of quantities can be obtained on payment of 10s. 6d.

AUGUST 23.—Tavistock.—DRAINAGE.—Reconstruction of the drainage system of the Union Workhouse, Tavistock. Plans, etc., may be seen at the office of Mr. F. Gamble, Drake-road, Tavistock, and bills of quantities obtained on payment of a deposit of 21. 2s.

AUGUST 24.—Blackburn.—CASTINGS, ETC.—The Waterworks Committee invite tenders for the necessary castings, valves, etc., required for the Parsonage Reservoir. Plans, etc., can be obtained on application at office of Mr. William Stubbs, C.E., Borough Engineer, Municipal Offices, Blackburn.

AUGUST 26.—Altofts.—FOOTPATH.—Altofts U.D.C. invite tenders for the construction of a new footpath in Church-road, Altofts. Plans, etc., may be seen, and bills of quantities obtained from the Surveyor at the District Council Office, Altofts.

AUGUST 29.—Saltash.—MAKING-UP.—The Saltash Urban Sanitary Authority invite tenders for making-up Victoria-road and Back-lane and Windsor-terrace Back-lane. Plans, etc., may be seen at the Surveyor's Office, the Guildhall, Saltash.

AUGUST 30.—Sandown.—SEWER.—The Sandown U.D.C. invite tenders for works to be done and materials to be supplied in laying a stone-ware pipe sewer from the sewage tanks to Carter-street. Plans, etc., may be seen at the office of the Surveyor of the Council, at the Town Hall, Sandown.

AUGUST 30.—Walthamstow.—ASPHALT MACADAM.—The Trinidad asphalt and Trinidad Lake bitumen. Form of tender, etc., may be obtained at the office of Mr. E. Morley, Surveyor to the Council, Town Hall, Walthamstow.

AUGUST 31.—Dorking.—TAR MACADAM.—The U.D.C. invite tenders for slag tar macadam for surfacing 4,043 sq. yds. of road. Specification, etc., may be obtained on application to the Town Surveyor, Mr. William A. Clegg, M.Inst.M. and C.V.E.

AUGUST 31.—St. Columb Major.—SEWERS.—The R.D.C. of St. Columb Major invite tenders for constructing sewers and underdrains and laying-out irrigation ground and other work in connexion with the sewerage of St. Columb Major, according to plans, etc., prepared by Mr.

ENGINEERING, IRON, AND STEEL.

BR 20.—London.—GIRDERS.—The Secretary of the India Office, invite tenders for the supply of girders. The conditions of sale may be obtained on application to the Secretary of the India Office, Whitehall.

BR 21.—Droghda.—SEWAGE CARRIER.—The Droghda Corporation invite tenders for the construction of a sewerage carrier, Droghda. Plans may be seen and specifications obtained, on application to the Droghda Corporation, Droghda.

BR 22.—London.—GIRDERS.—The Secretary of the India Office, invite tenders for the supply of girders. The conditions of sale may be obtained on application to the Secretary of the India Office, Whitehall.

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ROADS, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

R. Hansford Worth, M.Inst.C.E., of Plymouth, at whose office or at the Council Offices, St. Columb, plans may be seen.

SEPTEMBER 6. — **Southend-on-Sea.** — **SOUTH-CHURCH AND THORPE HALL BOULEVARD.**—Road and formation works. Plans may be inspected, and form of tender, etc., obtained, on application to the Borough Engineer, Mr. Ernest J. Elford, M.Inst.C.E., Municipal Buildings, Clarence-road, Southend-on-Sea, and on payment of a deposit of 5l. 5s.

SEPTEMBER 9. — **Tredgar.** — **SEWERS.**—The U.D.C. invite tenders for the construction of subsidiary sewers in their district (three contracts). Plans may be inspected at the office of the Engineer to the Council, Mr. Wm. Lloyd Roach, Bedwellly House, Tredgar. Copies of

the specification, etc., can be obtained from Mr. H. J. C. Shepherd, Clerk to the Council, Tredgar, on making a deposit of 5l. 5s.

SEPTEMBER 21. — **Andover.** — **PURIFICATION WORKS: CONTRACT No. 2.**—The Corporation invite tenders for the construction of screen chamber, engine-house, suction tank, 9-in. rising main, etc., in accordance with the specification and drawings prepared by Messrs. John Taylor, Sons, & Santo Crimby, civil engineers, Caxton House, Westminster, S.W. Specification, etc., upon payment of 5l. (cheque only).

SEPTEMBER 24. **Leves.** — **SEWERAGE AND SEWAGE DISPOSAL WORKS: CONTRACT No. 2.**—The Corporation of Leves invite tenders for construction of main intercepting sewers and for the construction of sewage disposal works. The general conditions, etc., may be obtained, and drawings inspected, at the office of the engineers, Messrs. Brierley, Holt, & Co. (Arthur Hindle, M.Inst.C.E., and P. Holt Whitaker, M.Inst.C.E.), 46, Abingdon-street, Blackpool, upon receipt of a deposit of 5l. 5s. One of the

engineers will be in attendance at Hall, Lower, to meet intending

August 20, 21, and 22.
OCTOBER 9. — **Bradford.** — **ESKDALE ROAD WORKS: CONTRACT No. 21.**—fall sewer in tunnel, from Fringingford, 10ft. in diameter and 4,807 yds. in length, together with Drawings may be seen, and copies, etc., obtained, at the office of Mr. James Watson, M.Inst.C.E., Engineer, Town Hall, Bradford, or Garfield, A.M.Inst.C.E., Sewage Works, near Shipley (station Midland Railway), on payment of 5l. 5s.

NO DATE. — **Weston-super-Mare.** — **Supply and delivery at Weston-super-Mare of about 185 tons of 5-in. and 4-in. socketed water pipes.** Forms of particulars may be obtained at the Harold A. Brown, Engineer to the Council, Weston-super-Mare.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.
*DRAUGHTSMAN	Metropolitan Asylums Board	125l. per annum.
*HIGHWAY SURVEYOR	Watford U.D.C.	150l. per annum.
*ARCHITECTURAL ASSISTANT	County of Hereford	150l. per annum.

Auction Sales.

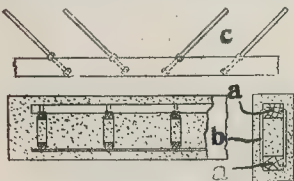
Nature and Place of Sale.	By whom Offered.
*BUILDING PLANT, BOURNEMOUTH—On the Premises	For & Sons
*DEALS, BATTENS, BOARDS, TIMBER, etc. Great Hall, Winchester House, E.C.	Churchill & Son
*STOCK OF BRICKS, TILES, Etc., CHELMSFORD—On the Premises	G. B. Hilliard & Son

PATENTS—continued from page 215.

of studs and slabs of the same height as the stories wherein the floors and roof are cast in situ, the reinforcements being secured to hooks or eyes *g*, cast in the slabs. Corbels or rabbets are provided under the edge of the floors, and the door and window openings are formed in the slabs. The slabs are tongued and grooved on the square or bevelled vertical edges.

5,508 of 1911.—Gerald Otley Case: Reinforced concrete constructions.

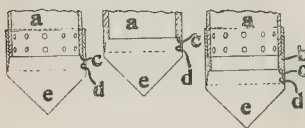
This relates to skeletons as used in reinforced concrete constructions which consist of wooden lattice girders in flat or box form, the



5,508 of 1911.

diagonals being made of wood or metal. The frame consists of two longitudinal wooden bars *a*, and diagonal metal dogs *b*; the lower bar may be strengthened by combining with it the trussed bar *c*. A continuous bar may be used instead of the separate dogs.

6,500 of 1911.—John Murray Leighton: Piles. This relates to preparatory hollow piles which are made with no internal projections, the driving-shoulder which bears on the driving-shoe being formed by enlarging the bore of the tube, or a sleeve on the tube,



6,500 of 1911.

internally, and bringing it to a sharp lower edge. A sleeve *b* on the tube *a* is internally enlarged to form a shoulder *c* for the point *e*, and has a conical portion *d* which provides a comparatively sharp edge. The shoulder is not always square, a curved driving-face being sometimes used.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has been specially asked for them. All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any communication to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the Editor, or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premised Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

* Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.		
Per 1000 Alongside, in River.		
Best Stock	£ s. d.	1 14 0
Picked Stock for Facings	£ s. d.	2 10 0
Per 1000, Delivered at Railway Depot.		
Flettons	£ s. d.	1 13 0
Best Fareham	£ s. d.	3 15 0
Best Blue Pressed	£ s. d.	4 0 0
Best Blue Facing	£ s. d.	5 0 0
Double Headers	£ s. d.	14 17 6
One Side and two Ends	£ s. d.	13 17 6
Two Sides and one End	£ s. d.	19 17 6
Spalls & Squints	£ s. d.	17 7 6
D'ble Stretchers	£ s. d.	17 11 6
Second Quality 21 10s. per 1000 less than best.		
Thames and Pit Sand	£ s. d.	6 9 per yard, delivered.
Best Portland Cement	£ s. d.	34 0 per ton, "
Best Ground Blue Lias Lime	£ s. d.	19 0 " "
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.		
Grey Stone Lime	£ s. d.	13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 6d. per ton at rly dpt.	£ s. d.	

STONE.

Per Ft. Cube.

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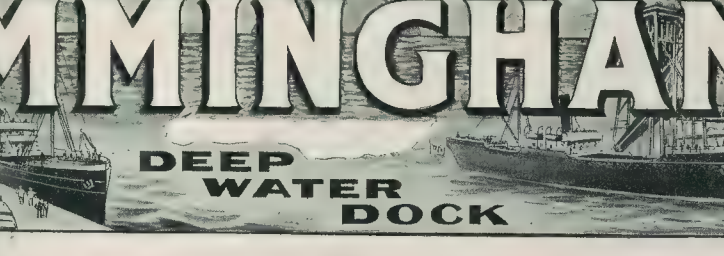
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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100l. unless in some exceptional cases and for special reasons.]

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A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

CIII.—No. 3629.

ILLUSTRATIONS.

AUGUST 23, 1912.

SKETCHES WITH THE ARCHITECTURAL ASSOCIATION ANNUAL EXCURSION. BY MR. SUTTON WOOD.

ILLUSTRATIONS IN TEXT.

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COSMOPOLITANISM AND ARCHITECTURE.

THE present is an age of intercommunication with closely-woven yet far-extended interests, of a pattern so complex that it is difficult to unravel a sequence of events so as to determine how much is only to ourselves as distinct from what is rightly the portion of others.

It is tempting to trace out the causes which have helped to shape a Nation's ways interesting and instructive. It is an imitative animal, and, while it is in a great measure the example of others who have preceded him, he is open to other influences which may direct his works. Tradition, that the word signifies, is only the causes which go to the formation of architecture.

The small and isolated communities of the Middle Ages local interests were of no account importance, and inherited from the main source of inspiration, the crafts of a handicraft or trade passed on from father to son; for the personal factor, which, in its shapes, is not only to a large extent absorbed in the work of the individual which it helps to produce, but is in a great measure, responsible for its distinctive character. We can see the results of continuity of effect which its process could give. Mediaeval architecture the result of the conditions under

which those who produced it lived—conditions which were constantly changing and at last ceased to exist.

In the freer life of the Renaissance there is apparent a broadening of boundaries, and with a fuller knowledge; a breaking down of the old local customs; travel and communication with other countries resulted in an exchange of thought, which directly affected the art of the time. It is to be doubted if architecture ever has been a purely parochial or national affair. Even in Gothic periods there appears to have been an interchange of ideas, a reflection of the art of one country in the works of another, and from the end of the XVIth century up to the present day this influence has become more manifest.

All countries have, at one period or another, borrowed from their neighbours, and though, for the most part, these borrowings have been marked by a transition of form which has modified and rendered the adaptation to a large extent national, the sources of their inspiration can, in most cases, be definitely traced, and in a great measure this very quality has been due more to an imperfect comprehension than to any particular desire of the artist to achieve a definite style. The point is that what is peculiar to the art of a country, even when derived through foreign channels, is the result of a natural process and cannot be attained by any conscious striving. What is

national in the best sense comes unconsciously, as it were, in spite of ourselves; it is an intangible manifestation of our collective character which escapes all attempt at limitation or direction.

The question as to whether in our effort to build up a great city on a public architecture the study of foreign styles is to be rejected or pursued has of late become a subject of anxious inquiry; the dreadful fear of becoming un-English, of losing our national inheritance, would appear to some to be the grounds for seeking a salvation in a splendid isolation.

To be ignorant of our own history is not a good preparation for the sympathetic understanding of the history of other people; while to shut ourselves definitely off from all outside influence is not only in these days impossible in point of fact, but would be productive of a barrenness inimicable to that broad culture which is the best preparation for the study of the arts. Of architecture in particular, it may be said that it has always depended for vitality and continuity on the constant absorption of new ideas.

To-day increased facilities for travel, the multiplication of fine books, and the art of the camera have made us familiar with life in its various aspects in all parts of the world. In commerce and finance our interests may be described as international; in habits and modes of living we tend to become more cosmopolitan—

a change of life, the result of which is becoming increasingly apparent in our buildings.

Now this cosmopolitan aspect of art is not without its dangers. To admire what is best in European or American architecture, and to seek to reproduce it, is not only natural, but almost inevitable; the danger lies in a superficiality of appreciation, the skimming of the cream from the surface, without any attempt to understand the underlying root-principles.

Enthusiasm alone with no faculty for penetrative criticism can only be productive of the most unfortunate results. The untrained mind is always open to attraction by extravagances and non-essentials; the real essence of a movement nearly always escapes it; the undisciplined are always the first to follow the passing fashion of the hour. A great deal of the best European and American architecture is based on a common classical inheritance, and to be well grounded in the fundamentals of this is the best preparation for that complete understanding which accepts only what is most necessary to growth and development.

To be academic in the broad meaning of the word is to have a standard by which all is tried; it is to be able to determine what is of real and lasting importance as distinct from that which is only temporary and evanescent. Several of the most recent large buildings in London show a strong French influence; in fact, some of the best of them are directly due to the inspiration of France, that land of Academies, pregnant with the spirit of critical discrimination. Such work at its best will stand the test of time, but contemporary with it there is unfortunately much that, masquerading under the same cloak, is trivial and meaningless, that has no depth or permanence and has very little real intrinsic value.

Ever since the waning of the Gothic revival we have had a continuous succession of styles derived from English and Continental models alike, all held up as examples for our instruction and imitation. Judging by recent indications, we are about to surrender ourselves to the sway of America.

Amidst all the confusion caused by our haphazard method of choosing our different models it is difficult to find any logical sequence in their acceptance or rejection. We have passed from one to another without apparently any greater reason than that dictated by the whim of the moment, the mode set by some particular exponent, or the opportune publication of some important book. To make things worse, we have not always based our work on the best examples. Ignorance, the brother of opportunism, has helped to plunge us deeper into the mire. We do not learn French or German in order to forget our English, but in order to enlarge our ideas; not that we may sprinkle our conversation with appropriate gleanings from other tongues, but that we may be richer in a fuller knowledge of their literature.

So with architecture, what we study we need to assimilate; seeking after what is the best we must wrest from it what

is most essential to our needs. We must dig deep down to the base of things; experience prepared by education is the true path of learning.

It must be remembered that our building exploits are now judged by the whole world, that we now act on a wider stage and to a larger and more critical audience than we have ever before been called upon to face. No sooner is a building erected in London than the elements of its design are known in Paris and New York. That is to say, if the design and construction are likely to interest our brothers in Paris and New York. A greater publicity entails a greater responsibility; what was good enough for the village years ago will not pass in the metropolis to-day, much less in that extended circle that now demands our attention.

As cosmopolitanism in life affects our manners and mode of living, so in art some adjustment of prevailing standards is necessary. Not less, but more, is required of us, and indications are not wanting that we are alive to this, and are seriously preparing ourselves for our fuller opportunities, that a future rich in promise may also be one of fruition and fulfilment.

LEGISLATION AND THE EXPORTATION OF WORKS OF ART.

FROM time to time alarms are raised in the Press because some valuable antiquity is on the point of being sold to America. Whether it be picture, fire-places, or panelling, or, indeed, a whole antique fabric, the same resentment is expressed against the seller for doing on a great scale what we all do on a small one. And it has been suggested that legislation is necessary and right to prevent the continuance of what bids fair to become an extensive form of traffic. Until recently prohibitive tariffs prevented a too great indulgence in this buying of pictures and other priceless things for importation into the United States. These tariffs are removed, and a great barrier is thus laid low which formerly proved practically impenetrable.

Legislation to-day prevents the exportation of objects of art from Italy. Can legislation be devised on similar lines for us? There is a marked difference, however, in the position of the two countries with regard to works of art. Italy claims the work as indigenous, whilst we can make no stand, on patriotic grounds at least, to prevent the sale of such pictures as have been the cause lately of much heartburning. For before the advent of the "almighty dollar" was not the British guinea all-powerful for two centuries or so? The majority of our pictures came from Italy, where they were purchased by amateurs and dilettanti.

Can it, with any justice, be forbidden their present owners, by purchase or inheritance, to sell them to the highest bidder? We think not, not in equity, not on patriotic grounds, for we have no national right in them.

The case is different, however, with indigenous works of art—painting,

architecture, and suchlike. Our cannot be bodily removed to nor their priceless contents of m and stained glass, nor any of the fittings they possess. Our too, are almost as safe. A n or some old panelling may go, that really matter? We allow cious cathedrals to be restore recognition, or take no care of less important, legacies of the and it is only when some a attempts to negotiate a sale v American millionaire that an is made.

The truth is, it is only a price. We allow our pain Reynolds, Gainsborough, and to change hands how they like, they like, because, forsooth, it is of a few thousand pounds. T in which we have some nation things which belong like step ladder of our evolution, may where they will. Patriotism v out a better case for not allow national treasures to be tak And when patriotism does aw of its sloth and sees with open beauty of its heritage, it will fi to keep them. In the mean sale will go on, and so long w this country languish. For th more absurd or foolish belief th died long ago, and, judging fr of encouragement it receives t must assume it to be general. Solomon's time there were pe regretted the good old days!

It is the easiest matter in the learn the names of some of the art, and to unlimited wealth, acquire examples of their wor for lesser means to purchase reproductions of them.

There is no criterion beyond or a fabulous price. There is picture in the Glasgow Ce Gallerie attributed to Giorgione "Christ and the Woman in Adultery." The faltering of the gentle attitude of Christ, satisfied looks of the witnessing are combined in a faultless cor A certain Venetian sumptuous colour and suavity to the dres the figures, and out behind t view of green hills dotted w ineffably peaceful and beautif the picture, being one whose aut is doubtful, it is valued at a f the amount it could be sold judges unanimously considered by Giorgione. It is the lack which deprives it of its value real value, for no artist we H talked to about this picture buy it one of the great achievement but the fictitious one of price.

No more feeble subterfuge is than to deprecate modern art more likely to stifle what, is an extremely sensitive does not flourish in the mind of but weeds spring up, gross which are mistaken by the for flowers. Comparisons sh be instituted between old or m any more than between G Gothic architecture. Their different, but who will say wh brilliance of Manet is less beau

emnity and dignity of Titian. Art becomes a vital thing, a thing that is part and parcel of life, legislation unnecessary to keep art treasures in country.

NOTES.

We are glad to learn from the publication of particularities of the competitions to be inaugurated in connexion with the newly-founded School of Architecture at Rome that this important scheme is a step towards the realisation. Scholarships of the value of 200*l.* per annum and tenable for three years will be awarded in sculpture, painting, and sculpture. The first competition will be made up of a series of tests or competitions conducted as regards the final position *en loge*, in London, on lines similar to those favoured for many years by the Beaux-Arts in Paris. The scheme promises to have a wide and wholesome influence on the instruction of architectural education, and consequently of the raising of the standard of architectural design and the work of the architect in this country—we hope to dwell upon it from time to time, and in a forthcoming issue to give information than space allows. We note, however, that it is the intention of the authorities to make arrangements whereby the results of design for the first stage competition will be made known to "to enable students in the schools to have the same time for preparation of their designs as the students at home." We are further glad to announce that the Jarvis Scholarship, which will also be worth 200*l.* per annum, but be tenable for three years only, will be awarded on the basis of the same competition. Wherever the "Scholarship" will be open to British subject under the age of 21 years, the "Jarvis" will be open to students and Associates of the Royal Institute of British Architects under the same age limit.

Art Training. The question of State-aided art training is in the air once more. In connexion with that subject, delivered at the annual meeting of the National Association of Art Masters, Mr. Reginald P.R.I.B.A., A.R.A., spoke very strongly of the failure of that training, which he attributed partly to general conditions unfavourable to art and partly to want of clear and single purpose in the State art schools. Since the *Times* has published two articles from Mr. Alan S. Cole and Mr. Crane respectively, the first dealing with the accuracy of statistics and the second with the quality of work produced in the schools and the enormous progress

made therein in recent years. We do not question the correctness of the statements and the soundness of the views expressed in these letters; and yet we think they do not touch the substantial justice of Mr. Blomfield's criticism. The remedies suggested by him also are all for good, so far as they go. No doubt if the production of really competent artists and craftsmen be the object of national art training much might be done by the Education Board in the way of making the present system of art schools more efficient to that end, and to the elimination of the unfit and the amateur. But we feel this only touches one part of the question. It does nothing for the general art education of those whose interest therein is receptive rather than executive, or for the arousal of that public aesthetic interest which is so necessary if the true artist and craftsman, when trained, is to find appreciation of his work—and a living. The real trouble now is in the "general conditions unfavourable to art," as one result of which art is regarded as a costly exotic, a luxury for the wealthy connoisseur and collector rather than as a normal condition of completely healthy life in industry. The problem is to reintegrate aesthetic and utilitarian values in their right relation, judged by a higher standard than pecuniary value. It is in fact the great problem of the co-ordination and correspondence of all education, and of art, with industry, and that problem can only be practically approached gradually and from many different standpoints.

Immediate Steps Possible. In addition to the improvement of the schools on lines suggested by Mr. Blomfield, we suggest other immediate steps might be taken in the direction of attracting and encouraging the right students and of awakening public interest in the work being done in the schools, to which so highly competent a judge as Mr. Walter Crane gives such high praise. What prevents the annual exhibition of students' work from being held in those spacious halls of South Kensington, or, better still, in the City? In another letter to the *Times* Mr. Harry J. Powell makes the suggestion that the Royal Academy might include in the Winter Exhibition selected designs of students and actual specimens of industrial applied art, as an effort to bring the public into closer touch with designer, craftsman, and producer. At present the prize works of the schools are contemptuously housed in temporary and inconvenient buildings and sheds. Imagine such a treatment of national competitive art in old Athens, in the great days of the Renaissance, or in modern Paris! Even enthusiastic little parish art societies will choose the best available hall for their shows, and the neighbours will flock to criticise the works and praise the artists. We do not want the amateur without imaginative or executive capacity, but we do want to attract, select, and encourage all those who have real, perhaps latent, potentialities for art. As public interest awakens to the practical importance of this question other things

will become practicable; even, as Mr. Crane suggests, a separate Department for Art and a Museums Board, correlated possibly, we would add, to the general Board of Education on the one hand and to a great Department for Industry on the other.

The Recent Celluloid Fire.

In view of the great importance of this case as an illustration of the extreme danger of storing and working celluloid in ordinary London buildings, we are pleased to see that the *Medical Press* has made some rather strong comments upon the apparently apathetic attitude of the Home Office towards the subject. We agree with that journal in feeling strongly that this case ought not to pass by as a mere nine days' wonder, and therefore, although we dealt with it at some length on the 9th inst., we again refer to it with the special object of emphasising, so far as we are able, some of the very pertinent remarks of Dr. Waldo, the City Coroner, in his thoughtful address to the jury. It must be borne in mind that Dr. Waldo speaks with especial authority, for, as he told the jury, he has, since the Queen Victoria-street (celluloid) fire in 1902, held nineteen (it is now twenty) inquests on as many victims (eighteen of them young girls) of celluloid fires, besides many more inquiries as to non-fatal celluloid fires held under the unique powers of the City of London Fire Inquests Act, 1888, which include powers to inquire into the origin and prevention of like fires in future. Dr. Waldo drew attention to the fact that after holding inquests on two celluloid fires in St. Paul's Churchyard the jury and the City Corporation had asked the Home Secretary to legislate, but without result. He also noted that, even after this latest disaster, the official argument in evidence was, apparently, that there had not yet been a sufficient number of deaths caused by celluloid to warrant the introduction of special legislation against its use and storage in towns—an argument which ignores the all-important question of prevention. Finally, we recall Dr. Waldo's statement that he thought the jury would agree with him in feeling that the time had now arrived for the responsible authority—the Home Office—to act. We would merely add to this that probably, under existing circumstances, an independent inquiry, apart from the Home Office, and followed by prompt action, would be more satisfactory to the workers in celluloid whose fears have, not unnaturally, been aroused by recent events.

LONDON SESSIONS HOUSES.

Pending the demolition of the old building and the erection of the new one for the amalgamation of the North and South London Sessions, the business will be carried on in the old Clerkenwell Court House, which will then be pulled down. The cost of the new Sessions House is approximately estimated at 100,000*l.* This will disappear, says the *Morning Post*, two buildings of considerable historic interest, both associated with the rude justice of the early part of last century. Newington Sessions House was built on the site of Horsemonger-lane Gaol, formerly the prison and place of execution for the County of Surrey. The land, which was originally purchased from a market gardener, is 3½ acres in extent. The Sessions House, originally constructed in 1799, was rebuilt in 1873.

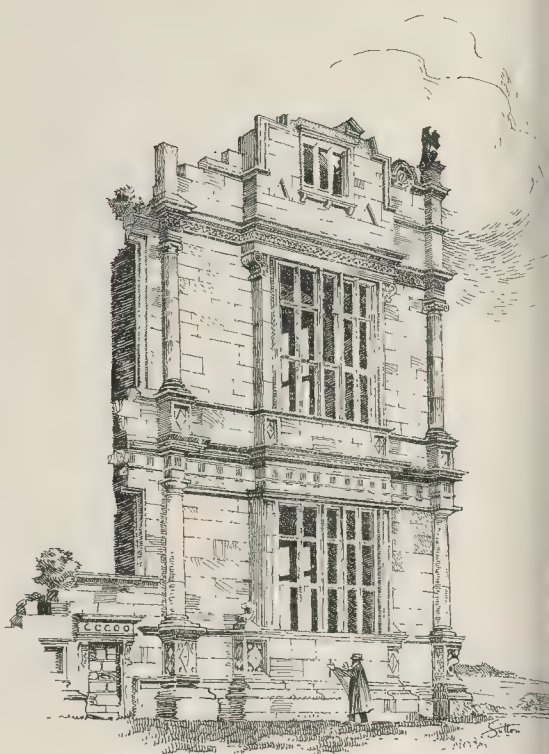
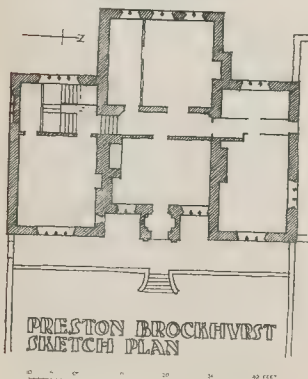


FORTY-THIRD ANNUAL EXCURSION, AUGUST 12 TO 17: SHREWSBURY AND DISTRICT.

THOUGH previously visited by the Architectural Association over twenty years ago, Shrewsbury provided both the occasion and opportunity for an almost entirely different programme this year, rendered possible by the extreme wealth of interest of the surrounding country, and desirable owing to the presence of a goodly sprinkling of members who had attended the previous excursion to this district in 1891.

The county has always occupied a position of some importance since civilisation in England began. It had at least one important Roman station—Uriconium—of which considerable remains have been found. During the Middle Ages, when the Welsh boundary was a frontier, the command of the Border districts, or Welsh Marches, was esteemed valuable, and the neighbourhood was studded with castles and defensible manor houses held by various noble families. With the coming of the Tudors and more peaceful times the noble families remained, beating their swords into ploughshares and converting their castles into peaceful dwellings. It is to this era that the more interesting of the buildings belong, and, owing to the great prosperity of the county during the reign of Elizabeth, their number is very large. The variety of material at hand prevented the development of any markedly local manner; stone, brick, and half-timber construction are about equally common—domestic buildings in the latter method being usually the earlier—and good specimens of each type were included in the programme, though some of the best were notably absent owing to previous visitation, as, for instance, Conover Hall.

The majority of the party assembled on Saturday evening previous to the official commencement of the programme on Monday, August 12, and with accessions of strength during the day devoted a showery Sunday morning to a preliminary inspection of the town, of which



MORETON COR...

detailed examination was reserved for Saturday following. In the afternoon a party visited Buildwas and Much Wenlock.

First Day—Monday.

Owing to the proved convenience and adaptability of motor transit in its limited application of the previous year, the Secretaries had adopted it to a much larger extent on this occasion, and on Monday the programme, consisting of five items traversing a distance of over twenty miles, was so arranged as to leave an eight-hour working day clear of travelling time.

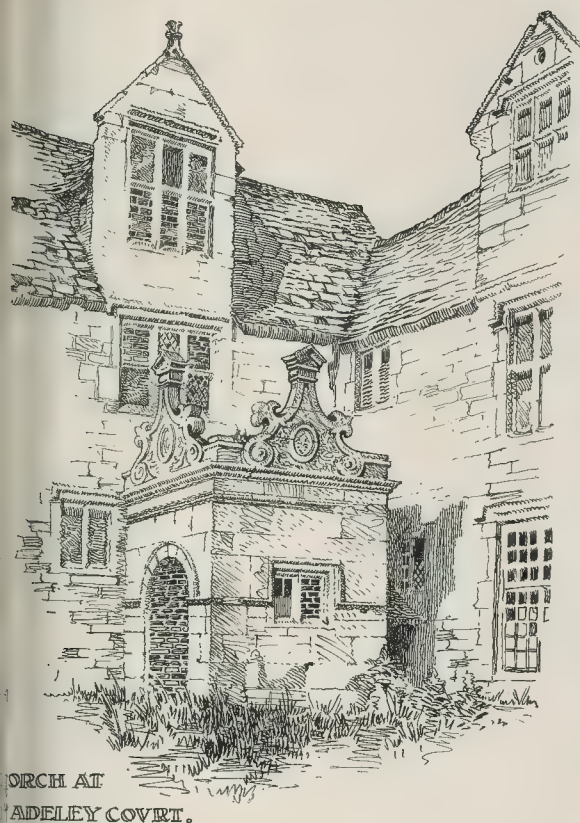
The first place visited was Allbright Hussey, about three miles north of Shrewsbury, where the Manor Farm shows interesting fragments of two successive building schemes, each appearing to be part of a larger house. The manor belonged first to the Husseys and afterwards to the Corbets, both names recurring again and again throughout the records of the district. The earlier part of the existing house is a richly-detailed timber-framed building of 1524, its most striking feature having been apparently an entrance porch, now badly mutilated and shorn of its original gable (or perhaps upper story). It shows local characteristics in the twisted shafts attached to the main posts of the framing and the repetition of sunk quatrefoils on the fascia and other horizontal members. A fine shafted chimney of six flues rises to the right of the entrance. The rooms in this portion of the house have moulded beam ceilings and unmixed oak panelling. The second portion is a brick and stone building of 1560, bolder in scale and with loftier stories than the timber building. A fine room on the ground floor of this portion has mitred panelling and a characteristic chimneypiece. An inscription declares the panelling "made by Edward Huse, 1601."

A further distance of about five and a half miles brought the party to Grinshill, where are situated the quarries from whence much

of the local stone was, and is still used. Here a brief visit was paid to the Moreton Corbet district as an example of the vernacular manor of the Renaissance period. The front, of good masonry, of very large stones, has a recessed entrance between two large projections, but the recess has been built up and a tiny central gable built into the two wings, giving a very odd effect. The windows—mullioned and transomed—plain played order, with an extra pane in the opening—are placed without regard to the centre lines save those actually in the gable, and the proportions are rather heavy on centres of mullions, which are 6 in. wide, leaving very little glass in the openings.

A short ride onwards, and Preston Hall was reached. This proved a most interesting house, with its surrounding buildings in some degree of order. The original hall formed part of the house of the heiress of Bartholomew Turret, who was married to Sir Richard Corbet, of Caus Castle. The house was purchased by the Civil War, and the heavy fines imposed by the Parliament, the family were obliged to sell the property, and the present hall is the work of Mr. Wingfield, of Shrewsbury, who pulled down the old house and built a hall of freestone, using no doubt the material as far as it would serve. The house returned to descendants of the owners, and the raven badge of the house now surmounts the porch.

It is an interesting example of the vernacular of West-Country building of the Commonwealth. Although its front is symmetrical (see sketch plan), it is not so, the right-hand gable being narrower than the left, but rising to the same level as the left. The plain mullioned and transomed windows might be 100 years earlier, but the panelling is solely used everywhere for



PORCH AT
MADELEY COURT.

and chimney bases indiscriminately. The two-storied porch curiously overhangs corbelling above the ground story, and below the coarsely-balustered shafts. Two good chimney-stacks of the type are well placed on the main ridge; three circular shafts, rises on the wall and displays a curious feature, by an early device akin to the modern light-preventing pot. The Hall stands on rising ground looking east towards the village, and is helped in appearance by a walled forecourt with two fine gate piers and an inner terrace with central steps. The stable and granary to the north are contemporary with the house, and the former shows good detail. Really there is a good deal of interest in the house, though chiefly of later date than its original construction. Some amount of rearrangement appears to have taken place in the early XVIIIth century, and at the time the main staircase, with twisted balustrade, and some good bolection mouldings, probably date. The earlier staircase is above the first floor, and a portion of the tower flight has apparently been reused in the present arrangement. The weather, though none too promising, has far remained kind, and a wayside as here partaken of before proceeding to Moreton Corbet. Here the ruins of the tower houses are to be seen, so fragmentary that it is difficult to piece them together. Apparently the mediæval castle (of which parts appear to date from the XIIIth century) was partly modernised in the XVIth century. Over its main portal, in which the portcullis may be seen, is inserted with the date, 1579, and initials S. A. C., a fragment of a window of about the same date. On the south side of the castle stands the shell of one wing of a building, which, had it been completed, must

have taken rank with the finest of Jacobean work. Camden records that "Robert Corbet, carried away with the affectionate delight of architecture, began to build in a baroque place, a most gorgeous and stately house after the Italian model." This was pushed on through the first part of the XVIIth century, but remained incomplete at the time of the Civil War, when it was garrisoned first for the King and then for the Parliament, and irretrievably damaged. As so frequently happens in similar case, Robert Corbet is reputed to have brought the design from Italy. The building, however, abundantly disproves this story—it has no Italian characteristics and displays all the grotesque mannerisms of our own Elizabethan and Jacobean styles. The west end of the new wing shows change of intention which makes it difficult to follow, but the south front is quite intelligible. The facade has a strong base broken only by two relatively small doorways. Above are two stories, each with its pedestal Order of three-quarter columns, Doric below, Ionic above, with enriched entablatures bearing emblems, initials S. A. C., and the raven and elephant-and-castle badges. In the centre and at each end is a slightly projecting bay surmounted by an ogee gable containing a pedimented window. Notwithstanding a fairly correct treatment of the Orders, there is strong mediæval feeling about the carving of finials and panels, and the details generally are of a barbarous character. Moreton Corbet Church, adjoining the castle ruins on the north, embodies fragments of Norman work, but derives its chief character from the south aisle, or Corbet Chapel, added about 1325, and containing two altar tombs with coloured effigies. There is also an interesting Squire's pew of 1778 in the chancel. The tower, built in 1539 by bequest of James Janyns, Clerk, with an upper stage in the Gothic of 1769, shows characteristic detail in the spandrels of the western doorway, delicately carved with

ribbon-like foliage and the royal arms, a Tudor rose and fleur-de-lis appearing above the label.

Leaving Moreton Corbet, Battlefield Church was visited on the way back to Shrewsbury. As its name suggests, this church was founded on the site of the Battle of Shrewsbury. It was the chapel of a college of priests, and was built on land given by Sir Richard Hussey about 1406. It subsequently became ruinous, and its condition in 1853 is shown by some old drawings in the tower. At that date the western bays were roofless, and the east end, closed in by a wall of which marks yet remain within, was roofed in three narrow spans with four Doric columns supporting a barrel ceiling over the centre aisle. In 1861 the whole was restored by S. Pountney Smith. It is now the Parish Church in place of Allbright Hussey, which was destroyed long previously. The building presents remarkable features. Though the date is well attested, three of the windows are of the ordinary mid-XIVth-century type of reticulated tracery, and, though only a college chapel and hence probably without any structural or other division into nave and chancel, the eastern bays differ in design from the western, which difference has been accentuated by the restoration. The foundations of a part at least of the college remain on the south side, also its attachment to the church. A curious Elizabethan ivy-gate is said to have been brought from Upton Magna, where from internal evidence it apparently served a different purpose—probably a porch.

Second Day—Tuesday.

Threatening weather attended the start, and Wroxeter Church, the first halting-place, was reached in depressing conditions. A plan of this church (as of most of the principal ones of the county) appears in Cranage's new and excellent work on the Churches of Shropshire. It would seem that the north wall of the chancel is Saxon, built of Roman stones, and the bulk of the remainder Norman work of the late XIIth century; but XIIIth-century lancets were inserted in the nave on the north side, and the whole of the south wall dates from 1763, when it was rebuilt after a collapse. The churchwardens' accounts for 1708 disclose items for repairs, including one for "building a Butrice," so that it had apparently been insecure for some time. The chancel arch, of transitional date, has a curious four-centred outline, probably the result of settlement. The nave ceiling is flat and plastered. The most interesting exterior feature is the western tower, built after the dissolution of the monasteries, of stones from Haughmond Abbey, many



Battlefield Church: Wooden Figure of
Virgin and Dead Christ.

of which are worked in in curious positions, but with rather good effect; the general outline and disposition of ornament follows several earlier towers in the district. Internally the chief interest centres on three fine early Renaissance altar tombs on the north and south



sides of the chancel. The more westerly of the two on the north side is particularly fine, and its effigies of Sir Thomas Bromley, C.J., and his wife, temp. 1551, are so excellently carved that the employment of Italian workmen may be suspected. Both this and the later tombs to John Berker of Haughmond (1618) and Sir Richard Newporte (and their wives) are richly coloured. The excavations on the site of Roman Uriconium were not visited, the next place reached after a long ride through hilly country being Shipton Hall in Corvedale. Upon arrival the sun gleamed out and the weather mended, conditions becoming generally more pleasant. This house, of which a sketch is reproduced on one of our plates, is a beautiful example of the latter part of the XVth century, very complete on the entrance front, though internally altered and extended at the rear in the XVIIIth century. It has an E front without the centre limb, the porch being pushed into the angle by the right-hand projection and carried up as a tower two stages above the main eaves. The hall extends the full distance between the wings, but has been refitted internally in Georgian work of probably 1769, which date appears on the rain-water head outside. To the right on entering lie the kitchen and offices, and in the opposite wing a drawing-room with a good Georgian chimney-piece. The room apparently built as a dining-room at the time of the alterations, seems never to have been finished. Above this latter is a fine library with fittings and chimney-piece well detailed and coloured in a scheme of apple-green and white. The stairs present some curious features, scroll brackets of the ordinary outline having a series of tiny interlaced ogee arches above in place of the customary foliage—a sort of Georgian Gothic.

On the first floor is a good deal of original panelling, perhaps refitted from the lower rooms in most cases, but in one small room at the head of the stairs evidently in its original position. This room is very charming and has a frieze and cornice full of piquant detail. There are also examples of good hinges and door furniture of both dates. The house, which belonged to the Mytton family, until recently contained a fine collection of furniture and relics such as accumulates during a long family ownership, but this has been sold and dispersed. It is very fortunate that the alterations which it has undergone show no trace on the entrance front, which, with its walled garden, terrace steps, and fine masonry of small coursed rubble, with upstanding brick chimneys, is typical of the best work of its period. Leaving this house with some reluctance, a short distance over farm roads brought the party to Wilderhope Manor House, a forlorn but lovely building of the late XVth century. It was built or remodelled by Francis Smallman, who died in 1599, and his initials with those of his wife Ellen occur repeatedly on the plaster-work of the ceilings within.

The house remained in the family until the beginning of the XVIIIth century. The plan, which is an interesting one, is given in Vol. II. of Garner and Stratton's work on "Tudor Domestic Architecture." Internally the plaster-work of the Hall ceiling and in other rooms on the ground and first floors is beautiful and uncommon. There is also a good chimney-piece in the hall, and some panelling dated 1672 in a small parlour. It is evidence of the early date or belated style of the house that all the internal partitions are of timber framing with plaster panels, and the main stair is a circular newel stair with solid oak treads. This shows externally as a semicircular turret capped with a low conical roof, and gives a charming character to the north-west front, seen in Mr. Sutton Wood's sketch. The colour of the building is delightful—warm yellowish-grey small rubble uncoursed, tall shafted chimneys of mellow brickwork with diapered bases, lichen-clothed stone slate roof combine in a beautiful picture such as the hand of time alone perfects. The party was again reluctant to leave, but was collected with some difficulty to proceed to Broncroft Castle. Leland describes this as "a very goodly place like a castell, longing to the Earle of Shrewshire," but very little of the fortified house of the XIVth century is incorporated in the present house, which dates almost entirely from 1860. Making a brief stay, during which they were most kindly entertained to tea by Mr. Whitaker, the party then returned through Church Stretton to Shrewsbury, having covered nearly fifty miles of good and bad road during the day.

Third Day—Wednesday.

Threatening weather continued, and the start for the long motor ride to Madeley Court was made under cheerless conditions. Fortunately the rain held off. This one-time fine house has progressed rather beyond the state of picturesque decay and borders on the deplorable, while its surroundings are not inspiring. Originally this was a house of the Prior of Wenlock, and here the last prior was permitted to retire by Henry VIII., who afterwards sold the estate in 1544 to Sir Robert Brooke, Speaker of the House of Commons, and afterwards Chief Justice of Common Pleas. He is recorded to have built the house anew. The almost ruined buildings now standing are obviously the result of the intermittent activity of many years. They consist of a main building, roughly L-shaped, with a large walled garden to the north-west and a forecourt with detached entrance lodge on the south-west, the outer faces of the L fronting north-east and south-east. Evidences appear to show that the plan was originally an E, traces of a wall, with base mould and sills, extending parallel with the existing wing, and a gable-end in the portion which such a wing would adjoin having obviously been rebuilt in later masonry. It may also be conjectured that the first building, in which the hall is situated, was at first lower and without dormers, the great fireplace having been raised on the upper floors on either side of the original chimney. There is now an upper range of lofty stone dormers with curious crocketed finials. The porch, near the angle of the L—seen in the sketch in one of the Plates in this issue—is a grotesque example of Jacobean design, and the detached gatehouse appears to be of the same date; it has an arched entrance flanked by curious octagonal turrets roofed by pyramids well above the main roof, and the approach centres with the flank of the hall porch in which the entrance lies. The internal plan of the house is barely decipherable, but it can be made out that the hall occupied the full width of the centre block, with a circular oak newel staircase in the angle with the wing. The interior has been stripped of most of its interest, but a room on the first floor has a geometrical rib ceiling of early type in which one coat of arms remains, and there is another fine coat with supporters and mantling on the north wall of the hall. The internal partitions are of heavy framing with wattle and plaster panels, as at Wilderhope. A curious astronomical sundial stands in the centre of the garden.

At Shifnal (formerly also called Idsall), the next place visited, is a beautiful and interesting church of which a very full description had been most kindly furnished by the Vicar. Parts of the chancel, transepts, and west wall are of late XIIth-century work, the central tower, was rebuilt, circa 1250, on sturdy arches west of the Norman chancel arch, which remains

intact. The nave and aisles and the south porch and parvise are also of century date. The chancel was left in the early XIVth century, and the chapel is slightly later. The nave and chancel were renewed, after a fire in 1592, with Bethan double-hammer-beam trusses. So much for bare description. The church, with its clearestory wall without windows, lofty dark roofs, is very impressive; vaulted porch, with an inner bay crocketed and carrying the parvise as a right up to the nave arcade, is an feature. Externally the church group fully from many standpoints, perhaps delightful being the south-west view, plain west end without aisle window, delightful composition of the porch staircase are best to be seen. The church is a pleasant little place and contains no quiet buildings.

After Shifnal, Tong was visited. church (like Battlefield) was also a church but was only made so in 1411, when by Dame Elizabeth de Lingen, wife of Fulke de Pembruge. The building is almost entirely of one date—the rebuilding—but it has been pointed out that the south nave arcade shows on the side a label mould with stops of XIIIth century, while the capital of the column is of similar date. As the nave respond is of similar date, it is arguable that this arcade has no label, it is arguable that an earlier nave stood on the site of the present south aisle. This suggests a transeptal church with nave and unaisled choir, but actual central tower, with octagonal base and spire, is unsupported by transept and appear to be such on plan being continuation of the aisles up to the tower. The church is full of old work, the choir stalls and screenwork being indeed, especially the parloise at the south aisle, with lovely running ogee cornice and rail showing oak leaves and a conventionalised stalky plant very be ivy. On the south side of the transept is the Golden chapel, a beautiful building of about 1500, with fan vaulting coloured and gilt (see Plate). On the east of a wooden floor from this chapel a number of some fragments of stained glass of the XIVth century were discovered. There are now in the west window. This is a positive mausoleum of the Vernors as Leland says, "Many or almost all that were famous of them sines the Flood." He adds, "There was an olde Caste



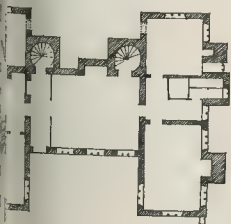
cauld Tunge Castel. Sir Henry Verdon daies made the castel al of brike. It was shown in Buck's view of 1731, but was demolished in 1764 by George Vernon. It is said to have amassed a fortune in the west of Paymaster of the Forces.

designed the rebuilding himself, in a
ended to be Moorish, and the only
which is suggested thereby is a
of the old saw, "A man who is his
fect has a fool for his client." A
of wall with window jambs blocked
over at the south end is all that
made out of the brick building of Sir

Fourth Day—Thursday.

day's programme the rail was
early start being made for Stokesay,
whole morning was spent in and about
the, fortified manor more properly.
ling is so well known and has
often illustrated that any extended
is superfluous. Very complete
drawings by Mr. David Robertson
chief in the Architectural Association
book in 1909. The earliest portion
of the north tower, which may date
ownership of the de Laeys or de Sais,
overhanging timber top story is
much later. The hall probably is
of John de Vernon (1240), except
next the courtyard, which were
1300, and are in worse repair than the
work. The most interesting historical
connected with the house is, however,
ship of Lawrence de Ludlow, to
due to crenellate was issued by
him (1290-1). He must be among the
at we are now accustomed to call
princes," being a Burgess of Ludlow
made a fortune as a cloth merchant,
the Stokesay as a country seat. The
south tower seems to be his work,
with the enclosure walls of the court-
have perished. His descendants held
until 1498, after which it passed to
his son, who owned it until 1600. The
continuously inhabited up to the
century, and, though each generation
the building remains substantially
the XIIIth century. The charming
ethan gatehouse—surely one of the
best buildings in existence—comes
relief to the custom of tarring,
arises so much of the half-timber
Welsh Marches.

church, which adjoins the castle on
the north, is stated by an inscription above
the arch to be "rebuilt by the pious
George Powell, Gent., and George
wardens," in 1654. Most of the
work is of that date or later, and of
later, the most interesting feature
is a double pew on the north side of



LUDLOW CASTLE
GATEHOUSE

wood illustrations and a most careful
of its growth, is published in
Churches of Shropshire" already
Notwithstanding its evolutionary
effect is that of a complete work
XVth century, at which date it

was "pulled together." It contains some
beautiful glass (unfortunately much restored),
and the screenwork and stalls of the collegiate
choir are very fine. The roof-screen is re-
markable for the width of its centre opening.
The very lofty central lantern tower, built
between 1453 and 1470, is rather bleak in
detail and inferior to the late towers of Somerset
or Suffolk, but internally its lantern stage gives
a grand effect at the crossing, and from all
points in the surrounding country its great
shaft is a conspicuous and noble feature in the
landscape. The town of Ludlow, mentioned
in "Domesday" as Lude, formerly derived its
importance from the trade in Welsh cloth and
so early as the XIIIth century was gaining
in prosperity so that the original church was
considered too small. In 1232 the creation of
walls and gates was considered, and in 1260
was under way. The formation by Edward IV.
of the Court of the Marches gave a great
impetus to the political importance of the town,
but at the same time rendered it more and
more an appanage of the castle, which became
the chief seat of the Council.

The ruins of the castle buildings, which are
very extensive, present examples of the work
of all periods from the Norman of the original
castle of Roger de Lacy as represented by the
square keep or donjon, the circular nave of the
later Norman chapel built by Joco de
Dinan (temp. Henry I.), the splendid range
of State apartments, along the northern side
of the inner bailey, probably the work of
Roger de Mortimer, down to the later works
of Henry VII., when the castle was occupied
by the Court of Princes Arthur, Elizabethan
repairs of Sir Henry Sydney, Elizabethan
Lord President, in 1591. The chief interest
of the buildings is in their picturesque and archæo-
logical aspects, and only a short time was spent
in their exploration before walking across the
Teme to Ludford in Herefordshire. Here the
Manor House, though picturesque on the side
towards the churchyard, was otherwise dis-
appointing. Neither the church, almshouse,
nor Old Bell Inn tempted a long stay, and a
return was made to Ludlow, the well-known
Feathers Inn being visited for tea. This is
the most elaborate of all the timber fronts
seen, but is less satisfactory than another of
simpler character between Corve-street and
the Butter Cross. It contains, however, some
good panelling and chimneypieces, the large
first-floor room having particularly rich detail
and a plaster ceiling of later type than those
seen previously. Its centre compartment bears
the Royal Arms as also does the chimneypiece,
with initials J. R. Is the room to the
right of the entrance on the ground floor is
another Royal arms and supporters of extremely
spirited execution. Another of the beauties
of Ludlow is the Elizabethan Reader's House
in the churchyard, which is now open to the
public after having served for some years as a
warehouse. After 1689, when the Council
of the Marches had been abolished and the
castle was allowed to fall into decay, the
importance of Ludlow began to decline, but
throughout the XVIIIth century it remained
a sort of local metropolis, with its regular
season during which the county families would
go into residence as they now go to London.
The town abounds in examples of quiet brick
buildings of XVIIIth-century date, as in
Broad-street, at the bottom of which is Broad
Gate looking towards Ludford Bridge. This is
the only one of the old town gates remaining
and is much built up with later erections,
though its original form is distinguishable on
the outer face.

Fifth Day—Friday.

Plais Hall was distinctly the success of the
excursion—or would have been if the rain had
not inopportunately descended to the confusion
of sketchers. Stone and half-timber had been
seen in plenty, but here was a brick house
glowing with mellow colour and excellently
kept. Parts of the house, and probably con-
siderable parts, date from the XVIth century,
the original licence to build having been issued
by Henry VIII. in 1520. It was, however,
remodelled by Judge William Leighton, one of
the Elizabethan Council of the Marches and
Chief Justice of North Wales, who died in
1606. Neglecting later additions which are
inconspicuous, the house is a symmetrical
H plan, the hall occupying the whole of the
link, with ranges of rooms to right and left and
circular newel stairs of solid oak in turrets at
the opposite angles of one court. These turrets
now rise above the main roof and are capped

by ogee cupolas, while the court between them
is filled in with outbuildings. This work
dates from a restoration carefully done in
1885, previous to which the house was occupied
as a farmhouse. A sketch in an anonymous
work, published at Shrewsbury in 1868, shows



Balastrade Panel Welsh Hall.

the stair turrets carried no further than the
first floor and the court free (as the one on the
other and original entrance side still is).

Internally the chief interest is in the hall,
which retains its screens in the original position
—though remodelled—with a gallery over, and
also has a curious rooflike construction sup-
porting the topmost floor. A ceiling with
similar moulds to those at Wilderhope exists
in one of the rooms. But the beauty of the
house is in its form and colour—the wide-
jointed brickwork, with continuous diaper
of dark-enders, stone quoins, and mullioned
windows, boldly outstanding chimneys on the
external walls with lofty chimney-shafts of
moulded brickwork in ever-varying patterns,
old roof of stone slates, and brilliant gardens
recreated. The sun was the only thing re-
quired to perfect the picture.

After a stay of about an hour the party left
for Preen, where to a small XIIIth-century
church a large house has been attached by
Mr. Norman Shaw. The house was built in
1870-2 for the late Mr. Arthur Sparrow,
replacing the former Manor House, which
occupied the same position. It exhibits many
of the points which made its architect famous.
His favourite disposition of the lofty principal
rooms above a low ground story in which is
situated the entrance hall, with spacious stone
stairway to the upper hall, is well devised to
suit the levels of the ground, allowing a vista
from the dining-room at the south of the house
to be prolonged through its whole length
and along the upper terrace at the north end.
Mr. Shaw's Royal Academy drawing of the
design is preserved in the house. This house is
pioneer work and must be judged accordingly
but it is impossible not to feel that, however
good it is, we of the present day are able to
call to our aid more able craftsmen than were
available at the date of its erection.

The small church at Preen—practically a
complete work of about 1225—was a dependent
cell of Wenlock, and its aisleless "nave,"
70 ft. long by only 12 ft. 9 in. wide, was divided
into monastic choir and parochial nave. It has
a graceful triplet of lancets at the east end
and a low-side window facing north, curiously
recessed internally on either jamb, apparently
for the contrivance of seats in the common
manner of domestic work. A Jacobean pulpit
and reader's desk, the latter dated 1646, with
the initials I. D. * 2, stand on either side of the
chancel.

Langley, the next place visited, provided
in its desecrated chapel and ruinous gatehouse
material for sketchers of which they were not
slow to avail themselves. The chapel, about
48 ft. by 16 ft. 9 in., is extremely interesting
as an example almost completely of the Jaco-
bean period, preserving the original seating
intact. It is a simple little building, rather
uninteresting externally, but its internal
arrangements, and particularly the seating of
the east end, are very noteworthy. The altar
table stands detached, and benches with book
rests surround it, lining the east and north
walls, and formerly (it is stated) the south
also within the chancel, which is marked by a
step. Immediately west of the step on the
north side is the covered squire's pew,
next to which on both sides of the central
passageway are closed pews for the gentry,
with rude benches westward for the common
folk. The chancel is covered by a moulded
trussed rafter roof, and the nave by a roof
with arched principals, of which the most



HOUSE IN
BUTCHER ROW
SHREWSBURY.

easterly is dated 1601. It may be hoped that so unusual a building will not be suffered to fall into complete decay, as it now threatens to do. Langley, now a farmhouse, was the seat of the Lees until 1660, and from this family descended the famous Confederate General Lee, who commanded for the South in the American Civil War. The book of 1968, previously alluded to, shows more extensive buildings than now exist, all that remains being a stone archway with rooms on either side and a rubble wall, continued for a short distance northward, which is said to date from the reign of Henry VIII. (but looks earlier), raised in Elizabethan times and presenting, above, a front of good ashlar with two gables on the outer face, and upper stories of half-timbering next the former courtyard. It may

be worth mention that the extreme thickness of the plaster panels from outer to inner face of these walls is only 3 in., though the main timbers are 6 in. The last place on the programme was Pitchford, where members were allowed the free run of the house, and by the further kindness of Lieut.-Colonel Cotes were entertained to tea. Pitchford Hall is celebrated as the finest half-timbered house of Shropshire; it is certainly the largest, and a very splendid example, but one feels that, charming as this magpie work may be when it appears, as at the porch of the Reader's House, Ludlow, or the gatehouse of Stokesay, relieved against a background of stone, the continued sparkle extending round all sides of a large courtyard is rather overpowering. Pitchford Hall is said to have been built by William Otley,

Sheriff of the County, in 1475, but suggests a rather later date. A plan in Garner and Stratton's "Tudor Architecture," and shows the disposition on the E form, with small gabled in the internal angles of the court staircases. The detail is similar at Allbright Hussey and many houses in Shrewsbury, though, bracing is on the whole simpler, freedom from curved or shaped. Some early photographs preserve the house show the buildings in a very condition to their present state, windows being sashes and one of them being disfigured by a mean brick. It has been extended as well as reformed state, the only point in which materially being in the proportion casements, which fill the opening occupied by the sashes—considerably in area than the original window to have been—on the upper floor they had their sills at the level of the ground. Throughout the 400 years of its history the house has only once changed out of the ordinary course of development. In 1807 it passed to the Earl of Grandfather of the present owner, a series of portraits and some fine fills the house—paintings of the Earl of Liverpool, by Sir T. Lawrence and Admiral Cotes, by Sir Joshua Reynolds; John Cotes, by Hoppner; Mrs. L. Sir G. Kneller; and others of Prince Sir Francis Otley all being none of the interior panelling is modern drawing-room, which has the Prince Rupert over its chimney original work resembling that in Stokesay, and the library has a panel bearing the date 1626 with initials M. O. The greater part of the work at Pitchford Hall was carried out some ago most skilfully by George Devereux.

The church of Pitchford somewhat green, but the chancel suffered in 1719 and again in 1819. Eytton, historian, records that "a certain Pycheford, Radulf by name, but at Pycheford, procured it to be presented Eugelard his own house to." Erect in the chancel are four incised slabs to members of the Otley late mediæval and early Renaissance very remarkable oak altar tomb with knight, said to be Sir John Otley 1285. It is of immense size, though 8 ft. long and in good preservation. Pitchford the excursionists returned to Shrewsbury, the last day's counting being over.

Sixth Day—Saturday

No organised programme of various interesting buildings was attempted, as the party had to break up, but those members devoted the forenoon to an examination of the more interesting many old buildings. The fine Shrewsbury is undoubtedly St. Mary's, a collegiate foundation, built in its XVth-century belfry stage and it is not externally imposing owing to homogeneity in the way that various periods comes together. The archway is of remarkable size, ever, its piers and capitals belong to type which, since the publication of a fine book on "Gothic Art," it has been recognised as Western Gothic. It has been placed as early as 1160-70. The glass in the church, mostly dating of the XVth century, but the at the east end (restored) was the east window of old St. Chad.

If St. Mary's suffers from condition, this is even more so in Abbey Church, of which the remnant of the monastic building being due to its parochial church of the parish of St. C. choir and transepts have been by Mr. Pearson, and the nave which had been destroyed, is though the tracery and glazing inserted in the triforium has to remain. The south aisle has a level parapet, though interspersed below the series of transverse gables it is roofed are still apparent; the ment is intact on the north side.

had two towers in line (as at Ely), the western one remains, and that of the 12th century, though the west doorway is of the Norman nave. The two towers of the nave are coeval with the choir, and it is a curious and not altogether unimportant feature that the clearstory is placed along the sides of the tower, which, with a huge west window inserted in the 14th century, gives it a highly substantial appearance. The modern London-road crosses the site of the monastic cloisters and severs the church the only other considerable remaining—the beautiful XIVth-century pulpit from the refectory wall—the loveliest of a lovely series.

The tower of St. Alkmund was rebuilt in the 15th century, its XVth-century tower being replaced by the new church then built on another site above the quarry. The design is remarkable; it has a circular tower with a gallery and pews concentrically placed, a western tower and portico, with a vestibule between it and the nave.

St. Julian's, rebuilt in 1749, also has a 15th-century tower. Old St. Chad's, after the fall of its central tower in 1831, was replaced by the new church then built on another site above the quarry. The design is remarkable; it has a circular tower with a gallery and pews concentrically placed, a western tower and portico, with a vestibule between it and the nave.

St. Mary's Castle was built originally by the Montgomerys across the narrow neck of land where the wide loop of the Severn flows past its protected site. The tower existing is chiefly Edwardian, and was used as a private residence. The tower of Shrewsbury is a town and a castle, the surrounding country reached by a bridge in the XVth and XVIth centuries.

The tower of Henry IV., to whose usurpation the tower gave early adherence, its importance continued to increase. There are many examples of half-timber houses in the XVth century date, one of which is shown on page 228. The richest detail of the XVth century is shown at the house of the Earl of Richmond, where Henry of Richmond (1485) only a portion is exposed but further equally rich work is doubtless beneath later plastering.

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Shrewsbury buildings better known are the "Anchor House" (1896) on its pillared stump, columns (measured drawings in the Architectural Association Book, Vol. XI.) and the School now used as the Library and Museum. The members of the party dispersed at day afternoon, in agreement that,

notwithstanding cold and showery weather, one more success had been added to the long list of excursions arranged by Messrs. Talbot Brown and Hennings, the Honorary Secretaries. Thanks must also be recorded to Mr. Shaylor, F.R.I.B.A., of Shrewsbury, who rendered most kind assistance during the first three days of the excursion.

THE SUMMER SCHOOL OF TOWN PLANNING AT HAMPSTEAD GARDEN SUBURB.—II.

THE Town Planning Act and other legal aspects of the subject were dealt with in a series of three lectures by Mr. E. A. Abbott, the Clerk to the Urban District Council of Ruislip and Northwood.

His interpretation of the Act and its application was of a special interest from the exceptional practical experience in the working that he has gained in the preparation and negotiation of one of the first schemes under the Act. We can only touch a few of the points of special emphasis, difficulty, or criticism raised by Mr. Abbott. To start with, the Act has no definition of a town-planning scheme—a fact which a former lecturer said he had discovered to his cost. Nor does it define the term owner, but Mr. Abbott says probably the definition in the Land Clauses Act can be taken that an owner is a person entitled to convey.

The kind of district for which a scheme is suitable is a growing district. As to the amount of land to be included, Mr. Abbott advises too much rather than too little; experience, he says, shows they might at Ruislip very wisely have included more. Also it is well to make good use of sect. 54 (3), referring to land already built on, and include old houses standing in a lot of land, old cottages; in fact, all likely to be pulled down and rebuilt within a measurable period.

The first notice Mr. Abbott considers the most important of all, and that it is desirable to serve the map with it; also that it is of most vital importance to prepare, whatever the trouble, an accurate plan and schedule, including every holding with its owner and occupier. To avoid unnecessary objections and delays more need not be said about the scheme at first conference than is absolutely necessary. The principle of the Act is co-operation and agreement, but the principle of compulsion is also in the background. Mr. Abbott has found that, with few exceptions, satisfactory arrangements can be come to with landowners, even where at first hostile, and even on such a point as limiting the number of houses on the acre to eight. There is likely to be some opposition with traffic roads, and especially where landowners are hostile, it is well to show as few roads as possible beyond what are clearly necessary, and for the rest rely upon carefully-drawn provisions in the scheme. The question arises as to how far a town plan can be modified without going to the Local Government Board, and Mr. Abbott suggests giving the responsible authority limited powers to modify by agreement with landowner and developer. All open spaces and all land required for sewerage works, destructor, etc., should be appropriated at outset. Land purchasable by the local authority will probably have to be paid for on approval of the scheme.

Necessary definitions should be in the scheme itself and not by reference.

Coming to the question of the number of houses to the acre, Mr. Abbott considers a strong stand should be made for a maximum of twelve. If a man gives up part of his land for open space, he might be allowed to put a greater number on the rest, say up to twenty per acre. A man owning 10 acres, for instance, is entitled to erect 120 houses; but if he undertakes to keep 6 acres open he might build eighty on the other 4 acres, and if he chose to do so at a future time, forty more on the 6 acres left open. The principle of the "land unit" provides against those conditions being disturbed by severance or otherwise. Mr. Abbott discussed the several proposals for the land unit at Ruislip and Birmingham and elsewhere. At Ruislip it is proposed that not more than one quarter

of the area of plot shall be covered by buildings in the case of dwellings, or more than half in the case of shops, and, with more than eight to the acre, buildings shall not be more than two stories high, and another in roof. Private open spaces, if so secured, are as good as those actually given up, and there is no public expense of upkeep.

The question of provisions is still *sub judice*, and the Local Government Board have not yet laid their general provisions before Parliament.

Mr. Abbott thinks local councils might be allowed to interfere with regard to external elevations, etc., with an appeal to a referee appointed by the Royal Institute of British Architects. We doubt whether such a proposal would appeal to architects or their clients.

It will augur well for the success of the Town Planning Act and of the movement if the legal officers of local authorities generally will tackle the subject with the enthusiastic thoroughness and goodwill of Mr. Abbott.

Mr. W. R. Davidge, F.S.I., A.R.I.B.A., A.M. Inst. C.E., gave two lectures on "The Surveying and Engineering Functions and Problems of the Town-Planner from the Municipal Surveyor's Standpoint."

He dealt in some detail with the survey and setting out of contours, gradients, and property boundaries, with the planning and construction of the sewerage system, explaining the advantages of the dual system, methods of alignment, laying and testing, with outfalls and sewage disposal works, and also with house drains. He went into the questions of water supply, wells, and streams, head of water for fire prevention, reservoirs, street watering and maintenance. He dealt thoroughly with roads, from preliminary levels and selection of route to lighting and the requirements of local authorities previous to the adoption of a new road, describing materials and methods of road-making and paving, footpaths, tree-planting, the laying-out of roadside spaces, public squares, etc., and the allocation of sites for various municipal and public uses. He also dealt with street traffic, tramways, and motor traction, and with modification of by-laws.

Mr. Davidge remarked that a thorough preliminary study of the ground is essential; and the scheme must be evolved with continual regard to all the above essential details.

He very aptly illustrated and emphasised his points by reference to the premiated competition plan for the Federal Capital of Australia. By means of a most interesting model of the central part of the site, with the principal roads of the design sketched on, he showed how a geometrical design that looks very nice on paper, and which may have many points of real merit, may yet involve the developer in many difficulties and much cost on so undulating a site.

Mr. Davidge insists—and we are quite with him on the necessity of engineering and architectural problems being considered together from the very outset. If the scheme must, as he says, be evolved with continual regard to its practical necessities, these also, we would add, must be settled with continual regard to aesthetic fitness, or, as the Act puts it, amenity. There is no line between the engineering and architectural problems. Both have in view the same fitness for use and purpose; and the aesthetic fitness, the beauty which the architect aims at, the architectural composition of building with building, and of buildings with the natural amenities of the site, should be but the fine flower and expression of practical conditions well met, and purposes well served, and not a mere decoration superimposed upon a scheme worked out in a purely utilitarian spirit. A more or less conscious recognition of this probably accounts for the fact mentioned in discussion by Mr. A. H. Campbell, City Engineer of Edinburgh, that town planning seemed of late to have fallen almost entirely within the province of the architect.

The function of the municipal engineer seems clear. He has, in the general interest, to see to the provision of main lines of traffic, whether of road, rail, or waterway, and of drainage, and to the exigencies of water supply, and many other practical necessities, but not, save in special cases, to town plan in detail.

The problem of public criticism or control of architectural amenity has yet to be solved.

We now turn to another aspect of the subject, viz., "Town Planning in Foreign Countries and Past Times."

This was taken by Professor S. D. Adshead, F.R.I.B.A., Professor of Civic Design in the University of Liverpool, in a series of four interesting lectures, plentifully and beautifully illustrated by lantern pictures.

Professor Adshead said there were two ways of looking at the town plan historically—(1) As a preconceived plan of ways and buildings; (2) as the outcome and expression of social substructure and growth. There was little of the first in ancient cities. Cities grew from isolated dwellings or from the parcelling out of land to colonists. The well-known gridiron or chequerboard arrangement was not a town plan at all, but merely the dividing up of a site into square lots for valuation purposes. This has gone on in all ages from the Greek colony of Selinus, 600 B.C., to Alberta in Canada, about four years ago. It could not, of course, persist with the developed and complex requirements of later times, and, though still quite evident in some ancient cities, it has more or less completely disappeared in others. In the American cities of rapid growth we see the difficult process of change now going on.

Professor Adshead said the question of formal or picturesque is entirely a matter of character. Both are necessary in their several ways, the first as expression of well-arranged system, essential to grandeur and ceremonial, the latter as an easy, natural human way of dealing with environment.

The parent cities of ancient Greece, as distinct from their individual buildings, were picturesque in arrangement, with narrow, irregular streets—the widest in old Athens was 15 ft.—but balance of parts was carefully studied and thoroughly understood. Note, for instance, the arrangement of buildings on the Athenian Acropolis. The colonial cities were laid out on more orderly and stately lines, and often outdid Athens in scale and grandeur, but not in refinement, being more commercial and luxurious. Professor Adshead, while showing a number of interesting slides of remains and restorations of Greek cities, of temples, theatres, gymnasia, etc., dwelt upon their constant everyday relation to and influence in the life of the citizens. The gymnasium, forerunner of the great Roman Thermae, was a great congregating place, where people went to hear the orators and poets and the arguments of the philosophers, as well as to indulge their ardent passion for athletics and games and for the bath. The virile open public life, where all were in competition and subject to public and even personal criticism, eliminated incompetence; and this was reflected in their architecture and its sculpture, making it the highest achievement of the intellectual artist the world has known. Turning to Rome, we may not follow Professor Adshead in his masterly little sketch of why and how she became the metropolis of the world, and of her social structure and condition. Starting with the Empire, when untold wealth was piling up in her treasures from conquered nations, we must confine ourselves to a few notes on the Professor's remarks upon her phenomenal development as a city of architectural splendour, even in her business buildings, on a scale more huge and grandiose than is easy for us now to conceive. This does not, of course, apply to her extent, as her population was only about a million, and closely packed at that. Professor Adshead confined his remarks to the Empire period, though, he said, Rome is architecturally interesting in at least four other phases.

The main ways followed the valleys between the seven hills. The oldest and greatest centre was the Forum Romanum, with the Capitoline on the one hand, with its great Temple, the stronghold of the spiritual power, and the Palatine on the other, with its palaces of the Emperors, the temporal powers. At the Rostrum in the Forum public votes were recorded, laws promulgated, announcements made, great lawsuits argued. In the Forum also were shops, banks, and exchanges. Earlier it had been the market place, and the scene of gladiatorial fights, but these had been relegated to other fora, and the Colosseum or Circus Maximus Professor

Adshead spoke of the huge Thermae of Caracalla and many others, in which as many as 3,000 people bathed free at one time, also of the insulae, or island blocks of the ramshackle, crowded dwellings of the people, which, as to-day, were the source of rich profits to speculators. The streets were usually 17 ft. wide; the widest was 22 ft. But, while the framework of Rome was irregular, the Romans were intensely formal in all their building schemes, adapting natural contours and carving hills to their devices.

Alluding to the country villas of Pliny and others, Professor Adshead pointed to the similarity in many ways of the life of Rome of the Empire to modern life. Her art was mainly the work of Greek artists, and thus did "captive Greece lead captive her captor Rome."

After the Dark Ages following the fall of Rome the cities of Europe were under the dominance of grand seigneurs or magnates of the Church, sometimes both; and Professor Adshead traced in the rise of the citizen and trade and the decline of the magnates the development of two notable groups of cities—(1) The great Republican cities of Italy, and (2) the cities of the Hanseatic League along the Rhine Valley to the Baltic, and in the low countries and England. The security of Rome was gone, and fortification was the necessary and dominant factor of lay-out in mediæval towns. Trade and fighting were the two great industries, not only against foreign foes, or citizen against magnate, but also citizen with citizen for lack of better; and towns were often as thick with refuge towers as the modern industrial town with factory chimneys. Street lines were often strategic, and, again, they often followed the winding course of the rural ways from the gates, as new lines of fortification encircled the old. In the XVth and XVIth centuries fanciful, conventional town plans began to be drawn, based upon the increasing intricacies of fortification.

With the Renaissance formal symmetrical arrangements began, often of great splendour, like the Piazza del Popolo or Bernini's piazza in front of St. Peter's.

Professor Adshead devoted some time to the gradual formalising of mediæval Paris, from the creation of its great palaces and places by Louis XIV. and other monarchs, the work of the Commission of Artists appointed in 1794, and of Napoleon, to the demolitions and reshaping of its streets by Baron Haussmann.

He also touched on the reconstructive works of German Princes, as at Mannheim, Carlsruhe, Wiesbaden, etc., and on the copied beautiful town planning of Nancy, and finally mentioned Covent Garden, by Inigo Jones, as the first piece of town planning in England.

In America, Professor Adshead says, town planning is now consciously turning from grandiose schemes of city embellishment to improvement of the conditions in which the mass of its city dwellers live. Taking New York as typical, he said those conditions were frightful congestion and terrible municipal arrangements. He described the great residential blocks ten stories in height, in which out of 100,000 tenements some 10,000 draw light and air from narrow enclosed areas only. On the other hand, he did not see the terrible poverty so evident in Europe. Now, however, there are great schemes in all the big cities to spread the inhabitants over the outlying areas and increase the park lands and playgrounds for the people.

In another picture of New York Professor Adshead depicted its unique site, its wonderful atmosphere, where the use of soft coal is absolutely forbidden, its immense wealth, the huge scale of its lay-out, and the grandeur, magnificence, and costliness of its buildings, in which it approaches ancient Rome more nearly than any other modern city. No city is more regular in plan, and yet no mediæval city is more irregular in effect. Its skyline is ragged, and there is no grouping.

The Professor referred to other big cities and their schemes, notably Washington, Chicago with its great scheme on paper, and Boston with its more practicable scheme; also to the great idea of the Park-way, already tackled by dozens of towns; and finally to the manifold suggestive charm of old American colonial towns.

A most interesting lecture by Herr Langen, Assistant Secretary of the Town Planning Exhibition, on "Towns of the Future," described it as having survived diseases, each of which was awarded a first prize in its time with (i.) the conventional juvenile disease, passing into gonorrhea, which degenerates into the diamond disease, when the thing of Paris and Cologne was in vogue; (iv.) next the block or disease congenital in survivors, a line bacillus is common to all this developing curving symptom worm disease set in, with its wriggly-curved streets everywhere of sensations on a rough squeaking of unrolled tram curve more severe reaction comes (vi.) disease, with its obsession of patterns of ladies' needlework. Length common sense begins to be no beautiful and fitting garb measurements are taken from the new feature is scientific investigation conditions and phases of the town to collect and compare data on to arrive at a uniform way of action, and a technical phraseology establish permanent museums of This idea is to be forwarded at International Building Exhibition to which Germans hope to draw a large number from England.

Herr Langen illustrated his reference to plans prepared for Dusseldorf Competition, in which the author of the design placed three problems. He showed the first traffic roads, and its filling in, curved, formal or informal, generous, in accordance with conditions of each part. There is no development on one method of Mr. Raymond Unwin, in his but one, took up this matter of framework of roads and its fill. Roman camp, he said, was of the gridiron plan, with its streets crossing at right angles. This type is seen again in the XIth planned towns of the Garonne, the late XVIth and early XVIIth ideal town plans began to be made by Scamozzi, and others with all directions, even the river being parallel, but exhibiting great departure from the gridiron plan. Others show arrangement, but with diagonals the influence of fortifications and city of rapid movement from point. Following this comes the spider web with main and secondary radii from centre, and with many common square with the former.

Penn's plan for Philadelphia on gridiron system, but with centre and parks. Washington really planned modern town, is superimposing a gridiron plan on work of diagonals; Chicago, of setting a diagonal frame on a gridiron monotonously grown without for hence giving rise to all sorts of junctions and cutting-up of right method is to begin with subsidiary centres and other emphasis, and then lay down the work and fill in details in relation to part.

In his last lecture, speaking of individuality of towns, Mr. Unwin Rothenburg as a town of nature. Situated on a plateau above the Rhine its completely walled outline is dictated by exigencies of fortification, hardly a definitely square angle line about it, yet it has a clear sense of proportion between parts, walls of cream-tinted stone or roofs of deep, rich tiles, and shutters of bright green produce variety harmonised in a general unity.

With this Mr. Unwin contrasted a formally-planned town on fair with streets, in the original plan away from the dual palace at It is full of pleasing architectural pictures, in which perhaps the

GENERAL NEWS.

Professional Announcement.

Messrs. William Sprowson & Son, of Constantinople, have been appointed architects for the first three principal exchanges of the Constantinople Telephone System, the exchanges being situated in Stamboul, Pera, and Kadiköy.

The Royal Sanitary Institute.

For some time the Council of the Royal Sanitary Institute have been urged to arrange an examination for smoke inspectors, and they have now decided to establish an examination in this subject. The syllabus includes those subjects with which it is necessary that smoke inspectors should be cognisant in order satisfactorily to carry out their duties, and a practical as well as theoretical knowledge of the administrative duties is required.

A Memorial to Miss Cons.

A friend of the late Miss Emma Cons has willed the house, Chippens Bank, Hever, Kent, and 26 acres of freehold land, to the nation in memory of Miss Cons. The house is now in the hands of the National Trust, and it is understood that the owner has endowed it. Chippens Bank is about 200 years old.

Maiden Castle.

At Dorchester recently Messrs. Whatley, Wing & Bamford offered by auction, on behalf of Lord Alington, his Dorset estates of Woodford Manor, Forston Grange, and Marinetown, aggregating 3,680 acres. The chief interest of the auction, says the *Times*, was in the offering of Maiden Castle, the largest and finest earthwork of its kind in the country. It is attributed to the Bronze or late Neolithic Age, and comprises about 107 acres of pasture, let to a farmer at 53*l.* a year. Mr. Alfred Pope, Fellow of the Society of Antiquaries, inquired what restrictions would be imposed on the user of the property. The auctioneers produced the document wherein, over four years ago, Lord Alington, under the Ancient Monuments Protection Act, 1882 and 1900, appointed the Commissioners of Works as guardians of the Castle for the purposes of the Acts, and the Commissioners accepted the guardianship. The Commissioners, the auctioneers said, undertook to keep up the fences. Mr. Pope pointed out that the fences were not kept up, the Commissioners' notice-board was lying on its face, and nothing appeared to have been done for the preservation of the place. The property was started at 1,000*l.* and rose to 1,425*l.*, at which it was withdrawn.

The Preservation of Linlithgow Palace.

For the past two months work has been in progress at Linlithgow Palace, under the direction of H.M. Board of Works in Scotland, and much work has been done in buttressing and protecting the ancient building. The work being carried out has been directed to the part known as the King's Kitchen and parts connected therewith, also the doorway or porch leading to the quadrangle, and at other parts the pointing of walls and renewal of decayed portions of the building has received attention. The operations have been in charge of the Government Department itself, which has employed local labour.

CORRESPONDENCE.

The Monumental Mason.

SIR.—Your article on "The Monumental Mason" was timely, and pleasant reading, too. However simple a gravestone may be, it may, and should be, worthy of real artistic expression; it may at least have good lines and good proportions; if good ornament is debarred by cost, the art of "what to leave out" may at least be included in. No sculpture is preferable to bad sculpture; sham and meretricious ornament is both costly and offensive. The true monument should be a memorial of the dead, and not as an advertisement of the name of the maker. I have always made a strong point in resisting this, not only because of its unseemliness and vulgarity, but because of its

dishonesty; an advertisement "on the cheap," and certainly in the wrong place; often used on what should cause shame rather than acknowledgment. E. SWINFEN HARRIS, F.R.I.B.A.

The Single Tax.

SIR.—Personally, I do not think the "Single Tax" theory is at all likely to make much headway, but I am convinced that there is much to be said in favour of taxing land values. The present system would be considered farcical were it not staled by custom. It can be matched in every town in the country and in thousands of instances, but I am speaking from my own knowledge. A certain business outgrew its original premises, and larger ones had to be sought. A suitable site was available. Although within the borough boundaries, it was rated as agricultural land and paid, as such, a merely nominal sum towards the upkeep of the town. It was purchased at a figure running into hundreds of pounds per acre and new works erected. As a penalty for adding to the wealth of the locality and providing remunerative labour for some of its inhabitants, the local authorities promptly clapped on a rate to the full value. A year or two after, the business having increased, the same landowner was approached with a view to purchasing more land. His price was now 50 per cent. higher than at first, but the land was purchased and the local authorities behaved as before. Notwithstanding these handicaps, more land was, shortly after, deemed to be a necessity, and the price was again raised; its value, in the opinion of its owner, having just doubled in five years, and this without his having spent a penny upon it; the local authorities meanwhile being content to rate it as of the value of agricultural land. Now . . . by the laws and customs of this country, the landowner was enabled to take toll of the necessities of industry and place a permanent burden upon a promising business that, when hard times came, was found to be a severe handicap. Is not one compelled to advocate some alteration in the law that makes such things possible? Land is not a mere commodity. It is as indispensable to all industry as the daylight or the atmosphere, and should never have been allowed to become private property.

The scheme for taxing land values seems to open out a way of remedying, to some extent, this unjust state of things and, far from inflicting injury on the building trade, I look for enormous improvement as soon as it is made effectual. Most certainly, if a tax of only a few pence in the pound were placed upon the enormous site values in the wealthier parts of London and other large towns, very many of the obsolete buildings that now encumber these sites and disfigure localities would at once be demolished, and worthier ones erected to take their places, to the great benefit of the building trade. I do not think that the ruthless expropriation of the retired tradesman, doctor, widow lady, and fatherless family, so feared by Mr. Chorlston, is at all likely to take place. What has to be paid by them in a tax on land values will be more than recouped by the saving in rates; besides, those who advocate this new departure are, after all, English. As to faith in the stability of our institutions, surely this is likely to be increased rather than be shattered, if the said institutions are based upon justice as well as common sense and common honesty. WM. F. WALLIS.

Marsden.

The College Gateway, Worcester.

SIR.—In your issue of August 16 is a statement to the effect that "conjointly with Mr. W. H. St. John Hope, Mr. R. F. Wells designed and executed in terra-cotta" a series of figures that has just been set up on the College Gateway at Worcester.

Will you please allow me to state that I am not in any way responsible for the new figures, and that my name ought not to be associated with that of Mr. Wells as having acted "conjointly with him in their design or execution" in any way?

I did give Mr. Wells some amateurish help, at the earnest request of Canon Wilson, in converting his clay models for friars into their more proper guise as Benedictine monks, and I pointed out to him certain inaccuracies of episcopal vestments which are still conspicuous in the finished terra-cotta figures, but that is the whole of my "conjointing."

W. H. ST. JOHN HOPE.

predominates; and again the combination of cream-plastered walls, grey-slated roofs, and brightly-coloured woodwork produces a clear individuality of effect, comar variety in harmony, but this time by a system and style completely from the first instance.

Unwin contrasted the successive town-schemes for Cologne—the first with right lines and star-shaped places, and not too pleasing; Camillo Sitte's system, with closed places and fine pictures, but absence of frame. This feeling is still more marked in the plan and others. Contrast with which, where irregularity of detail is with strong sense of frame.

An architecture, recovered from its "disease," is developing a style in their old Renaissance of great dignity and dignity, which is forcing the more regular lines.

Unwin showed a number of views of cities—Lucca, Rheims, Nantes, Genoa, etc., illustrating various treatments and charming combinations in street plan; and of Turin, showing the beautiful planning of buildings in the town, and the mountain, and river beyond. Unwin, too, to the view of Ephesus, and the splendid treatment of laying out the most of the hilly site and beauty of scenery, Mr. Unwin said in combinations like these, fulfilled all practical requirements and was, that the ideal of the town-planner's

general walks round the suburb Mr. demonstrated many of the points of in his lectures. Visits were also to Hampton Court, Westminster, Letchworth, the London County Council housing at Tottenham, the London squares, and so on.

Edward G. Culpin, Secretary of the Cities and Town Planning Association, delivered a lecture, entitled "Examples in City Estates," on the first morning of the course. Unable through accidental circumstances to place it in its proper order, it took a position of even greater vantage, may have the last word. We do so Mr. Culpin lays special emphasis on it of the subject which was at least upon by practically every other speaker, namely, the sociological aspect, of utmost importance, especially to practically concerned as architect, surveyor, and engineer. However beautiful may be made with public buildings, streets, and open spaces, if towns do not provide for a better home for the worker and opportunities for a fuller life for himself and his family it fails in its object.

Culpin sketched the growth of model towns from earliest times, showing examples of schemes projected by Robert James Buckingham, Moffett, and others in the early XIXth century. Some interesting particulars of these were given by a complete series of lantern views, experiments so far made in this as a result of the Garden Cities and Town Planning Association.

Finally Mr. Culpin spoke of the housing of the workers at the new naval base at Portsmouth. He thought it deplorable that a Government which had the Town Planning Act should neglect at opportunity to create a new model town.

He could contrast with this the great dock at Frankfort-on-Maine, with its suburb and parklands for the workers. And we would remind the shy folk of the beginning of our article that our German friends are bimetallists; they are wide awake to all costs, and what it is to pay.

Free; it is deplorable, and some other like it. It is to the credit of the town-planning movement that it had taken in the movement to provide houses and conditions of life for the workers. But if the Government that passed the Act neglects an opportunity to set the example to be wondered at if local authorities, often with the dead weight of interests to hold them back, do not the running with more ardour?

ILLUSTRATIONS.

Sketches with the Architectural Association.

THE excursion of the Architectural Association was made this year to Shropshire, the headquarters being Shrewsbury, and the whole of our inset plates this week are devoted to illustrations, made from sketches by Mr. Sutton Wood, of buildings visited, and an account of these and other buildings will be found on p. 224.

MEETING.

SATURDAY, AUGUST 31.
The Institute of Sanitary Engineers.—Northampton centre. Arrangements have been made for a visit of members and friends.

COMPETITION NEWS.

A list of current Competitions is printed on page 242.

Huddersfield Town Planning Competition.

The Secretary of the Royal Institute of British Architects asks us to state, for the information of Members and Licentiates, that the Competitions Committee are in communication with the promoters of this competition with a view to the amendment of the conditions.

Constables' Houses, Ayr.

Members and Licentiates of the Royal Institute of British Architects are informed that this competition has been vetoed by the Glasgow Institute of Architects on account of the unsatisfactory nature of the conditions.

MAGAZINES AND REVIEWS.

In the *Burlington Magazine* Mr. Lionel Cusp writes of the sculptures of the Parthenon. The Elgin marbles were purchased for the nation in 1816 at a cost of 35,000*l*. It is curious that the artists gave conflicting evidence to the Committee appointed to decide as to the purchase of the collection, for whilst Benjamin West, who was then President of the Royal Academy, was enthusiastic and set their unique beauty above pecuniary assessment, Richard Payne Knight, a leader in the amateur art coterie of the day, condemned them as less in rank than the Laocoon and Apollo. A century has vindicated Benjamin West's taste. The occasion of Mr. Cusp's article is the publication of "The Sculptures of the Parthenon" by A. H. Smith.

We mention this article chiefly because of the mere presence of these sculptures in England to-day. Why are they here instead of in Greece? For ourselves we are grateful to Lord Elgin, but his memory is equally execrated in Athens. Has anyone written on the morality of removing sculpture from existing monuments?

An article, translated from the German of Willy F. Storck, on "Aspects of Death in English Art-Poetry" also appears in the *Burlington*. If a certain youthfulness and joyousness may be observed in mediæval life, "Death appears and pronounces admonitions to cherish the soul's health." The article is illustrated by several illustrations of gruesome aspect, and should be interesting to the mind of the antiquary and historian. Most of the paintings were intended to produce a didactic effect on the faithful, and thus had other than artistic ideals. But these "aspects of Death" also found expression in stone on our cathedrals—often forceful and terrible as didactic work must be. The study of these "aspects" is useful to temper the too sweetness of Tennyson's or Morris's mediævalism.

In the same magazine Sir Claude Phillips makes out a strong case for the attribution of the "Temperance," of the Diploma gallery at the Royal Academy, to Palma. The picture is labelled "Gorgione," but critics fathered it here and there, as happens so often nowadays. Whether this attribution is final remains to be seen. The picture is a fine one, simple in composition, with all the characteristics of the Venetians and particularly those of Palma, as Sir Claude Phillips points out.

Articles on the Italian Sculpture at the Burlington Fine Arts Club by Mr. A. M. Daniel, and in continuation of the series on Early Furniture, by Mr. Aymer Vallance, F.S.A., are also contributed.

A reproduction of a fine painting by Jan Vermeer, of Delft, showing a view of that city

forms the frontispiece to the *Connoisseur*. Mr. M. H. Spielmann contributes an article on "Pictures of Picture Galleries," one of the illustrations of which shows the interior of the British Institution, Pall Mall, by J. Scarlett Davis, a painter who lived in the first half of the XIXth century. The other illustrations are the pictures which can be seen in little in the view.

"Liverpool Potteries and Their Productions," by Mr. H. G. C. Day, and the third article on the London Museum, by Miss Ethel M. M. McKenna, also in the *Connoisseur*, are well worth perusal. Dr. G. C. Williamson's note on Jean and Pierre Condé points out that the engravers were brothers, not father and son, as is commonly supposed. These articles are all well illustrated. There is also a good colour reproduction of a picture by the Rev. M. W. Peters of "Mrs. Page and Mrs. Ford Reading Falstaff's Love Letters."

The *Antiquary* notes several exhibitions of Egyptian antiquities. Among the finds is mentioned a monolith alabaster sphinx, 27 ft. long and 14 ft. high, which was excavated at Memphis. It weighs about 80 tons, and was by its very size precluded from being removed from Egypt.

Moral sensibilities do not seem to have troubled the archaeologist who found it. However, it is to remain in Egypt and will be placed in its true position, where it will become one of the sights of the country, being second in size to the great Sphinx itself. The same magazine contains the beginning of an article on the ornament called "Honey-suckle," the beauty and value of which can scarcely be over-estimated. The writer at the outset quotes from Fergusson, who says:—"It is perhaps the most beautiful and perfect of ornaments derived from vegetable forms, which the Greeks borrowed from the Assyrians, but made so peculiarly their own." We remember ourselves the surprise caused by the first look at this ornament, an example from the Erechtheum, with a mind biased by a long study of Gothic ornament. Its delicacy of design, its freshness, the wonderful cutting, the beauty of the material itself combined to open up a new vista in art. The writer shows how the Greeks used this ornament, as Stela, as Antefix, or as Frieze. The concluding part will trace its early history before it was introduced into Greece.

An article by Mr. Arthur E. P. B. Weigall in the *Nineteenth Century* may be noticed familiarly in these pages. It is called "The Morality of Excavation," and is an answer to the often-repeated question, "Why is it that the excavation of ancient tombs is permitted?" So there are people to whom it is an offence that Egyptian tombs should be excavated just as there are those to whom vivisection appears a crime. Yet to defend either practice on moral grounds is difficult, for the first, after all amounts to desecration, and the second seems to inflict pain, which in itself cannot be defended, on dumb animals. Is it right to do evil that good may come of it? Mr. Weigall himself admits that his arguments may be considered "to be those of a casuist, as no doubt they will be by a certain class of readers." But to produce his arguments:—"The careful opening of an ancient Egyptian sepulchre saves for science information and antiquities which otherwise would inevitably be scattered to the four winds of heaven by native plunderers. In spite of the strenuous efforts of the Department of Antiquities, a considerable amount of robbery takes place. . . . Tombs are rifled, coffins are broken open, mummies torn to pieces in the search for gold. . . . It will be easy for the reader to picture in his mind the disorder of a plundered tomb. There lies the overturned sarcophagus, there sprawls the dead body with the head rent from the shoulders, there are the shattered remains of priceless vases. . . . It is as though the place had been visited as full moon by demented monkeys." He compares this procedure with that of the trained Egyptologist who records in every dimension, with notes, photographs, and drawings, every tomb he opens, who handles everything he touches with knowledge, and who in his dealings with the dead observes "a rough decency."

"Which, then, is the better course: to leave the tombs to be rifled by ignorant thieves, or to clear them of their contents in an orderly manner?" Whether we should like to add, would one have one's house burgled by some scientific "Raffles" or by a mere tramp? We should have thought it infinitely less expensive to guard the tombs adequately than to excavate them, had it been thought advisable to do so. That is the first argument. The second

proceeds that if no illegal robbery was feared, can it be justified—thus to the oblivion? The writer shows how precious great part of our knowledge of the ancient Egypt has been gained from which are gathered together, but a few from the living, in cities given over to the dead—cities whose austere state such woeful contrast to the fertility of Valley. For no blade of grass or breaks the aridity of the limestone of Egypt, where the dead of countless. From the sepulchres all articles of economy have been taken, "bed tables, boxes, chests, vases, utensils, clothing, jewellery, and so forth." Such objects that we see in museums, which I had to deal during my tenure of office. So that without excavation we are so much poorer in our knowledge of antique race. So much for argument not seem to bear very close inspection, however, gives the real gist of it when he says:—"The study of Egyptian political necessity, and for this reason tombs must be opened and their contents recorded." He quotes from a letter Cromer:—"Incidents in ancient history frequently brought to my mind the which I had to deal during my tenure of office in Egypt." That is perhaps sufficient, the rest the article gives an extremely account of the procedure of the archaeologist.

BOOK RECEIVED.

THE CATHEDRALS AND CHURCHES OF ENGLAND AND SOUTHERN ITALY. By T. Francis Fry. London: T. Werner Laurie. 16s.

FIFTY YEARS AGO.

From the *Builder* of August 23rd 1850.

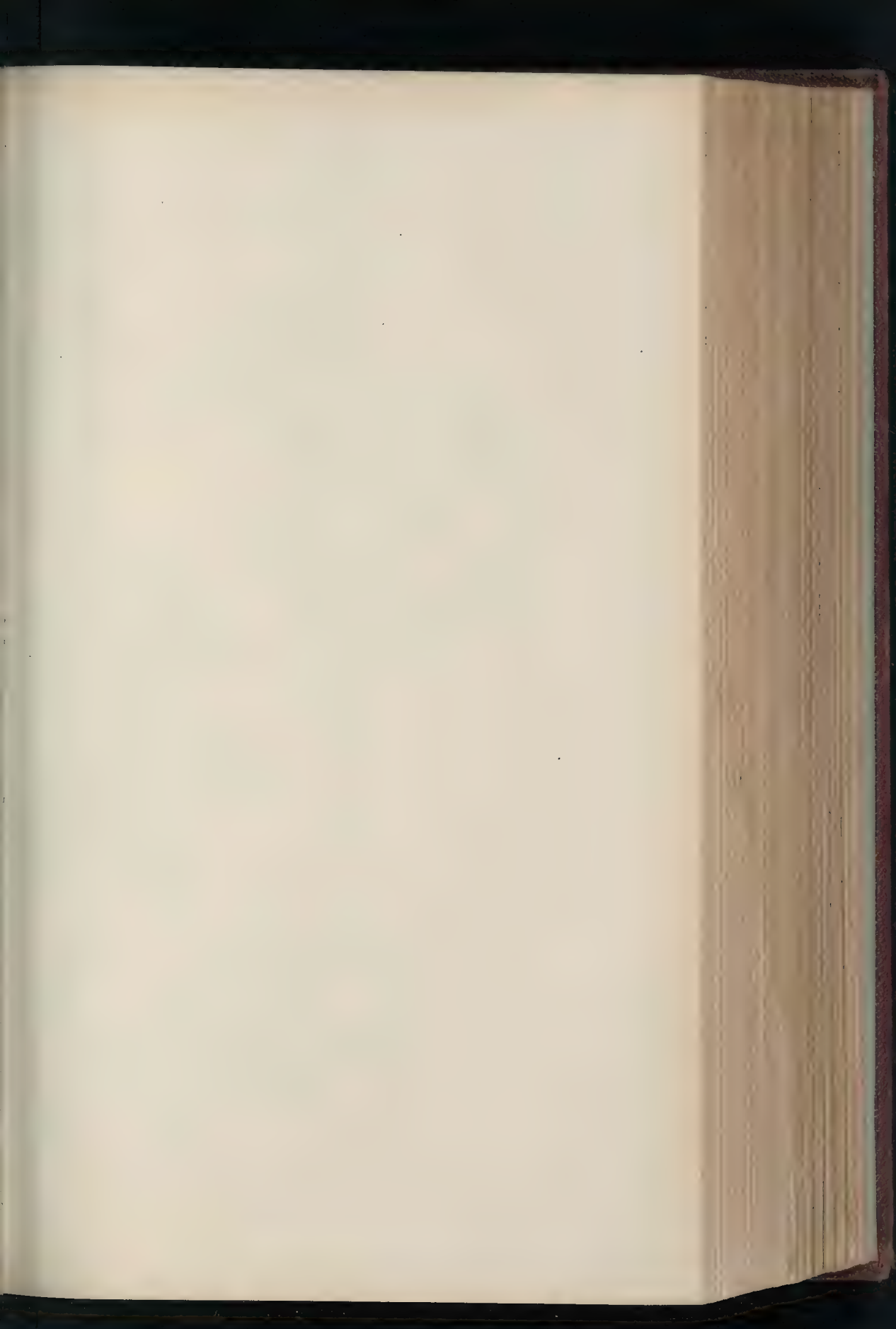
An Underground Railway for London.

WHEN the Prince Napoleon was lately he went over the underground, and on his return to Paris he returned strongly in favour of it that there has already, it is said, ordered a suburban line from Montmartre to the Louvre commenced forthwith, and has been Mr. Fowler consulting engineer in the undertaking.

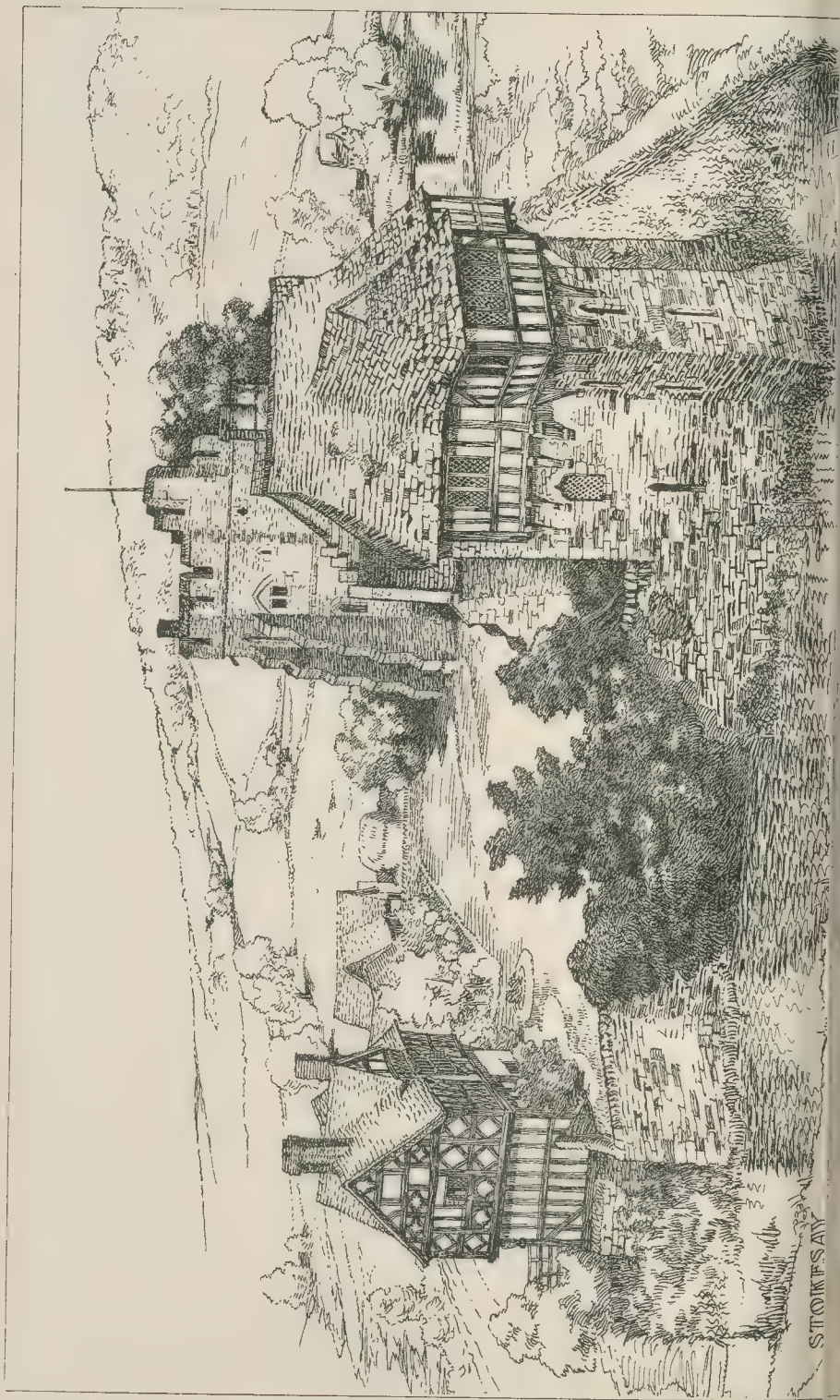
** When the above was written the Metropolitan Railway was not quite open to public traffic; only a section (from Bishop's-road to Long-street) existed, and it was popularly known as a somewhat sensational "Montmartre-Louvre Line" was not yet taken up with some enthusiasm. Now the French engineers have far; the Paris Metropolitan alone, inaugurated in 1900, has in thirty years or so that have elapsed since they were begun, dealt with the construction of about 90 miles of line, in the which many and varied difficulties have been overcome. As instances we may mention that, in the branch under the Railway, the tunnel works were from the inflow of water from the freezing the ground so as to form ice some 70 yds. long, and that the tunnels across the Seine, a somewhat method of construction was used, iron segments of the lining being laid on the river bed and there jointed by external concrete patches, the water then pumped out and the permanent connexions made. This method of the risks of working with "shallow" allows the tunnel to be much nearer the than would otherwise be possible.

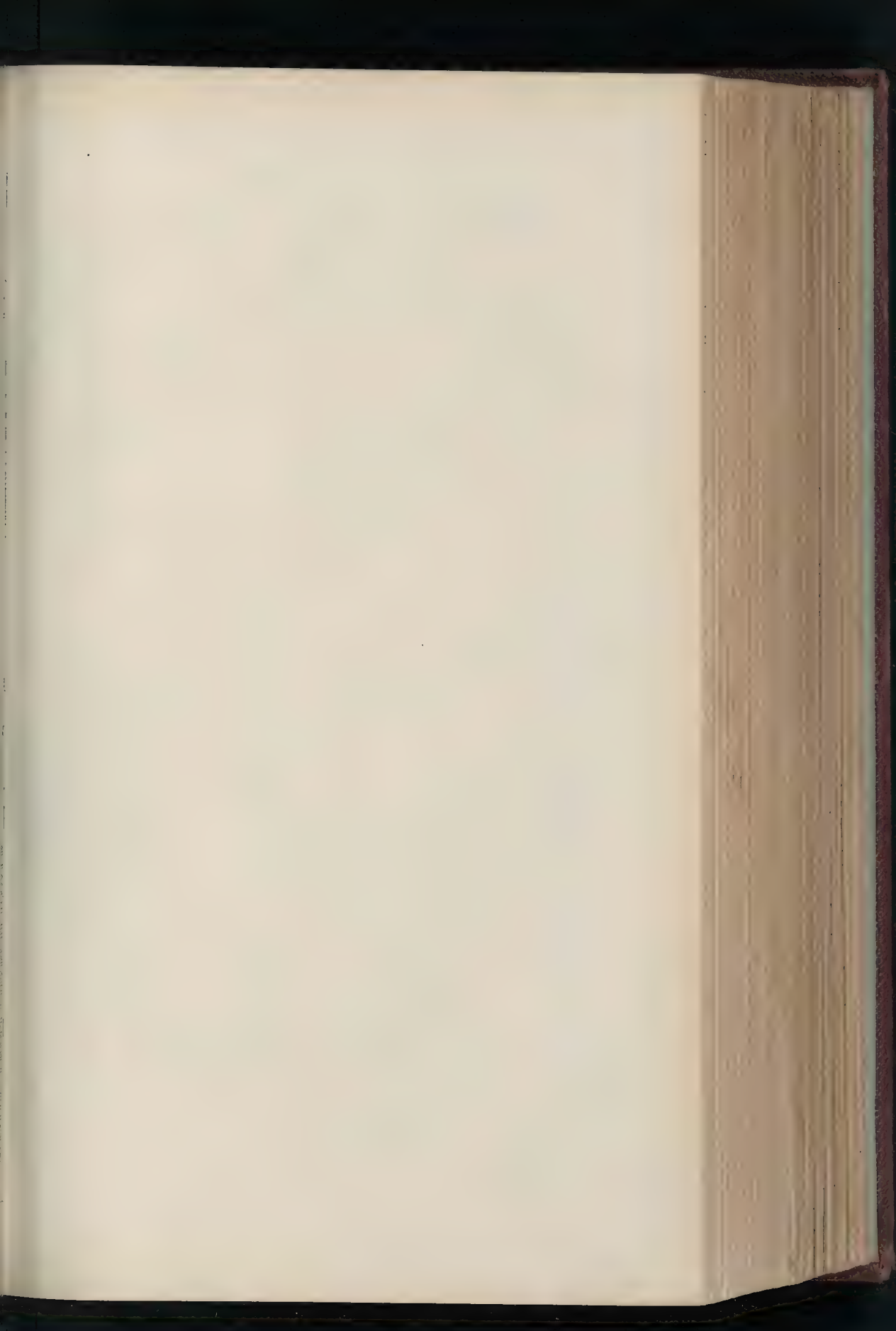
A NEW MODELLING STUDIO.

The advantages of the architect in representing a proposed new addition to an existing structure, and we may call attention to some at the Gray's Inn Modelling Studio, Gray's Inn-road, Mr. S. Lloyd Jones, the principal. The firm have a Shortlands, Kent.



THE BUILDER, AUGUST 23, 1912.

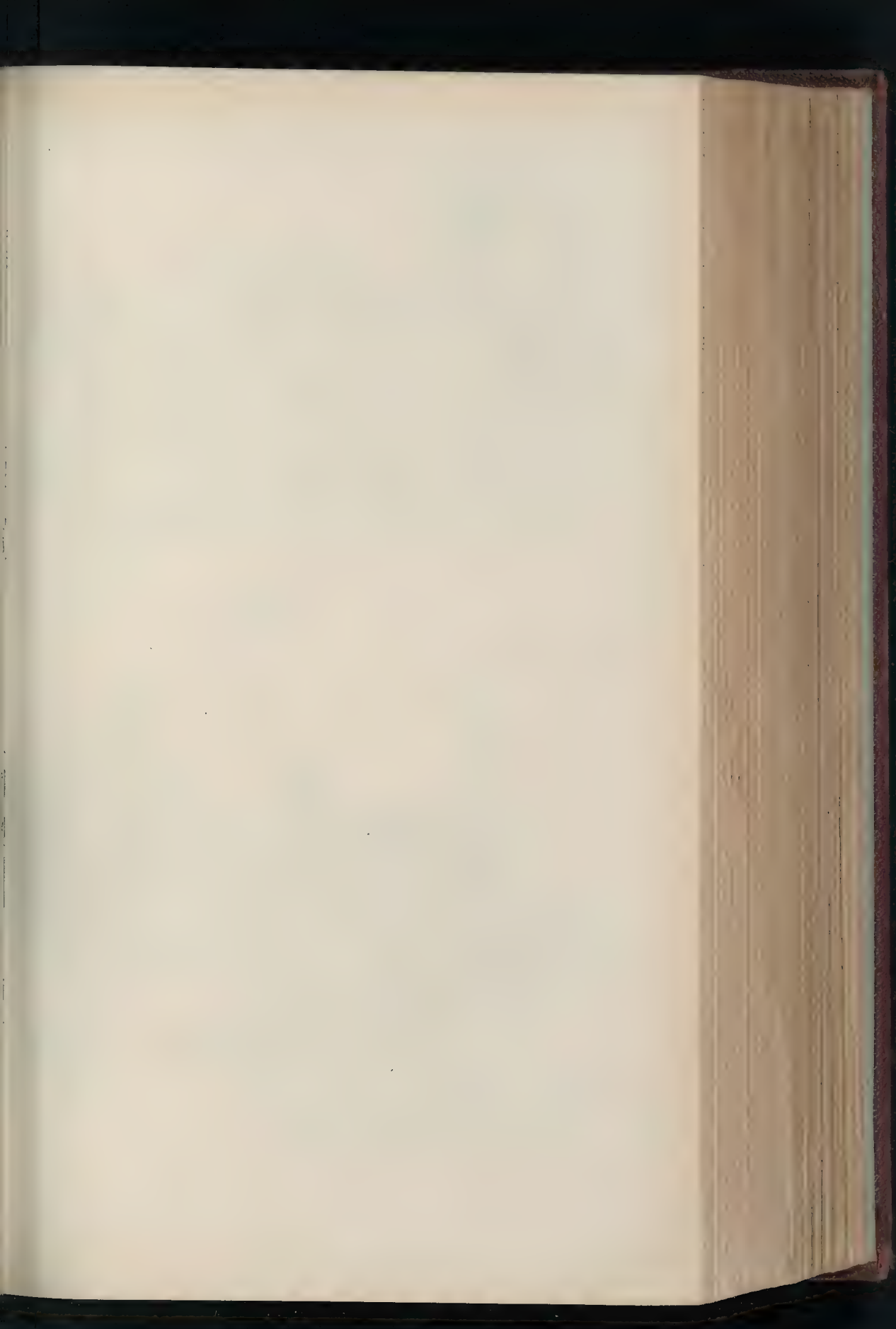






WILDERHOPE
MANOR.

PHOTO-LITHO BRAGUE & CO. LTD. 59 & 70, DEAN STREET, SOHO.







GATEHOUSE: MADELEY COURT



PLASH HALL.

PHOTO-LITHO SPRAGUE & CO. Lth 89 & 70, DEAN STREET BOLD, W.

TONG CHVRCH
ENTRANCE
TO THE
GOLDEN
CHAPEL.

*Tomb of Sir Henry
Verdon on left. (1515)
N.B. The four small
figures are taken from
another monument of
later date.*



PHOTO LITHO. SPRADLEY & CO. 37 & 39, DEAN STREET, BOND, W.



WHITEHALL SHREWSBURY



GATEHOUSE AT LANGLEY



STABLES
PRESTON BROCKHURST

PHOTO. THE SPRAGUE & CO. 37, 69 & 70, DEAN STREET, SOHO, W.

MONTHLY REVIEW · of · ENGINEERING.



The London and South-Western Bank, Gracechurch-street and Fenchurch-street, E.C.

Mr. Edward Gabriel, A.R.I.B.A., of Messrs. Edmeston & Gabriel, Architect.

HEAD OFFICE OF THE LONDON AND SOUTH-WESTERN BANK.

On the issue of August 9 illustrations and description appeared of the new building on Lombard-street for the Royal Insurance Company. A short distance away another building has been completed recently, and will be seen by the accompanying illustrations from photographs, the Head Office of the London and South-Western Bank of its purpose. Mr. Edward Gabriel, architect, and the bank was opened by the Lord Mayor in May. Unfortunately the building is not available; but the illustrations with the subjoined particulars, will give an idea of the building.

The portion of the bank, consisting of Nos. 169, and 170, Fenchurch-street, Nos. 70, Gracechurch-street, and Ingram-street built in 1886.

Nos. 171, 172, and 173, Fenchurch-street, were added to the bank property and in 1909, the directors, having Nos. 66, 67, and 71, Gracechurch-street, the whole of the important site at the corner of Lombard-street, comprising an area of 1,000 ft. super, with a total frontage of 100 ft. towards Fenchurch-street, and 100 ft. towards Ingram-street, have now been remodelled and

rebuilt on this extensive site. The work has been carried out in sections under considerable difficulties, as the business of the bank has had to be carried on without interruption, and a large number of tenants occupying the upper parts of the buildings have remained in occupation during the progress of the works.

The front elevation is in Portland stone, with a polished granite base to the height of the ground-floor window-sills.

The whole of the ground floor is occupied by the banking hall. The main entrance is at the corner opposite Lombard-street, with a subsidiary entrance in Gracechurch-street, which also forms the entrance to the upper floors of the building. There is a separate entrance to the foreign branch in Ingram-courtyard.

The basement and sub-basement contain strong-rooms, store-rooms, cloak-rooms, and lavatories, heating apparatus, and also a pump-room in connexion with the artesian well which has been sunk on the site.

The first floor contains the general manager's rooms, conference-rooms, waiting-rooms, accountants' branch loans and inspection, board-room and ante-room, secretary's department, and a large number of private offices.

The second floor contains solicitors', trustees', and inspectors' departments, and this floor together with the third floor contains a large

number of tenants' offices with ample lavatory accommodation.

The fourth floor contains a large dining-room, smoking-room, kitchen, scullery, and offices, housekeeper's apartments, and tenants' offices.

The whole of the banking-hall fittings and screens have been specially designed by the architect, and have been carried out by Messrs. Hibberd Bros.

The marble lining to the walls of the banking hall and the Scagliola columns were carried out by Messrs. Bellman, Ivey, & Carter, Ltd. The walls above dado height are covered with carefully-selected "Arni Alto." The Scagliola columns (of which there are over thirty) have the shafts divided by bronze annulets. The enriched Ionic capitals were also modelled and cast by Messrs. Bellman, Ivey, & Carter, Ltd., and are bronzed with pure copper by their special process. The whole of these columns were cut and fixed round steel stanchions without showing joints.

The Acme Flooring and Paving Company laid the banking hall, dining-rooms, and offices with Duffy's patent "Immovable-Acme" wood-block flooring in 1½-in. oak, D quality. This flooring has been supplied and laid by the company in nearly fifty branches of the London and South-Western Bank.

The main staircase is of marble, carried out by the Art Pavements and Decorations, Ltd.



The London and South-Western Bank, E.C.: The Banking Hall.

Mr. Edward Gabriel, A.R.I.B.A., Architect.

The treads and risers are of Sicilian marble, the handrail and plinth of Grand Antique, and the balusters of Pavonazzo. The dado is a Tinos green, with moulded capping and skirting in Grand Antique, with overwall in Arni Alto fixed ashlar. The columns and pilasters are in Greek Cippolina.

Two of Messrs. Waygood's lifts are installed in the building, one an electric passenger lift to take 15 cwt. or ten persons at 300 ft. a minute through a travel of 65 ft. 6 in. The control of the lift is by a car switch and self-centring detachable handle in the cage, as on the tube. The lift is also fitted with a special slowing-down device and patent automatic cut-off current in the event of the lift exceeding the travel at top or bottom. There is also one hydraulic book lift, travel from basement to ground floor, and constructed for a load of 10 cwt. This lift is worked by hydraulic power from the mains of the Hydraulic Power Company.

Heating is obtained by means of low-pressure hot water with accelerated circulation. The apparatus has been supplied by Messrs. J. Jeffreys & Co., Ltd. The mechanical circulation is effected by means of a motor-driven centrifugal pump.

The work of the British Luxfer Prism Syndicate, Ltd., included patent roof glazing to the covered way, gunmetal frames in doors, and fire-resisting glazing in doors and screens.

Messrs. Ewart & Son, Ltd., executed the copperwork on the dome, the roof, the flats, and elsewhere through the building.

The sanitary fittings were supplied by Messrs. J. Tylor & Sons, Ltd.

Among the other sub-contractors were the following:—Messrs. Richard Moreland & Sons (constructional steelwork and floors); Messrs. Spital & Clark (counter grilles and cashiers' desks); Messrs. G. & A. Brown (ornamental plasterwork); Messrs. Milner & Co. and Messrs. Chubb & Sons (strong-room doors, safes, and strong-room fittings); Messrs. Fenning & Co.

(granitework); Messrs. Mossop & Co. (electric light and bells); Messrs. Chas. Smith, Sons, & Co. and Messrs. A. Jones & Co. (ironmongery); Messrs. Crittall & Co. (metal casements and steel cupboards); Messrs. Richardson & Co. (metal shelving); Messrs. John Hall & Sons (glazing); Messrs. Alfred Williams & Co. (artesian well and pump); Messrs. Merryweather & Sons (hydrants and fire appliances); Messrs. Brawn & Co. (bronze name-plates); Messrs. Pridmore & Co. (ornamental balustrading); Messrs. Stodge & Co. (lift enclosure); the Albion Iron Company and Messrs. Thos. Elsley & Co. (stoves and mantels); Messrs. Benham & Sons (cooking plant); Messrs. H. W. Cashmore & Co. (ceremonial key).

The whole of the rebuilding has been carried out by Messrs. Howell J. Williams & Co. Mr. Peacock has acted as clerk of works.

DANGERS ATTENDING DEEP EXCAVATION.

In our "Notes" of March 13 and July 10, 1909, we commented upon the disastrous failures connected with excavation works at Birkenhead and Newport docks, and on the latter date suggested the desirability of official inquiry into the question generally.

The Report has just been issued of the Home Office Departmental Committee appointed in 1909 to "inquire into the dangers attending deep excavation in connexion with the construction of docks and similar works." This Committee included Mr. H. J. Wilson, one of H.M. Inspectors of Factories, Mr. C. A. Harrison, D.Sc., of the North-Eastern Railway, and Mr. W. W. Squire, M.Inst.C.E., of the Bristol Docks Committee.

Fortunately, there have not been many serious collapses of timber-work structures in excavations such as those made at Birkenhead and Newport. This fact in itself had the effect of handicapping the Home Office Committee in their inquiry. The only statistics available

relative to fatal accidents are those furnished to the Committee by various corporations and dock authorities. The figures for a period of about twenty years, after analysis, show that the deaths due to trenching or dams represent about 10 per cent. of the total number of fatalities in or about the class in question.

After due consideration the Committee have not found it practicable to make special recommendations for the prevention of timbering in deep trenches. They are of opinion, however, that it is natural, for the forces to be resisted in such cases, and in consequence it is not possible to formulate any standard series of rules.

Moreover, as the work of excavation is constantly changing and developing, the conditions may change and demand modifications in the original recommendations. It may be that the entire scheme of excavation works will have to be considered. Therefore, so far as general desiderata are concerned the engineering contractor must remain responsible.

The definite recommendations proposed in the report are of minor character, and in our opinion the official statistics and regulations based on the proper consideration would have a distinct effect.

As a matter of convenience we have set out the recommendations briefly as follows.

Wherever practicable, the edges of excavations and gangways shall be guarded by rails or fences, and skirting boards shall be provided to prevent material from falling to the bottom and causing injury to the men.

A sufficient number of ladders shall be provided to enable the men to escape in an emergency.

Ladders shall be arranged with their top ends at least 3 ft. 6 in. above the level of the ground, and shall be lashed rather than with ropes.

to artificial lighting shall be used in cases of darkness.

regulations under the Factory and Workshop Act dealing with the use of electricity, the use of chains, and the examination of boilers shall apply to deep excavations. The ambulance appliances shall be

shall be inspected in detail by a person once a day, and a register of inspection shall be kept which shall be the inspection of H.M. Inspector of

of explosives shall be controlled by the rules given in the Report, and which are the rules already applying to quarries. blasting in timbered excavations, all material deposited on struts and horizontal shall be swept down and the timber examined.

the point in connexion with engineering the character dealt with in the report they are not governed in any way by the Acts relating to accidents and

Factory and Workshops Act of 1901 appear to apply to machinery outside erected for the purposes of dock work, and the Notices of Accidents Act has been modified so that accidents in the construction of a harbour, dock, or quay need not be reported to the Trade as originally enacted.

NEW YORK SEWAGE DISPOSAL.

Third Report of the Metropolitan Commission of New York relates to the disposal of sewage of the New York Bay district.

the two preceding Reports, the Commission recommended the subdivision of New

York into sewage districts in order to facilitate the design for an efficient system of main drainage.

The proposal is that the sewage of each district shall be dealt with separately, with provision for combining the systems in case this should appear to be desirable at any future time.

In the Report now issued the scheme for the Jamaica Bay section is described and illustrated by plans.

Jamaica Bay, as our readers may be aware, is a land-locked arm of the sea on the south of Long Island, and its shores are occupied by holiday resorts such as Rockaway Beach and Coney Island. Its waters are devoted mainly to bathing, boating, and the cultivation of shellfish.

It is highly probable that the character of Jamaica Bay will be radically altered not only by the system of sewage disposal proposed by the Commission, but also by the contemplated use of the bay as an additional ocean harbour for New York.

So far as drainage is concerned, it is proposed to collect sewage by the separate system as far as possible, with allowance for the inflow of ground water. In places where the sewers are designed on the combined system the dry-weather flow only will be intercepted, with storm-water overflows above the points of interception.

Thus, for a considerable proportion of every year vast quantities of crude sewage will be discharged into the bay, and even the sewage intercepted in dry weather will not be treated so as to insure thorough purification.

The sewage disposal works foreshadowed in the Report merely include sedimentation tanks, sprinkler filters, and settling basins, and the sludge will either be used to fill in marshland, or "dumped at sea," the latter alternative being obviously the only one that ought to be seriously considered.

The proposals relate to the development of the bay as a second harbour for New York

emanate from the Jamaica Bay Improvement Commission appointed by the United States Government and the Municipal Council of New York.

Plans have been officially adopted, and money appropriated for the formation of a substantial and regular water front, deep-water channels for ocean steamers, harbour approaches at Jamaica inlet, and canals, each from 300 ft. to 400 ft. wide and from 4,500 ft. to 12,000 ft. long, for development of the water front. The object of these works is to provide for the establishment of what will virtually constitute a large new seaport.

The development of the bay in this manner must ultimately cause pleasure seekers to find some more secluded resort, and the shellfish industry will also have to go, especially in view of the crude arrangements at present contemplated for the treatment and disposal of sewage.

INTERLOCKING REINFORCED SLABS.

An invention relating to the application of reinforced concrete in maritime engineering, irrigation works, and for other purposes, has recently been introduced by the Patent Interlocking Slab Company, of Oakley House, Bloomsbury-street, W.C.

The slabs are of reinforced concrete with overlapping or interlocking lips, forming tongued and grooved connexions between adjoining slabs. All the interlocking projections are perforated vertically so that when several slabs have been assembled they can be locked together by means of a cylindrical pile or column.

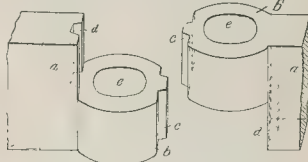


Fig. 1. Interlocking Slabs.

Fig. 1 shows in perspective the adjacent interlocking ends of two slabs—*a* is the body of the slab; *b* and *b'* are the interlocking projections, each with a tongue *c* locking into the groove *d*; and *e* is the vertical perforation in the projecting part of the slab.

The slabs can be reinforced in any suitable manner to suit requirements, and the projections perforated for piles or columns of any required cross-section.

If desired, the upper and lower faces of the slabs can be ribbed, grooved, or recessed to make sound horizontal points, and the slabs can be moulded of any length, height, or shape.

It will be seen, therefore, that the invention provides for all reasonable variations of construction, and, as no restriction is made by the patentees as to the system of reinforcement to be adopted, the slabs can be designed by any reinforced concrete specialist or independent engineer.



Fig. 2. Elevation of Typical Groyne.

Fig. 2 illustrates part of a groyne constructed with interlocking slabs, some keyed together by means of piles, and others by columns with ordinary footings.

Fig. 3 shows three methods of applying the slabs in the construction of sea-walls. If the soil is firm, the wall can be carried by a footing of plain concrete, as shown in the first section. If the soil is of unstable character, the employment of piles is recommended in accordance with the second and third sections. It will be noted that the slabs form a watertight lining behind the masonry of the wall.



The London and South-Western Bank, E.C.: Main Staircase. First Floor.

Mr. Edward Gabriel, A.R.I.B.A., Architect.

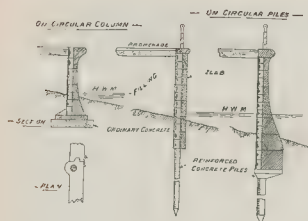


Fig. 3. Typical Sections as applied to Seawall Slabs supported by Reinforced Concrete Piles.

The slabs can be similarly used in the construction of river training walls, canal banks, dams, and kindred structures.

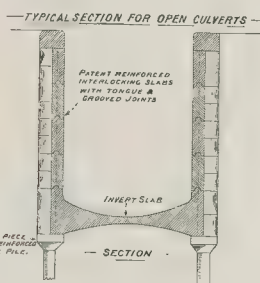


Fig. 4.

Fig. 4 is a typical section of an open culvert carried upon reinforced concrete piles, the culvert walls being formed of interlocking slabs, and the invert moulded in one piece. If desired, the culvert can be built upon columns above ground level so as to form an aqueduct.



Fig. 5.

Fig. 5 represents interlocking slabs of curved shape for chimney-shafts or for shafts of any kind below the surface of the ground.

The foregoing illustrations will serve the purpose of indicating some of the many uses to which this ingenious invention can be applied in constructive work.

ENGINEERING NOTES.

Reinforced Concrete Floor Test.
The British Fire Prevention Committee undertook some supplementary loading tests with a reinforced concrete floor (submitted by the United States Steel Products Company) which had been under fire and water test on July 24th last, the fire and water test having been a four-hour one, and the standard of "Full Protection" Class B having been obtained. "Triangle mesh" was used as reinforcing material. The centre bay of the floor, measuring about 15 ft. by 7 ft. and being 5 in. thick, was to be loaded to 5 cwt. per foot super., and records were to be taken of the deflection at certain intervals, the object of the test being to show that a floor of this type is still serviceable after a severe fire. The tests were conducted by a sub-committee under the direction of Mr. Max Clarke, F.R.I.B.A. During the afternoon various other materials which had been under fire test during July were also exhibited.

Results of Tests.—The British Fire Prevention Committee announce that a series of fire tests with the flame-proofing of textiles treated by the Snowdon process have resulted in the process being classified as making the materials under review "non-flaming," which means that less than 5 per cent. of a square yard of treated material burns in sixty seconds on the application of flame. The materials under review treated by the Snowdon process were scenic canvas (for theatres), curtain net and art muslin (as used in bazaars), and flannelette. Wadding and thin paper (as used by drapers for Christmas decorations), treated by the same process, likewise obtained this classification in some supplementary tests.

Impending Tests.—The Committee's official fire-tests with "Cellit," a non-inflammable celluloid, will take place at the end of September, and the tests with asbestos cement roofing materials early in October, when there will also be further fire tests with glazing.

No Matter how carefully a fire resistance building may be subdivided by walls or partitions for the purpose of checking the spread of fire, such precautions are of little avail unless openings are closed by efficient doors or shutters, the importance of which in other situations is equally evident.

For some ten years past the British Fire Prevention Committee have been investigating the fire resistance of doors and shutters, both those in ordinary use and those covered by patent rights.

A publication issued as No. VII. of the *Journal* of the Committee summarises the results of fifty-eight tests in the form of four tables, in two categories relating to full and temporary protection respectively.

It should be understood that the tables in question are merely intended as summaries, and that reference to the original reports is advisable wherever detailed information is desired.

Nevertheless, the tables should be found useful as a guide both to architects and to others controlling building operations. The tables are very conveniently arranged and are illustrated by diagrams, with figured dimensions, showing the main features of each construction tested.

Irrigation in Madras.

SO MUCH has been written on the Nile dams and allied works for irrigation purposes that the equally important undertakings of the same nature in other, but less advertised, countries scarcely receive the attention that is their due.

As one instance we may cite the irrigation system of the Madras Presidency, where the areas supplied with water by the major productive works aggregate 3,042,189 acres for first crop and 384,684 acres for second crop, or more than half the cultivable area of land in the whole of Egypt proper.

Two of the most important undertakings in Madras are the Kistna delta system supplying some 712,500 acres for first crop and the Divi Island system providing for the ultimate irrigation, by pumping, of 80,000 acres.

According to the report for the year ended December 31 last, the major productive works of Madras Presidency show a return of 9.07 per cent. on the total capital outlay, and a net profit of 5.91 per cent. after deducting interest.

Reinforced Concrete Water Tower, Chicago.

FOR comparison with British practice we give the following particulars of a water-tower constructed in reinforced concrete for the supply of water at 50 lb. per square inch pressure in the sprinkler system of the Chicago City Railroad Company. The elevated tank has a capacity of 100,000 gallons, and is of cylindrical form with the side wall 8 in. thick. It is 30 ft. in diameter, by 20 ft. deep from the springing of the arched roof to the level where the curved bottom slopes away.

The bottom, which is 8 in. thick, consists of two domes curved in opposite directions, the central part, 19 ft. in diameter, being curved upwards towards the middle, and the outer ring being cone-shaped, with sides at an angle of 45 deg. The outer ring and centre part of the bottom are carried at their junction by a reinforced concrete ring beam, 24 in. wide by 30 in. deep, supported on four reinforced concrete columns, 30 in. square in cross-section,

with extended footings. The total height of the structure from ground level to the top of the tank is 95 ft.

In designing the tower the maximum pressure was taken at 50 lb. per sq. in., causing an estimated pressure of 2 lb. to the base of each column; the gross load being 409,000 lb. The tower is braced by horizontal struts, no diagonal bracing having been adopted.

After the tank was filled with water, perceptible settlement took place. This was for all parts of the work except the aggregate consisting of washed gravel to pass through a 1-in. diameter ring.

Artesian Well is now becoming popular among the proprietors of buildings in the Institution of Civil Engineers' New Institution of Premises.

The well for the supply of water to their new home in Great O. The well has been bored to a depth of 174 ft. commencing at basement floor level below normal ground surface.

After passing through 17 ft. 6 in. of gravel, 118 ft. 6 in. of London clay, and 27 ft. 10 in. of Thanet sand, chalk was met at the depth of 221 ft. 10 in., and the well was sunk for the distance of 174 ft. of the basement floor level below Ordnance level. The well has a capacity of supplying about 2,000 gallons per hour, or more than double the required for the purposes of the well.

The well was sunk by Messrs. J. Sutcliffe, of Bunhill-row, City, E.C.

Reinforced Concrete Reservoirs at East Cotes.

TWO COVERED reservoirs in the East Cotes district Council are approaching completion, designed by Mr. A. Kahn, the Engineer to whom the Kahn system of reservoirs was adopted after careful consideration by contractors being Messrs. W. H. Son.

The reservoirs measure 100 ft. square and clear height of 17 ft. between the floor and roof. The storage capacity of the two is 1,000,000 gallons.

The flooring consists of a 6-in. slab with 3-in. rib bars spaced in two directions at intervals of 14 in. apart. The division between the vertical counterforts is 4 in. to 5 in. thick, reinforced by horizontal vertical bars, and the division wall is thickness and similarly reinforced. The roof is 3 in. thick with 3-in. cup bars in two directions at intervals of 10 in. The roofing includes main and secondary counterforts of the division wall of interior columns.

Colombe Harbour.

THE recently finished breakwater at Colombe Harbour completes the construction of the largest artificial harbours in the world with an area of about 1 square mile and a safe anchorage for from forty to more than 12,000 tons burthen. The stone of the breakwater was laid by the late King Edward VII., when he visited Wales, the harbour at that date being better than an open roadstead, and the full violence of the monsoons. The cost of the works is stated at 3,000,000.

The Woolwich Tunnel.

IN 1907 the London County Council obtained authority to construct a tunnel for the purpose of providing direct vehicular communication between Woolwich and North Woolwich. Those afforded by the existing roads. The new tunnel will be about 1.5 miles long and the estimated cost is 90,000. The design of the tunnel is similar to the tunnel, and it will include stairs to the roadway. It is anticipated that the tunnel will be opened to traffic before the present year.

THE BUILDING TRADE.

THE INSURANCE ACT.

report of the proceedings at the meeting of the National Federation of Building Trades Employers of Great Britain in our issue for last week, raising questions under the Insurance Act answered by Mr. Irons of the Board

arrangements made under sect. 99 with the Board of Trade in respect of workmen engaged through a Labour Exchange or in the employer's time the arrangement is made, workmen engaged independently of the arrangement subsequently to the arrangement in accordance with the explanation which we gave in these pages last. In the same article we also set out the advantages to be derived by adopting the arrangement, and it will be remembered pointed out that greater advantages are available to the workman than to the employer. It is clear that as far as the employer is concerned the adoption of such an arrangement is a gain to the employer except in the case of some trouble, unless during a succession of different workmen was

made to this question because at the point was made as to the danger of Labour Exchanges as the side channels in which labour is engaged during a period in case of trade disputes. Under the workman who has lost employment by a stoppage of work due to a trade dispute the premises at which he is engaged is relieved from receiving unemployed workmen under sect. 87, subsect. 1, but by sect. 86 he is not disentitled to unemployed benefit because he has declined an offer of employment in a situation vacant in consequence of work due to a trade dispute. It is stated that all applicants for work at Labour Exchanges would be informed of the

of a labour dispute. It is clear that if a man is in receipt of benefit he will not risk going to where a dispute is in existence, as he then loses that employment he will forfeit his unemployed benefit under

seems one of the ill-conceived points in the Act as it furnishes men with an incentive to work from as long as their unemployed benefit. The only man who can safely work on premises where a dispute is in existence is the man already employed by a dispute at the premises at which he was last engaged. The above sections apply to men engaged through a Labour Exchange or in other ways, but if the Labour Exchange becomes the sole channel through which labour can be engaged, there does seem to be a combination of being formed, and questions may arise as to the existence of a dispute, especially as the definition of trade disputes is connected with the consent of workmen, "whether in the consent of the employer with whom the dispute arises or not" (see the *Builder*, June 28

legislature in the Insurance Act evidently failed to do something to foster the Labour Exchange, and the workmen engaged through exchanges have considerable advantages to them, whereas the position of employers is somewhat problematic. In our issue of June 14, we said: "It is somewhat surprising that an arrangement which seems to be to the employer alone should be made advantageous to the workman who can on no option, an arrangement which may be disconcerted and even strikes, and the same is introduced in the interest of Labour Exchanges."

that can be said at present is that before employers avail themselves of the section they will carefully weigh the advantages to them and to consider the advantages they accrue from an adoption of the arrangement with Labour Exchanges. It is a pity that the granting of "unem-

ployment insurance" involved a consideration for labour disputes, and that the two questions should be connected one with the other. Under the existing conditions of labour unrest this alone would have seemed a sufficient reason for bringing in unemployment insurance as a separate measure after more mature deliberation.

GOVERNMENT CONTRACTS.

The following tenders have been accepted during the past month by the Government Departments named:—*Admiralty, Works Department*: Quarters for officers and men at Aviation School, Eastchurch—Messrs. F. & H. E. Higgs, Station Works, Hinton-road, Herne-hill, S.E.; removal of roof over No. 2 Dock, H.M. Dockyard, Sheerness—Messrs. M. Lynch & Son, High-street, Rochester. *War Office*: Sanitary appliances (running contract)—Messrs. G. Howson & Sons, Ltd., "East Wood," Hainley, and "Northwood," Berryhill, Stoke-on-Trent; structural steel and iron work for gantry, etc.—Messrs. Whessoe Foundry Company, Darlington. *Works services*: Addition of a roof story and sanitary annexes, and remodelling part of Staff College, Camberley—Mr. J. Crockerell, Stanhope Lines, Aldershot; alterations to Block C, Royal Military College, Sandhurst—Messrs. Turner & Kersley, Blackwater, Hants; artificers' work at Brighton—Messrs. Bostel Brothers, 18, Duke-street, Brighton; artificers' work at Dover—Messrs. G. Lewis & Sons, 14, Wildred-road, Dover; artificers' work at Omagh—Mr. James McGrath, Dublin-road, Omagh; artificers' work at Paul-o-Humber—Mr. E. Weatherley, Villa-place, Newcastle-on-Tyne; artificers' work at Tralee, etc.—Mr. Patrick Murphy, Greenview-terrace, Tralee; asphalt work at Redford Cavalry Barracks, Edinburgh—Messrs. Bradshaw's Asphalt Company, Ltd., 52, Queen Victoria-street, E.C.; brick chimneys, Bordon—Messrs. Martin, Wells, & Co., Ltd., Victoria-road, Aldershot; feltwork at Royal Arsenal and Dockyard, Woolwich—Messrs. Engert & Rolfe, Ltd., Borchester-street, Poplar, E.; new offices, army ordnance department, Fortside, Stirling—Messrs. Watson & Sons, 53, Caledonian-road, Perth; periodical services at: Arbour-hill and Montpellier-hill, Dublin—Messrs. G. Morrow & Sons, Ltd., Clifton-street, Belfast; Bordon, Canterbury, Dover, North Aldershot, Sandhurst, Deepcut, Blackdown, Woking, and Pirbright—Messrs. A. Bagnall & Sons, Ltd., Shipley, Yorks; Colchester—Messrs. E. Fearnley & Sons, St. Jude's-place, Bradford; Tidworth—Mr. D. E. Hudson, Shipley, Yorks; quarters for resident engineer, Curragh—Mr. T. O'Mahony, Sun Mount, Fermoy; remount stables, additions to officers' quarters, and mess block, Alwal Barracks, Tidworth—Messrs. Wakeham Brothers, Friary-yard, Plymouth; remount stables, additions to officers' quarters, alterations to drill shed, band block, etc., additions to mess block, Assaye Barracks, Tidworth—Messrs. G. Grace & Sons, Clatford, Andover; removal of camp buildings, Salisbury Plain—Messrs. W. E. Chivers & Son, Devizes; stables, stores, offices, etc., and additions to officers' quarters and mess block, Mooltan Barracks, Tidworth—Messrs. Wakeham Brothers, Friary-yard, Plymouth; stores, workshops, marker's galleries, firing platforms, etc., Rainham Rifle Range—Messrs. Kirk & Randell, Warren-lane Works, Woolwich; temporary camp buildings, etc., Hereford—Messrs. J. C. Vaughan & Son, 27, Commercial-street, Hereford. *India Office, Store Department*: Concrete mixers—Messrs. Ransome, Ver Mahr Machine Company, Caxton House, Westminster, S.W. *Colonial Agents for the Colonies*: Bridge-work—Messrs. Head, Wrighton & Co., Ltd., 5, Victoria-street, S.W.; The Horseley Company, Ltd., Tipton, Staffs; workshop building—Messrs. Dorman, Long & Co., Ltd., Middlesbrough; cement—the Associated Portland Cement Manufacturers, Ltd., 8, Lloyd's-avenue, E.C.; Clydesdale, roofing—Messrs. McKerron & Co., Ltd., 38, Victoria-street, S.W.; roofwork—Messrs. Braithwaite & Kirk, Crown Bridge Works, West Bromwich; goods sheds—Messrs. J. Lysaght, Ltd., St. Vincent, Ironworks, Bristol. *Office of Works*: Builders' work: Erection of new telephone exchange, Acoorring—Messrs. W. H. Bury & Son, Pleasant-view, Stanhill, Oswaldtwistle; erection of new parcel office, Birmingham (third contract)—Mr. E. Crowder, Farm-street, Birmingham; completion of new post-office, Blyth—Mr. G. Park, Tynemouth road, North Shields; erection of new sorting office, Bow—Mr. H. Hann,

High-street, Collier's Wood, S.W.; extension to sorting office, Brixton—Messrs. Pasterfield & English, 27, High-street, Collier's Wood, S.W.; adaptation of Labour Exchange, Cardiff—Mr. W. A. Linton, Chepstow-road, Newport, Mon; alterations and additions to Chesham Post-office—Mr. J. Mead, 176, Berkhamsted-road, Chesham; Birkenhead and South South End and North South End clearing-houses, at Liverpool Docks—Mr. J. Williams, 70, Collingswood-street, Liverpool; Alexandra and Canada docks and coastwise clearing-house at Liverpool Docks—Mr. G. L. Desoer, Everton-road, Liverpool; erection of post-office, Newcastle-under-Lyne—Messrs. J. Meiklejohn & Son, Edward-street, Stoke-on-Trent; Portsmouth ordinary works—The Portsmouth Water Fittings Company, Ltd., Hyde Park-road, Southsea; enlargement of Stockport Post-office—Messrs. W. Bowers & Co., Bath-street, Hereford; engineering labour in day-work at: Birmingham—Messrs. Walker Brothers, Upper Priory, Birmingham; Liverpool—Messrs. Pulford Brothers, Ltd., 108-110, Whitechapel, Liverpool; Manchester—Messrs. Saunders & Taylor, Ltd., 43, Lower Mosley-street, Manchester; tarp-paving at Liverpool Docks Clearing Houses—Messrs. Constable, Hart, & Co., Ltd., Clarence House, Albert-street West, E.C.; temporary building of Goole Labour Exchange—Mr. W. Harbrow, Iron Building Works, South Bermondsey, S.E.; pay and voucher boxes, Birkenhead clearing-house, North South End clearing-house (staircases, etc.), at Liverpool Docks—Mr. G. P. Banbury, East Surrey Ironworks, Croydon. *General Post Office*: Buildings, etc.—Messrs. Caldwell & Perkins, Penzance; laying lines of pipes along Lambeth-road, Wandsworth-road, and St. John's-hill—Messrs. Grounds & Newton, Faze-green, South Tottenham, N.; laying lines of pipes in Portsmouth—Messrs. Greig & Mathews, 35, Queen Victoria-street, E.C. *Metropolitan Police*: Carrying out alterations at Chiswick Police Station—Messrs. Messom & Sons, Grosvenor-road Works, Twickenham; carrying out alterations at Enfield Town Police Station—Mr. A. Monk, Lower Edmonton; carrying out alterations at Kennington-lane Police Station—Messrs. Prestige & Co., Cambridge Wharf, Grosvenor-road, S.W.; erection of new police station and court-house, at Hampstead—Messrs. Moss & Sons, The Meadoway, Hendon, N.W. *Commissioners of Public Works, Ireland*: Building works: Erecting and furnishing Ballymichael National School, Co. Donegal—Messrs. McMullan Brothers, Kilaroe, Co. Donegal; alterations to Royal Hibernian Military School, Phoenix Park, Dublin—Messrs. Colten Brothers, Ltd., East Wall, Dublin.

A TRADE CONVENTION.

MESSRS. ROBT. INGHAM CLARK & Co., LTD., varnish and enamel manufacturers, held their annual Convention of Representatives on July 30 and 31 and August 1, there being present the principals and delegates from the firm's allied houses and branches in America, Canada, Australia, India, France, Germany, Belgium, Holland, Italy, Spain, and Portugal.

In opening the Convention at the offices of the company in Caxton House, Westminster, the Chairman, Mr. F. W. Clark, extended a welcome to all present, and Mr. W. H. Andrews, President of Messrs. Pratt & Lambert (Incorporated), of America, delivered an address, in which he referred to the development of the business in that country in recent years. The Chairman then declared the Convention formally opened, and the rest of the day was devoted to a general discussion.—On the following day the Convention reassembled at West Ham Abbey, where the works of the company were inspected, as well as the different processes of manufacture of the "Britannia" brand of varnishes. Practical demonstrations were given by the works manager and his assistants of the uses, methods of application, and results obtained with certain specialities and products of the firm. An interesting item in the visit was the inspection of the new exhibition hall recently completed, to serve as a permanent exhibition of coach and decorative work on which the manufacturers of the company are employed from start to finish. Leaving the works about 5 p.m., the members of the Convention returned to the Westminster Palace Hotel, where they were entertained to dinner.

On August 1 the Convention assembled at Caxton House, when a final discussion took

place upon the work done during the two previous days. The proceedings terminated at midday, when the party left by train for Richmond and went on board the steam launch *The King*, in which a trip was made up the river, luncheon and tea being served on board. Returning in the evening to Hampton Court, a short time was spent in visiting the gardens of the Palace, and the party then proceeded to Tagg's Thames Hotel, where a banquet, presided over by the Chairman, brought the Convention to a close.

GENERAL BUILDING NEWS.

TOWER, LEEING CHURCH, NEAR BEDALE.

On the 26th ult. the Bishop of Ripon dedicated a new tower to Leeming Church, near Bedale, Yorks. The tower is built of local bricks with traceried windows of stone and with stone pinnacles and battlements. It is 12 ft. square, and about 48 ft. high, and has a peal of eight tubular bells by Messrs. Harrington & Latham, of Coventry. The carving was executed by Messrs. Martyn, of Cheltenham. The sole contractors were Messrs. T. & J. Willoughby, of Northallerton. The architect was Mr. H. D. Fritchett, Lic.R.I.B.A., of Darlington, the total cost, without bells, being about 505*l*.

SCHOOL EXTENSION, BOLTON.

A new primary department in connexion with the Primitive Methodist Church, Higher Bridge-street, has just been opened. Messrs. Stead & Morris, of Bolton, were the architects. The plans included the erection of a new two-story building at the rear of the present school, and the provision for a new primary school on the ground floor, new vestry above, new kitchen, cloakroom, and ladies' and gentlemen's conveniences. The contract work was let to Messrs. Page & Sons, builders and contractors, who, together with the sub-contractors, Messrs. Moore Brothers, bricklayers, Tongue Moor, with Mr. S. Clarke as clerk of the works, have carried out the work.

CHURCH HALL, BRIMINGTON.

Mr. W. M. Ashmore, of Chesterfield, is the architect for this new building, which is being erected at a cost of about 1,300*l*. The hall is 85 ft. in length and will seat 350 people. The builder is Mr. W. H. Margeson.

NEW PAVILION AT TORQUAY.

The new pavilion was opened on Saturday last week by the Mayor. The building has been erected at the eastern end of Princess-gardens, which were laid out on land reclaimed from the sea nearly twenty years ago. As the site is mainly of sand special provision had to be made for the foundations of the building, and the scheme of a reinforced concrete raft was adopted. Upon this a steel framework was erected, the spaces between the stanchions being filled with brickwork faced with imitation marble. The roof of steel lattice-work is covered with felt and copper. That portion of it which faces Princess-gardens and the harbour is flat, with an external covering of asphalt, and will be used as an open-air promenade and tea-garden. The total cost of the building was 17,000*l*. Mr. Henry R. Garrett, the Borough Engineer, was the architect.

TELEPHONE EXCHANGE, DARLINGTON.

A new telephone extension is being made to the existing Post Office buildings. On the lower ground-floor level, or the Crown-street entrance, there will be a test-room 42 ft. by 29 ft., heating chamber, basket store, lift, motor-room, and engineers' stores, etc. On the principal floor the existing sorting office will be extended to a length of about 85 ft., with postal stores, and women's retiring-room, lavatories, and cloak-room adjoining. On the upper floor there will be a telephone switch-room, 36 ft. by 30 ft., and spare rooms. The contractor is Mr. W. B. Cooper, of Darlington. The work will be carried out under the general supervision of Sir Henry Tanner, I.S.O., F.R.I.B.A.

RENOVATION OF THE SHIRE HALL, CHELMSFORD.

The renovation of the front of the Shire Hall, Chelmsford, is now practically complete. Messrs. Henry Potter & Sons, of Chelmsford, erected the scaffold; and Messrs. Cubitt & Co., of Gray's Inn-road, carried out the renovation work. The entire renovation has been accomplished under the direction of the County Architect, Mr. Frank Whitmore, while Mr. F. A. Browne, of the County Architect's office, has supervised the work on the building.

BOARD-ROOM, TOXTETH.

A new Board-room has been erected for the Toxteth Guardians from plans prepared by Mr. W. W. Thomas, architect. This Board-room is the last of many improvements which have been made to the public offices, which were erected in 1865.

THE CITY HALL, GLASGOW.

This hall has now been redecorated under the supervision of Mr. John Ednie, Art Superintendent at the Royal Technical College, and the general scheme of decoration is cream, gold, and blue, all the woodwork being painted mahogany. The work was executed by Messrs. J. B. Bennett & Sons, Ltd., of Glasgow.

THE NEW LAW COURTS.

The structure that has slowly arisen on the "Strand Park"—as the strip of garden land alongside the old Law Courts has been called—is now practically complete, after over three years' work. There are four additional courts—two Divorce Courts, the Court of Criminal Appeal, and the Court of the Railway and Canal Commission. It may be mentioned, says the *Morning Post*, that the late George Edmund Street, the architect of the parent buildings, intended to cover this ground with the great Record Tower, surrounded by subsidiary offices, but was hampered by the conflicting interests of the Law Officers and the then Minister of Works. Had Mr. Street had his way, a more adequate provision for expanding accommodation would have been made, and his original scheme of placing the courts around the great hall was, unfortunately, never realised. The new buildings, which have cost approximately 100,000*l*, to complete, were designed by Sir Henry Tanner, Architect to the Office of Works, and the spirit of Street's work has been carefully and sympathetically followed. To the Strand the frontage presents a gable, crocketed and surmounted by a statue of Justice, the work of Mr. Stevenson, of Chelsea. At each end of this elevation there is a turret, to match the original building. A bridge, consisting of three arches, connects the four new courts with the court level of the old building, and spans the old steps that form an approach to Carey-street. Entering from the Strand, the Divorce Court Judges have an electric lift to their rooms. In the old court about 500 persons in all could crowd in to the hearing of the case; now nearly 600 will be accommodated in the new court. Under the Court of Criminal Appeal there are nineteen cells, about 4 ft. square, and from an adjoining corridor there is a staircase direct to the dock. An illustration of the additions appeared in our issue for July 11, 1903.

HOSPITAL, POWEY.

The foundation-stone has just been laid of a new hospital at Powey, on the Place estate. The building will be roofed with Delabole slate. There are to be three wards—a four-bed male ward, a two-bed female ward, and a private ward—a committee-room, sitting-room, and an operating theatre. A verandah is to run the whole length of the south front, and corridors will traverse the building in direct line right through. The building is estimated to cost 2,000*l*. The architect is Mr. Parkes Lees, of Lanteglos-by-Powey.

TRADE NEWS.

Messrs. W. H. Willcox & Co., Ltd., Government contractors, oil refiners, leather belting manufacturers, etc., have, through expansion of business, found it necessary to acquire increased accommodation, and have taken a building adjoining their main warehouses, Nos. 32, 34, and 36, Southwark-street, viz., No. 38, and are removing there on August 27. The registered offices will in future be at No. 38.

Alterations are being carried out at No. 89, Commercial-street, E., by Messrs. E. A. Rooome & Co., 36, Baringhall-street, under the superintendence of Messrs. Still, Wheat, & Luker.

CASTLE CARROCK SEWERAGE.

The Brampton Rural District Council have instructed Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of New-castle-on-Tyne and Birmingham, to prepare a scheme of sewerage and sewage disposal for the village of Castle Carrock.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

The following applications have been dealt with during the recess of the London County Council:

Lines of Frontage and Projections.

Camberwell, North.—Projecting sign at the Grand Hall, Camberwell New-road. Camberwell (Messrs. F. Matcham & Co. for Mr. F. W. Purcell).—Consent.

Camberwell, North.—Projecting illuminated sign in front of No. 13, Church-street, Camberwell (Mr. C. G. Macdowell for the Prosser Roberts Company).—Refused.

Chelsea.—Projecting sign at the garage of Messrs. Harrods, Ltd., on the eastern side of Sloane-avenue, Ch. C. W. Stephens for Messrs. Harrods. Refused.

City of London.—Balcony in front of Fleet-street, City (Messrs. Murray Murray for Messrs. Sweetings, Ltd.).—Refused.

Dulwich.—Retention of a greenhouse, erection of a greenhouse at No. 267, road, Dulwich, next to Upland W. M. Epps for Miss Emily Rue).—

Fulham.—Bay-window at No. 120, ham-road, Fulham, as a shop front for Mrs. Trood).—Refused.

Holborn.—Erection of an illuminated British Museum tube railway station. Holborn (Mr. E. P. Grove for the London Railway Company).—Consent.

Holborn.—Erection of Nos. 24, 26, Great Queen-street, Kingsway (Messrs. Walters for Messrs. Johnson, Dymott).—Consent.

Kensington, North.—Erection of a teak staircase at No. 1, Royal-crescent, Notting Hill (Mr. W. W. Willett for Mr. E. W. W.).—Consent.

Kensington, North.—Erection of windows, at No. 14, Ladbrooke-road, ton (Mr. W. Willett for Mr. E. W. W.).—Consent.

Kensington, South.—Iron and glass No. 1, First-crescent, Kensington).—Consent.

Kensington, South.—Erection of Oxford-gardens (Mr. A. Ramsden).—Consent.

Kensington, South.—Erection of a High-street, Kensington (Mr. W. L. Messrs. W. H. Hunt & Co., Lewis & J. Burt & Son, Lilley & Skinner).—Consent.

Kensington, South.—Projecting sign "Friend at Hand" public-house of Kensington (Messrs. F. Sage & Co., Messrs. Harrods, Ltd.).—Consent.

Lewisham.—Erection of five houses, windows projecting houses on the side of Brookley-grove, Lewisham (J. W. Heath & Sons).—Consent.

Lewisham.—Erection of buildings, windows on the western side of Brookley-grove, Lewisham (J. W. Heath & Sons).—Consent.

St. Pancras.—Erection of a closet and staircase in the front of 24, Guilford-street, Russell-square (Mr. Yeo).—Consent.

Strand.—Two showcases at No. 27, bury-avenue (Messrs. E. Pollard & Mr. H. Goodman).—Consent.

Strand.—Two showcases at No. 1, bourne-street, Piccadilly (Mr. W. W. for Mrs. H. Levey).—Refused.

Wandsworth.—Porches, bay-windows, and balconies to fourteen houses on the side of Kirtall-road, Streatham (A. G. Hashtlow for Mr. F. E. Cain).—Consent.

Wandsworth.—Bay-windows, porches, oriel windows to four houses on the western side of Tooting Bec-road, Wandsworth of Montana-road (Messrs. Selby).—Consent.

Wandsworth.—Addition to a one-story at No. 99, Streatham High-road, Shrubby-road (Boat's Pure Drug Co. Ltd.).—Consent.

Width of Way.

Kensington, South.—Addition at the "Macaulay Arms," Church-street hill, abutting upon Peel-street (Mr. Messrs. Whitbread & Co., Ltd.).—Consent.

Width of Way and Space at R Poplar.—Erection of four cottages southern side of Morant-street, Poplar (T. J. Bee for Mr. W. J. Kemp).—Consent.

Width of Way, Line of Frontage, and Space at R.—Erection of a one-story at the rear of a house, site abutting upon Oxford-street, street, Castle-street East, Adam and Wells-street, St. Marylebone (Boehmer & Gibbs for Mrs. M. Clark).—Consent.

Lines of Frontage and Construction.—Erection of a showcase at Half Moon-lane, Dulwich, next to road (Mr. T. Baughan).—Refused.

Islington, East.—Temporary show front of No. 51, Mildmay-park (Messrs. Lovegrove & Papworth).—Consent.

Space at Rear and Projection.—Building upon the site on 42, Bedford-street and No. 25, line, Strand, with an irregular opening the rear and with a three-story oriel next to Bedford-street (Messrs. C. Sons for the Corps of Commissaries).—Consent.

Alteration of Building.
 Additional story to an existing at the rear of No. 106, Goldhurst-
 street (Mr. A. S. R. Ley for
 Burnham Hamman).—Consent.

Space at Rear.
 Erection of a headmistress's
 school at St. Paul's School for
 Green and Rowan-road, Hammer-
 (Dandy Watney).—Consent.

Erection of a building upon the
 57 and 59, Clifton-street, Hoxton,
 regular open space at the rear (Mr.
 for Messrs. J. Willmott & Sons).—

South.—Erection of an addi-
 at No. 1, Astwood-mews, South
 (Mr. A. W. Rose).—Consent.

East.—Erection of a building
 of Nos. 107 and 108, High-street,
 (Mr. J. R. Vining).—Consent.

Hanover-square.—Alterations to
 building attached to No. 38, Hill-
 (Mr. W. Flockhart for Mr.
 (Mr. J. R. Vining).—Consent.

Hanover-square.—Erection of two
 on the site of Nos. 8, 9, and 10,
 St. George, Hanover-square
 (Foster).—Refused.

Hanover-square.—Alterations and
 the premises of Krieger Electric
 Ltd., No. 48, Gillingham-
 street-square (Mr. G. S. F. Ratty
 for Krieger Electric Carriage Syndicate,
 Ltd.).—Consent.

North.—Erection of buildings on the
 site of Streatham High-road, Wand-
 sworth, Herne-hill-bridge (Messrs.
 Sheffield).—Consent.

North.—Erection of two buildings at
 the corner of Salterford-road and Welham-
 street, with irregular open spaces
 (Messrs. Swain & Selley).—Consent.

Formation of Street.
 Formation or laying-out of a
 carriage traffic to lead from Taylor's
 Salterford-road, Lewisham (Mr. E. B.
 (Mr. E. B. Selley).—Refused.

for the Supply of Electricity.
 Construction of additions to
 electricity generating-station, Yeovil
 (Mr. H. Heckford for the Poplar
 Borough Council).—Consent.

West.—Coal-conveyor staging at
 generating-station, Southwark (Mr.
 for the City of London Electric
 Supply Company, Ltd.).—Consent.

Alteration of Building.
 Additional story upon part
 of House, Old Broad-street, City
 of London (Messrs. H. G. & Son for the
 City Offices Company, Ltd.).—

Cubical Extent.
 Erection of a building and silos
 for the storage of the Morgan Crucible
 Company, Battersea (Morgan Crucible
 Co., Ltd.).—Consent.

Erection of two additions at the
 rear of the General Motor Cab Company,
 10, Cranmer-road, Kennington (the
 General Motor Cab Company, Ltd.).—Consent.

London.—Retention of an iron build-
 ing at the rear of the premises, Salisbury
 street, Lion court, Crown-court, and
 Fleet-street, City
 of London (Lloyd, Ltd.).—Consent.

Uniting of Buildings.
 Use of rolling steel shutters to
 form a division wall at the premises of
 a Tyre Company, Ltd., Fulham,
 between the main building and the ex-
 tension to openings between the new floors
 and the extension next to the
 (Milner Safe Company, Ltd., for
 a Tyre Company, Ltd.).—Consent.

London.—Uniting of No. 20, White-
 City, with a building at the rear,
 and an opening at the second-floor
 level (Walter Hall & Sons).—Conse-

Central.—Opening between Nos. 8
 and 10, Green and No. 56, St.
 E. Finsbury, and to the use of
 the space (Mr. J. B. Gridley for
 Pollard & Co.).—Consent.

Uniting of Nos. 17 and 18 and 19
 ulam-street, Holborn, by means of
 at the third-floor level (Mr. M. W.
 Messrs. J. Willmott & Sons).—

Uniting of Nos. 37 and 38, Be-
 olborn (Messrs. Robinson & Roods
 Torr & Co.).—Consent.

South.—Iron and glass roof over
 the passageway, at present un-
 der the Kenington High-
 road, between the Metropolitan District
 and the premises of Messrs.

Pontings, Ltd. (Messrs. Pontings, Ltd.).—

Refused.
 Linthouse.—Uniting of the Phoenix Biscuit
 Works, Medland-street, Lighthouse, with No.
 18, Narrow-street (Mr. E. A. E. Woodrow).—

Consent.
 Rotherhithe.—Formation of two openings in
 the party-wall between Nos. 106 and 108,
 Jamaica-road, Rotherhithe (Mr. A. W.).—

Consent.
 St. Pancras, East.—Use of double rolling
 shutters in lieu of double iron doors to an
 opening in a division wall at a motor garage,
 Rochester-mews, Camden Town (Milner's Safe
 Company, Ltd.).—Consent.

Strand.—Formation of openings at the base-
 ment and ground floor level, between No. 32
 and Nos. 33 and 34, Warwick-street, Regent-
 street (Mr. J. R. Vining for Messrs. Liberty &
 Co.).—Consent.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ASHFORD.—Council buildings; Mr. W. T.
 Woodbridge, Surveyor, Rural District Council
 Offices, Epsom.

Aspull (Lancs).—Convenience at the Finger
 Post and near St. Elizabeth's Church; Mr.
 L. Athron, Surveyor, Urban District Council
 Offices, Aspull.

Barrow-in-Furness.—Extensions at Electricity
 Works (1913); Messrs. W. Gradwell & Co.,
 Ltd., builders, Hindwood-road, Barrow.
Birkenhead.—School near Birkenhead; Mr.
 W. D. Wiles, County Architect, 42A, High-
 street, Wrexham.

Birmingham.—Additions to women's hospital
 (4,500); Mr. F. W. Martin, architect,
 Colmore-row, Birmingham.
Bognor.—Thirteen houses, Sheepwash-lane
 (2,660); Messrs. H. W. Newell & Son,
 London-road, Bognor.

Bournemouth.—Additions to school; Mr. T.
 Stevens, architect, Richmond-chambers.
Bournemouth.—Messrs. McWilliam & Son,
 builders, Wharf-road, Bournemouth. Addi-
 tions to Meyrick Park Hotel; Mr. A. G.
 Ware, architect, Observer-buildings, Albert-
 road, Bournemouth.

Carlisle.—Store at harbour; Mr. W.
 Hardy, Engineer, Carlisle Lough Commis-
 sion.

Chard.—Additions, Municipal buildings
 (2,000); Mr. S. G. Rogers, Surveyor, Town
 Hall, Chard.

Chesham.—Swimming-bath (465); Messrs.
 Rust & Ratcliffe, builders, 1, Higham-road,
 Cork.—Residence for Medical Superintendent
 (1,355); Mr. J. Buckley, builder, Cork.
Crook (Co. Durham).—School; Mr. John G.
 Burrell, architect, Market-place-chambers,
 Durham; Messrs. Morton Brothers, builders,
 Crook.

Dartford.—Public hall (3,000), and library
 (5,000); Mr. W. Kay, Clerk, Urban District
 Council Offices, Dartford; Architect to be
 appointed by competition.

Doncaster.—Old Volunteer Club, Silver
 street; Mr. T. H. Johnson, architect, Priory-
 place, Doncaster; Messrs. B. Wortley & Son,
 builders, 18, Nether Hall-road, Doncaster.

Durham.—Workmen's dwellings (1,025).
 Messrs. Beevers & Clark, builders, Church-
 street, Durham.

Eastry.—Four houses (800); Mr. D. E.
 Foster, Surveyor, Rural District Council
 Offices, Eastry.

Eccleston.—Extensions to mill for the Eccles-
 ton New Mill Company, Ltd., cotton goods
 manufacturers.

Edinburgh.—Extensions to Ladies' College
 (20,000); Mr. J. Hippolyte Blanc, 20, Rut-
 land-square, Edinburgh.

Elland.—Proposed workmen's dwellings;
 Mr. P. H. Whitlam, Surveyor, Urban District
 Council Offices, Elland.

Exeter.—Lloyd's Bank; Mr. J. A. Lucas,
 architect, High-street, Exeter; Messrs. West-
 cott, Austin, & White, builders, Summerland-
 crescent, Exeter.

Eve (Oxon).—School (2,300); Mr. S.
 Stedall, architect, 8, New-road, Oxford.

Flushing.—Proposed twelve houses;
 Mr. J. H. Chubb, Surveyor, Rural District Council
 Offices, East Kerrier.

Foleshill (Coventry).—Additions to Windmill
 Land School; Mr. J. Willmott, architect, 6,
 Waterloo-street, Birmingham.

Glasgow.—Electric theatre, Paisley-road,
 Toll (2,000); Mr. A. V. Gardner, architect,
 104, Bath-street, Glasgow. Additions to Peter-
 hill School (4,000), also to Eastpark School;
 Mr. J. Maben, architect, 129, Bath-street,
 Glasgow. Warehouse and offices, Mitchell-
 street (10,000); Messrs. Frank Barnett &
 Boston, architects, 180, Hone-street, Glasgow.
Hospital for consumptives (60,000); Mr. A. B.
 McDonald, Surveyor, Burgh Hall, Glasgow.

* See also our list of Competitions, Contracts,
 etc., on another page.

Great Yarmouth.—Additions to infirmary
 (5,000); Mr. A. S. Hewitt, architect, Regent-
 street, Great Yarmouth.

Gullane.—House (1,340); Mr. W. Cuth-
 bert, builder, Aberlady.

High Dalmaur.—Sixty houses; Mr. Leslie
 Kirk, builder, Clydebank.

Hingham (Attleborough).—Six houses
 (1,054); Mr. H. G. Tofts, builder, Hingham.

LONDON COUNCILS.

Barnes.—Application is to be made to the
 London and South-Western Railway Company
 to ascertain whether they would consent to a
 scheme prepared by the Borough Surveyor for
 carrying out the widening of Barnes Railway
 Bridge. This scheme provides for the widen-
 ing of the approaches of the bridge out to
 45 ft., so as to give two 7-ft. 6-in. footways
 and a 30-ft. carriageway on the approaches,
 and a 26-ft. carriageway and a 6-ft. footway on
 the bridge itself; also for carrying the foot-
 path on the west side of the line so as to
 meet the company's footbridge. The estimate
 cost of the work is put at 2,100. In order that
 Barnes High-street may be widened
 application is to be made to the Local Govern-
 ment Board for a Provisional Order to enable
 the Council to put into force the compulsory
 powers of the Surveyor have been approved
 for making up St. Leonard's-road. Subject to
 a contract, the Roadmaking Company, Ltd., are
 to be asked to provide and lay on the road-
 way in a portion of the Rock's-lane, "Road-
 mare" at least 1 in. thick, upon a prepared
 macadam foundation, at 5s. 8d. per yard
 super, and maintain same for a period of five
 years. Plans have been passed for Messrs.
 Adamson & Sons for carrying out additions to
 Hinxton House, Stonehill-road.

Hemel Hempstead.—The Surveyor has been
 instructed to prepare an estimate for carrying
 out an improvement scheme on the west side
 of High-street. Plans have been passed for
 Mr. S. C. Smith for five pairs of houses in
 Chapel-street; also for Mr. I. Lea for exten-
 sions to the Electric Theatre, Albion-hill.

Paddington.—Dr. Reginald Duffield, Medi-
 cal Officer of Health for the Borough, in his
 annual Report which has just been issued,
 states, with regard to drainage work, that the
 drainage system of 227 houses were wholly or
 partially reconstructed during the year, as
 compared with 257 in 1910, 554 in 1909, and
 605 in 1908. In addition, the drains of fifty
 houses were made water-tight by means of the
 patent process. The drains of sixty-four other
 houses were tested for various reasons, and
 found to be sound. In 1909 ninety-seven
 drains were found on first test to be water-
 tight. The reconstruction of the combined
 drainage systems on the Queen's Park Estate
 commenced in 1900, has now been completed.
 In the course of the work certain short lengths
 of combined drains (main drains close to the
 sewer connections) were found to be under
 large masses of concrete. Such short lengths
 were not disturbed, but the right to require
 their reconstruction, if found later to be
 necessary, was insisted on. During the past
 year rats were found to have made their way
 from certain of these old drains, which were
 then reconstructed. Unused house connexions
 were found on the main drains. At eight
 houses settlements in the back additions made
 underpinning necessary, such work involving
 disturbances and partial reconstruction of the
 drains. At fourteen houses damp-proof courses
 were put in the main walls to remedy damp-
 ness. Thirty-three houses were inspected after
 the occurrence of infectious disease, and the
 drains chemically tested after cases of
 diphtheria and enteric fever. All drains so
 tested were found to be sound. With regard
 to deposit of drainage plans, the Medical
 Officer states that last year 348 sets of plans
 and notices were received, as compared with
 303 in the previous year. With regard to
 combined drainage, four systems examined last
 year were found to be defective and were
 reconstructed by the Council. The total
 number of premises inspected for the purpose
 of the Housing, Town Planning, etc., Act, 1909,
 was 154, and in the majority of instances the
 conditions found were remediable under the
 Public Health (London), Act, 1891. The
 necessary notices were served, and the required
 works carried out. Ten years have elapsed
 since the presentation of the Special Report
 (August, 1901) on the housing conditions, etc.,
 in the Clarendon-street area. It is proposed to
 submit in the early autumn a further Report
 contrasting the conditions found at the
 enumeration of 1911 with those noted in 1901.
 The proposed Report will also give compara-
 tive vital statistics for the periods 1896-1901
 and 1905-11.

THE ROYAL SANITARY INSTITUTE: CONGRESS AT YORK.

(Concluded from last week, page 199.)

Delhi.

Mr. T. SALKFIELD (Engineer to the Delhi Municipality) contributed a paper on "Delhi," which in his absence was taken as read. He traced the past history of the city, which goes back as far as the XVth century B.C., and described the present sanitary system and waterworks and other branches of municipal enterprise. In conclusion he said:—"Delhi is again to take her stand as an Imperial city, and Phoenix-like from the ashes and ruins of past cities the piles are to rise which are to hold the Viceroy of our Sovereign, and the councillors and machinery by which the great continent of India, with its millions of inhabitants, is governed. The task of the town-planners of the Imperial capital would appear to be to these not only a city which will set the high-water mark for India for the tide of municipal perfection and sanitation, but one which in stately beauty will also outlive both the massive magnificence of the Moghul palaces in the Fort."

The Chairman, in proposing a vote of thanks to the authors of papers read, said that the subjects discussed had been interesting to architects, civil engineers, and sanitary engineers. The suggestions of Mr. Ricardo so far as the by-laws of the Local Government Board were concerned might give offence to some, but if they looked through some of the by-laws in the rural districts they would find that architects were tied down in the building of cottage property in such a way that it made it almost impossible for them to build cheap houses. It was, in his opinion, necessary to give at least a tenth of an acre of garden to a cottage, but when they were laying out an estate they had to make roads 36 ft. wide, and that was wrong. The city of Newcastle-on-Tyne had some of the most stringent by-laws he knew of, and would not allow a party wall to be less than 14 in. or a drain less than 9 ft. deep to be started. Representations, however, had been made by the architects to the authorities, and they now allowed the drains to start at 4 ft. 6 in. instead of 9 ft. With regard to the means of escape in case of fire, the iron staircases were generally placed outside the windows, with the result that if a fire occurred on one of the lower floors the flames got through the window, and the people above were cut off from the staircase.

Mr. G. Benson, A.R.I.B.A., seconded the motion, and it was carried.

At the second sitting of the Conference Mr. W. H. Humphreys took the chair.

York Fifty Years Hence.

Dr. Tempest Anderson, in an address on this subject, illustrated by lantern slides, suggested a scheme of a circular road at the outskirts of the area of the city at present built upon, and the keeping in view of probabilities of another farther out for future developments. He showed his suggestion on the screen, but confessed that he was not an architect or a surveyor, and recognised that the details required working in by a master hand.

Mr. Spurr (City Engineer, York) said that some progress had been made in town planning in York, and a serious attempt was being made to develop the outskirts on town-planning lines. The first area was almost completed, and the meeting of owners and occupiers would be held early next month.

Miss E. A. Lowe (Warrington), referring to the complaint of Dr. Anderson that certain districts which should have been acquired years ago for new routes had been built over by working-class dwellings, asked where they were to live. She suggested that they should be housed in model villages.

Dr. Anderson said he was connected with a land company formed to provide small, commodious houses for the working classes, and the first difficulty they met with was that of sewage, which absorbed a good deal of their capital. They were going to form wide streets with grass verges, and the local authority asked who was going to keep them in order. In the end they had to borrow money from an insurance company. Owing

to a number of the railway workmen being removed to Darlington, the houses did not go off as was expected, and the result was that the mortgagees foreclosed and the shareholders lost every penny they had put into the company. He had a few plots left on his hands, and he had now got a notice from Mr. Lloyd George for extra tax for undeveloped land. If the Corporation of York would offer a prize or a series of prizes for the best plan which would include the ring road and all the other amenities they had been talking of, he would be pleased to contribute 100l. towards such a desirable end.

Dr. Armstrong considered that the duty of the local authorities was to provide for the very worst of the slum dwellings.

Mr. Brodie (Blackpool) observed that they had in one scheme for road widening bought more land than they wanted, and, having made the necessary improvements, they had sold the surplus land at a price which recouped them for the expenditure.

Purification of Water.

Dr. Myer Coplans (Leeds), in the course of a paper on "Some Points in the Purification of Water," suggested that means for the detection of the presence of sewage in water must become rather more dependable and serviceable than has been the case hitherto, and it was possible that a wider use of the salinometer, or some such similar apparatus, for the detection and elimination of electrolytes in solution might be the means of the speedy recognition and the still more speedy localisation of faults occurring in the course of our water supplies.

Sewage Works for Institutions, etc.

Dr. H. Maclean Wilson (West Riding Rivers Board) discussed the question of sewage works for institutions, country houses, and small hamlets. The author admitted that there was nothing new in the methods adopted, and were those of Professor Dunbar, Director of the Hamburg Hygienic Institute. He described what works would be required for the domestic sewage of a small hamlet containing 100 persons.

Mr. J. E. Tulse also contributed a paper on "Country House Sewage Purification." He said that the first decade of the XXth century probably witnessed the greatest realisation of the need for dealing with the question of sewage treatment for the larger towns and cities, and for carrying out works to meet satisfactorily, as far as available knowledge permitted, these requirements. During this period the necessary purification of the sewage from the large towns had been fairly adequately completed. The sewage problem of the second and third decades of this century would probably be, first, the bringing into line of the towns and villages, and second, the realisation of the necessity for extending the work to the smaller hamlets and groups of houses and isolated buildings. In many parts of the country these were still in a lamentable condition as regards both water supply and drainage. The absence of regular attendants and the impracticability of installing sludge lifting and pressing plant for a small installation rendered it necessary to try to devise some alternative method. He believed that the hydrolytic tank of Dr. Travis in England, the Enscher or Dortmund tanks in Germany, and the modification of these as designed by Mr. Aird Murray in Canada at the Lethbridge works point the way in which this modification should be sought, for in such a tank the liquid sewage, which constituted, he supposed, roughly 95 per cent. of the total volume, could be treated in an aseptic condition, while septic action may be utilised for its sole useful function of breaking down and digesting the solid portions, so as to render them more capable of being attacked in the filter bed or removed from the tank.

Mr. Kaye Parry said he had been associated with the question of sewage purification for a great many years, and he thought the younger men there would perhaps learn something by looking back and seeing how the question was handled by the early reformers. They believed that sewage purification could be accomplished in a country house without putrefaction, because the sewage came down within three or four minutes from the time it got into the drains. Mr. Rogers Field used simply to screen out the solid matter, and allowed the liquor to

flow over the land where it was used. Mr. Bailey Denton put it through of intermittent filtration, which, bacteriological process, although he knew it at the time. He was the solution of the problem, so the houses and isolated institutions concerned, was to deal with the liquid as fresh.

Dr. Temple Anderson supported the last speaker.

Mr. Costain (Great Crosby) said large country house, or even a smaller house, he considered as of the septic tank principle superior to the system described by Parry.

Mr. Burleigh said that as an architect he felt the local Councils were making mistakes in insisting on water country districts and having works which cost a great deal of money. He said that in Holland the water-closets, and the Dutch weakly class of people. On the other hand, they were an energetic class of people who grew more than they required a septic tank. They did this because they were of natural conditions, and sewage as manure on the land, and the country threw it into the sea. Mr. Fairbank said that with a designed sedimentation tank of large size, and with even and distribution, there should be no need for small installations.

Sanitary Fittings.

Mr. Saxon Snell, F.R.I.B.A., in a paper read by the General Council for the Registration of Plumbers on "Sanitary Fittings, Arrangement, and Fixing," which stated that it was the duty of the principles and construction of sanitary fittings should be under the control of the authorities, and they could be satisfactorily arranged for the positions for which they were intended. If all sanitary fittings were so constructed that any part likely to act foul or become a nuisance was easily accessible for cleansing and that objectionable features would be avoided. As water-closets were by far the most important class of sanitary fittings, they should be taken to select from the available those most suitable for the positions in which they were required. There could be no doubt that for the chamber floors those apparatuses which were as nearly noiseless as possible and which required a large amount of water in the bowl, the improved valve water-closet, the working siphonic, were the most suitable. When enclosures to the water-closet were desired or found most convenient, improvements should be adopted which would avoid the objections justly raised against the old style of enclosed seat. Enclosed seats in connexion with a water-closet should be non-absorbent as practicable. All sanitary fittings were often used against the wall, and the second siphonic water-closet and the third valve-closet were wise precautions to prevent the passage of drain air into the room when these traps were self-clearing. A little, if any, disadvantage could be overcome by their use. The single-seal water-closet, as the wash-down pedestal and the very suitable for water-closets in small positions, but many pedestal water-closets, owing to their simplicity, were often used to lose the water seal of the trap of the valve and siphonic type. It was important, therefore, to guard against the effect of momentum, siphonage, and evaporation. No ordinary trap could be relied upon against the effect of siphonage, and such action was likely to occur when the water flush was most essential. The supply of water-closets, and while the supply was most satisfactory, it was necessarily wasteful; indeed, the absence of a waste-preventer induced less waste of water. The connection between earthenware water-closets and soil-pipes should be made by means of metal ferrule or socket soldered on the pipe, and the joint made with some equally reliable cement. It was a duty to cleanliness the corbel

PATENTS—continued on page 244.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk advertised in this number:** Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xv.; Auctions, xv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertiser binds themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those who submit tenders, may be sent in.

* * It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

AUGUST 30. — SAXON SNELL PRIZE.—Fifty guineas, with medal, is offered for essay on "The Lighting, Heating, etc., of an Operating-Room for a General Hospital." Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W.

SEPTEMBER 1. — GOOLE. — MUNICIPAL OFFICES.—Premiums 30l. and 15l. Particulars from Mr. R. Tyson, Council Offices, Goole.

SEPTEMBER 9. — CHORLEY. — SCHOOL.—The Chorley Education Committee invite designs for Council school for about 600 children. See advertisement in issue of July 12. Premiums 30l., 20l., and 10l. Deposit, 2l. 2s.

SEPTEMBER 30. — DUBLIN. — UNIVERSITY COLLEGE: NEW BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

SEPTEMBER 30. — LILANLEY. — SCHOOL, ETC.—The Lilanley Education Committee invite competitive designs and estimates for school buildings and domestic subjects centre at Stebonheath-terrace. Assessor, Mr. G. E. Halliday, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.

OCTOBER 14. — BALHAM. — SWIMMING BATH.—The Wandsworth B.C. invite designs for a Public Swimming Bath. See advertisement in issue of August 16 for further particulars.

OCTOBER 29. — GLASGOW. — DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnett, assessor. Deposit, 1l. 1s.

OCTOBER 31. — HUNDSFIELD. — TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100gs., 50gs., and 25gs. Deposit of 2l. 2s. See advertisement in issue of August 2 for further particulars.

NOVEMBER 1. — OTTAWA. — MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

DECEMBER 1. — BULGARIA. — DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9).

DECEMBER 2. — CARLISLE. — SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

*** FEBRUARY 1, 1913. — RANSOM. — MUNICIPAL BUILDINGS.**—The Committee of the Municipality of Ranscombe invite designs for the new Municipal Buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and present issue for further particulars.

NO DATE. — DONCASTER. — SWIMMING BATH, ETC., FOR YORKSHIRE INSTITUTION FOR THE DEAF.—Premiums, 50l. Information from Mr. B. D. Crouch, 6, Hall-gate, Doncaster.

NO DATE. — JORDANHILL, GLASGOW. — PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE. — MOTHERWELL. — HIGH SCHOOL.—Dr. Burnett, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

AUGUST 24. — BANWEN. — CHAPEL.—Erection of small C.M. Chapel at Banwen, near Orlwyn, Neath. Plans and specification with Mr. J. S. Griffiths, architect and surveyor, Seven Sisters, Neath.

AUGUST 26. — PORTSMOUTH. — STORE.—For erection of a store for school supplies in the infants' playground of the Arundel-street Council School. Plans and specifications by the Surveyor, Mr. A. H. Bone, Cambridge Junction, Portsmouth.

AUGUST 26. — STOCKPORT. — WALL.—Erection of a boundary wall adjoining the Stepping Hill Hospital, Hazel-grove. Specifications seen, and particulars and forms of tender from Messrs. Peirce & Son, architects, St. Petersburg, Stockport.

AUGUST 27. — CONSETT. — ALTERATIONS.—For the proposed alterations, refitting, etc., at new Town Hall. Plans, specification, and conditions with Mr. J. J. Blithingham, Lic.R.I.B.A., architect and surveyor, Derwent-street, Blackhill.

AUGUST 27. — KEIGHLEY. — PAVILION.—Erection of a cubicle isolation pavilion for twelve beds at the Infectious Diseases Hospital, Morton Banks, Keighley. Drawings seen, and quantities from Messrs. Moore & Crabtree, architects, York-chambers, Keighley.

AUGUST 27. — NEWPORT. — MON. — SHOP.—For erection of electric car paint shop on site at Corporation-road. Plans and quantities, with forms of tender, from the Borough architect, Mr. C. F. Ward, A.R.I.B.A., Town Hall. Deposit of 1l. 1s.

AUGUST 28. — ALFORD. — ADDITIONS.—For additions to the Alford village public school. Plans and specifications with Mr. J. Reid, Brainley, Alford, and with Messrs. D. & J. R. McMillan, architects, 105, Crown-street, Aberdeen. Quantities from the architect.

AUGUST 28. — BOTSHELMING. — REPAIRS.—For roofing and general repairs to Hatt House, Botsheleming. Plans and specifications with Mr. Harold A. Hosking, architect, Landrake, St. Germans. Deposit of 2l. 2s.

AUGUST 28. — GLAMORGAN. — SCHOOLS, ETC.—The Glamorgan County Council invite tenders for the following works: New school at Bettws, near Bridgend; new school at Blaengwrach, near Neath; new school at Pontlllyf, near Pontardulais (removal of temporary building from Gorseion and foundation for same); new mixed school at Trebanos, near Pontardawe; Pontardulais Infant School, new heating chamber; Gowerston Girls' and Infants' school, alterations to offices. Plans and specification seen, and quantities at the Bridgend Police-station, Neath Police-station; Gowerston Police-station, Pontardulais Police-station, and Pontardulais Police-station. Mr. T. Mansel Franken, Clerk of the County Council, Glamorgan County Council Offices, Westgate-street, Cardiff.

AUGUST 29. — DRIFIELD. — ALTERATIONS.—For alterations to doors and other works at the engine house, York-road. Specification and plan from Mr. J. A. Brown, Clerk, 39, Exchange-street, Driffield.

AUGUST 29. — MANCHESTER. — HOME, ETC.—The Guardians of the Poor of the Township of South Manchester invite tenders for the erection of a nurses' home and additions to the hospital matron's office, sisters' dining-room, and maids' sitting-room at the Willington Workhouse. Quantities from Mr. J. A. Brown, Clerk, 39, Exchange-street, Driffield. Deposit of 1l. 1s.

AUGUST 29. — TRURO. — RESIDENCES.—For the erection of four residences at The Avenue, Truro. Plans and specifications with Mr. Leonard Winn, architect and surveyor, 37, Boscastle-street, Truro.

*** AUGUST 30. — SUTTON COLDFIELD. — SCHOOL.**—The Staffordshire Education Committee invite tenders for new Council school at Streely, near Sutton Coldfield. See advertisement in this issue for further particulars.

AUGUST 31. — ABERCORNAL. — HOUSES.—For the erection of a pair of semi-detached houses at Abercornal, for Messrs. T. & J. Williams. Plans and specification with Mr. R. Edmund Rees, architect, Bank-chambers, Merthyr Tydfil.

AUGUST 31. — BLANDFORD. — COTTAGE.—For erection of a new cottage on holding No. 12, Winterborne Winton, near Blandford. Plans and specifications at the office of the County Land Agent, County Offices, Dorchester.

AUGUST 31. — CHERTON. — COTTAGE.—Erection of a cottage at Landimore Farm, Cherton, Glos. Plan seen, and specification from Messrs. Harland, Isaac, Watkins, & Lewis, 7, Rutland-street, Swansea.

AUGUST 31. — DYSETH. — ADDITIONS.—For additions and alterations to Holly Cottage, Ochry-Pool, Dyserth. Plans and specifications from Mr. Williams, Cwyd Villa, Dyserth.

AUGUST 31. — GRAVESEND. — ROOMS.—For the erection of a sterilising room, store-rooms, etc., at the hospital. Specification obtained, and plans with the architect, Mr. Wm. M. Dean, A.R.I.B.A., 21, Park place, Gravesend.

AUGUST 31. — HYDE. — HALL, ETC.—A public hall, police courts, offices, and a public hall, Corporation-street, Water-street, field-street, Hyde. Plans and specifications and quantities and particulars from the Surveyor, Mr. James Diggle, Assoc. Town Hall, Hyde, on deposit of 3l.

AUGUST 31. — LEICESTER. — EXTENSION.—Extension of school roof, trusses, lattice columns required for an extension of car depot, Abbey Park-road. Plans and specifications, specification, and quantities from Mr. E. G. C. on deposit of 1l. from Mr. E. G. C. M.Inst.C.E., Borough Engineer, Leicester.

AUGUST 31. — RUTHIN. — REPAIRS.—Trustees of Bethania C.M. Chapel for repairs and alterations to the vestry. Plan and specification with the architect, Mr. F. A. R. Earl-chambers, Mold.

*** AUGUST 31. — SWANSEA. — NEW.**—The Swansea Exchange Building, tenders for new Exchange building of Adelaide-street and Cambrian advertisement in this issue for further particulars.

AUGUST 31. — SWINTON. — WALL.—Erection of a wall across a road 43 yds. long, in reinforced concrete from Mr. Henry Entwistle, C.M. Swinton, Manchester.

SEPTEMBER 1. — MINEHEAD. — COX.—Erection of convenience and lavatories on the sea front, Minehead. Specifications obtained, and drawings on 2l. 2s. to Mr. L. C. Webber, 10, 3, Bancks-street, Minehead, Somerset.

SEPTEMBER 2. — ABERDEEN. — EXTENSION.—Extension of fish market, adding Plans and details soon, and specifications, and form of tender from Mr. M. Inst.C.E., Burgh Surveyor, Burgh Office, Town House, Aberdeen.

SEPTEMBER 2. — COTTINGHAM. — HALL.—Erection of a parish hall. Drawings and specifications from the architect, Mr. A. C. 3, Alfred Gelder-street, Hull.

SEPTEMBER 2. — DARTFORD. — WORK.—Erection of certain works at the West-hill, Dartford. Plan and specifications from Mr. A. C. 3, Alfred Gelder-street, Hull.

SEPTEMBER 2. — NEW MALDEN. — EXTENSION.—Extension of the proposed extension to the rear of the municipal buildings. Plans and specifications, and quantities from the Engineer and R. H. Jeffes, A.M.Inst.C.E., at the Office, New Malden. Deposit of 2l.

*** SEPTEMBER 3. — BARNET. — HOUSES.**—Barnet U.D.C. invite tenders for dwellings in Tottenham-lane. See in this issue for further particulars.

SEPTEMBER 3. — MERTHYR TYDFIL.—The erection of girls' school and rect block at Troedyrhiw. Particulars from Borough Architect, Town Hall, Merthyr.

SEPTEMBER 3. — SOUTHAMPTON. — WORK.—For the rebuilding of 7, 8, and 9, statement of 11, Bridge-street, Hill, architect and surveyor, 9, Southampt. Quantities on paper.

SEPTEMBER 3. — SOUTHAMPTON. — WORK.—Carrying out alterations at R. Stroud. Plans and specifications with Mr. G. P. Milnes, 7, Rowcroft, St. Paul's, Southampton.

SEPTEMBER 3. — TRURO. — HOUSES.—Erection of ten houses in blocks I, J, and K, houses in blocks O, P, and Q, from the architect, Mr. R. Edmund Rees, architect and surveyors, 37, Boscastle-street, Truro.

SEPTEMBER 4. — BEDWAS. — HOUSES.—Twenty-six or more houses on the site of Joseph Davies, deceased, Bedwas. Plans and specifications from Mr. G. P. Milnes, 7, Rowcroft, St. Paul's, Southampton.

SEPTEMBER 6. — GOLCAR. — SCHOOLS.—The West Riding Education Committee, whole or separate tenders for works: Golcar: Crowlane C.O. additions (builders, carpenters, plumber, plasterer, and painter), and specifications with quantities on application to the Education Committee, County Hall, Wakefield, sent by separate letter to the Treasurer, County Hall, Wakefield.

ROADS, SANITARY AND WATER WORKS.

AUGUST 24. -**Prestwich. ROAD.**-For private street improvement in Highfield road, Back Bailey-street, Back Bury New-road, Mather-avenue, Mildred-avenue, and Mowbray-avenue. Plan, specification, and quantities at the office of the Surveyor, Council Offices, Prestwich. Quantities on deposit of 21. 2s.

AUGUST 26.—**Stone.** SEWAGE.—For the laying of sewers, construction of manholes, etc., at Lightwood. Particulars with the Engineer, Mr. John Twist Snape, 5, Lad-lane, Newcastle-under-Lyme on deposit of 5/-

AUGUST 27.—**Bolton**.—ROAD.—Formation of a new road from Plodder-lane to the Cottage Homes in Farnworth. Plans inspected, and quantities from Mr. John Ward, architect, 24, Mawdesley-street, Bolton.

AUGUST 28 **Chelmsford**.--WATER MAINS.--For the laying of water mains in Bishop's-road, Marconi-road, Swiss-avenue, and new road off Rainsford-lane. Forms of tender obtained, and the plans and specification at the office of the Borough Engineer, 16, London-road.

AUGUST 31.—**Clayton-le-Moors.**—PAVING.—For the taking-up and relaying of about 400 lin. yds. of kerbs, and paving, with granite on a concrete foundation, about 2,000 super. yds. in Barnes-street. Also repairing about 800 super. yds. in Whalley-road. Specifications seen, and forms of tender from Mr. A. Dodgeon, Assoc. M. Inst. C.E., Surveyor to the Council.

AUGUST 31. — **Dorking.** — **TAR MACADAM.** — The U.D.C. invite tenders for slag tar macadam for surfacing 4,043 sq yds. of road. Specification, etc., may be obtained on application to the Town Surveyor, Mr. William A. Clegg, M.Inst.M. and Civ.E.

AUGUST 31.—**Littlehampton**.—**GRANITE**.—For the supply of 300 to 400 tons of Guernsey or other approved granite, also for granite chips. Forms of tender from the Council's Surveyor, Mr. H. Howard, F.S.I. Town Offices, Littlehampton.

AUGUST 31.—St. Columb.—SEWAGE.—For constructing sewers and underdrains, and laying out irrigation ground and other work in connexion with the sewerage of St. Columb Major. Plans and specifications by Mr. R. Hansforth Worth, M Inst.C.E. Plymouth.

SEPTEMBER 2.—**ASPATRIA. SEWAGE.**—For the construction of sewage-disposal works, consisting of detritus tanks, open septic tanks, storm-water tanks, and percolating filters, with all contingent work. Plans, sections and specification of the Council Office, Aspatria, and at the office

at the Council Office, 25, Park-row, Leeds. Quantities on deposit of 20. 2s.

SEPTEMBER 3. **Middleton.**—**STREET.**—For the making-up of Hanson-street. Plans seen, specifications made and quantities from

Mr. W. Welburn, Borough Surveyor, Town Hall, Middleton. Deposit of 10s. 6d.

SEPTEMBER 3. — Southampton. — ROADS.—For executing private street works in the following roads, viz., Shaftesbury-avenue, Leighton-road, St. John's Down-road, and Morris-road.

Plans, specifications, and conditions inspected.
and quantities and forms of tender from the
Borough Engineer, Municipal Offices, South-
ampton. Deposit of 11. 1s.

SEPTEMBER 4.—**Skipton.—ROADWAY.**—For the
6-in. ~~roadway~~ 15 ft. in width and

construction of a roadway, is 10 in. width and about 250 yds. in length, at the Recreation Ground. Plans and specification seen, and form of tender from Mr Aldridge, Town Hall, Skipton.

SEPTEMBER 6. **Southend.**—ROAD.—For road and formation works in connexion with the construction of a 12 miles in length and

struction of boulevard 1½ miles in length and 100 ft. in width. Plans inspected, form of tender, quantities, and specification for the Borough Engineer. Mr. Ernest J. Elford, M.Inst.C.E., Municipal-buildings, Clarence-road, Southend-on-Sea, on deposit of £1. 5s.

street works in ten roads. Plans, specification, and conditions with Mr. T. A. Collingwood, Surveyor, Council Offices, Portsmouth-road, Wols-ton. Quantities and form of tender on deposit of £. 2s.

SEPTEMBER 9.—**Newington.**—SEWAGE.—For the construction of sewers at Newington. Plans and specifications with the Engineer, Mr. Leonard B. Grant, High-street, Sittingbourne.

SEPTEMBER 12.—Fishguard.—ROAD.—For the construction of 833 lns. yds. of roadway, together with concrete walls, wire fences,

with retaining and parapet walls, wire fences, surface-water drains, etc., at Dinas-hill, Fishguard. Plans and specification, conditions of contract, and form of contract seen, and quantities, with form of tender, at the Shire Hall, Aberfordwest, on deposit of 3*l.* 3*s.*

SEPTEMBER 2. —**Lewes.** **SEWAGE.**—For the construction of main intercepting sewers, and for the construction of sewage-disposal works, comprising screen chambers, buildings, settlement and storm tanks, tidal storage tanks, sludge-drying beds, low-level pumping station, and contingent works. General conditions, specification.

quantities, and form of tender obtained, and drawings inspected, at the office of the engineers, Messrs. Brierley Holt & Co. (Arthur Lindle, M Inst.C.E., and P. Holt Whitaker, A.M.Inst.C.E.), 46, Abingdon-street, Blackpool. Deposit of 5l. 5s.

L.M.Inst.C E.J. 46, Abingdon-street, Blackpool.
Deposit of 5L 5s.

WOOD (Continued).

BUILDING WOOD (Continued).		At per standard.	
Battens: best 24 in. by 7 in. and 8 in., and best 24 in. by 7 in. and 8 in.	£ s. d.	£ s. d.	
Battens: best 24 in. by 6 and 3 by 4 in.	10 10 0	11 10 0	less than 8 in.
Deals: seconds	1 0 0	1 0 0	
Battens: seconds	1 0 0	1 0 0	
2 in. by 10 in. and 2 in. by 6 in.	9 10 0	10 10 0	
2 in. by 4½ in. and 2 in. by 5 in.	9 0 0	10 0 0	
Foreign Sawn Boards— 1 in. and 1½ in. by 7 in.	10 0 0	more than battens.	
½ in.	1 0 0	"	
First timber: best middling Danish or Kennel (average specification)		At per load of 50 ft.	
Small timber (8 in. to 10 in.)	5 10 0	5 10 0	
Small timber (6 in. to 10 in.)	3 17 6	4 0 0	
Small timber (6 in. to 8 in.)	3 5 0	3 10 0	
Small timber (4 in. to 6 in.)	2 13 6	3 0 0	
Pitch-pine timber (30 ft. average)	5 5 0	6 0 0	

Wood.

JOINERS' WOOD.	At per standard.					
White Sea; first yellow deals,						
3 in. by 11 in.....	24	10	0	...	25	10
8 in. by 9 in.....	22	10	0	...	23	10
Battens, 2½ in. by 7 in.....	17	0	0	...	18	0
Second yellow deals, 3 in. by 11 in.....	19	0	0	...	20	0
" " 3 in. by 9 in.....	18	0	0	...	19	10
Battens, 2½ in. and 3 in. by 7 in.....	14	0	0	...	15	0
Third yellow deals, 3 in. by 11 in. and 9 in.....	14	0	0	...	15	0
Battens, 2½ in. and 3 in. by 7 in.....	11	10	0	...	12	10
Petersburg; first yellow deals,						

Do.
Bat

Do. 3 in. by 9 in.	15	0	0
Do. 3 in. by 11 in.	14	0	0
Second yellow deals, 3 in. by 11 in.	16	10	0
Do. 3 in. by 9 in.	15	0	0
Do. 3 in. by 11 in.	15	10	0
Third yellow deals, 3 in. by 11 in.	13	0	0
Do. 3 in. by 9 in.	13	0	0
Battens	10	0	0
White Sea and Petersburg—			
First white deals, 3 in. by 11 in.	15	0	0
Do. 3 in. by 9 in.	14	0	0
Battens	11	10	0
Second white deals, 3 in. by 11 in.	14	0	0
Do. 3 in. by 9 in.	14	0	0
Battens	10	10	0
Pitch-pine: deals	19	0	0
Under 2 in. thick extra.	10	0	0
Yellow Pine—First, regular sizes	48		upwards.
Old growth	48		
Seconds, regular sizes	33	0	0

Kauri I

Kauri Pine—Planks per ft. cube.	0	4	6	...	0	6	0
Danzig and Stettin Oak Logs—							
Large, per ft. cube.	0	3	0	...	0	3	9
Small " "	0	2	6	...	0	2	6
Wainscot Oak Logs, per ft. cube	0	6	6	...	0	8	0

WOOD (Continued).

JOHN'S WOOD (Continued).		£ s. d.	£ s. d.
Dry Walnut Oak, per ft. sup. as		0 10	0 1
inch		0 0	0 3
Dry Mahogany—Boudras, Ta-		0 10	1 1
pasco, per ft. super. as inch.		0 0	0 3
inch		0 16	0 26
Dry Walnut, American, per ft.		0 10	0 1
sup. as inch.		18 0	22 0
Tank, per load		0 5	0 6
American Whitewood planks,			
1 in. by 7 in. yellow, planed and	Per square.		
shot	13	17	
1 in. by 7 in. white, planed and	14	18	
matched	0	0	
1 in. by 7 in. yellow, planed and	16	1	
shot	0	0	
1 in. by 7 in. white, planed and	12	14	
shot	0	0	
1 in. by 7 in. white, planed and	12	15	
matched	6	0	
1 in. by 7 in. white, planed and	15	0	
matched	0	0	
1 in. by 7 in. yellow, matched	11	0	
1 in. by 7 in. white, or V-jointed, br.	14	0	
1 in. by 7 in.	0	0	
1 in. by 7 in. white	10	0	
1 in. by 7 in.	0	0	
1 in. at 6d. to 3d. per square less than 7 in.			

JOISTS, GIRDERS, &c

	In London, or delivered Railway Vans, per ton.			
Rolled Steel Joists, ordinary sections	£	s. d.	£	s. d.
Compound Girders, ordinary sections	7	10 0	...	8 0 0
Steel Compound Stanchions	9	10 0	...	10 0 0
Angles, Tees, and Channels, ordinary sections	11	0 0	...	12 0 0
Plitch Plates	9	10 0	...	10 0 0
Cast Iron Columns & Stanchions, including ordinary patterns ..	9	10 0	...	9 10 0
	7	10 0	...	8 10 0

METALS.

IRON—	Per ton, in London.	
	£ s. d.	£ s. d.
Common Bars	9 0 0	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	9 15 0
Staffordshire "Marked Bars" ..	11 0 0	—
Mild Steel Bars	9 5 0	9 15 0
Hoop Iron, basis price	10 0 0	—
" " Galvanised	17 10 0	—
(*And upwards, according to size and gauge.)		
Sheet Iron Black—		
Ordinary sizes to 30 g.	10 5 0	—
" " 24 g.	11 5 0	—
" " 26 g.	12 15 0	—

Ideal Plain
Two-Column Radiator

We make "Ideal" Boilers and supply all accessories for Low Pressure Hot Water and Steam Heating—Valves, Tools, Fittings, Registers, Ventilators, etc., etc.

439 & 441, Oxford Street, London, W.

WORKS: Agents { BAXENDALE & CO., Ltd., Miller Street Works, MANCHESTER.
HULL, Yorks. carrying Stocks { WILLIAM MACLEOD & CO., 60, 62, & 64, Robertson Street, GLASGOW.

METALS (Continued).

For ton, in London.		£ s. d.
Sheet Iron, Galvanized, flat, ordinary quality—		
Ordinary sizes, 6 ft. by 2 ft. to 24 ft. 6 in.	15	0 0
Ordinary sizes to 24 ft. and 36 ft.	16	0 0
Ordinary sizes to 24 ft. and 36 ft.	17	0 0
Sheet Iron, Galvanized, flat, best quality—		
Ordinary sizes to 24 ft.	18	0 0
Ordinary sizes to 24 ft. and 36 ft.	19	0 0
Ordinary sizes to 24 ft. and 36 ft.	20	0 0
Galvanized Corrugated Sheets—		
Ordinary sizes, 6 ft. to 24 ft.	15	0 0
Ordinary sizes, 24 ft. and 36 ft.	15	0 0
Ordinary sizes, 24 ft. and 36 ft.	16	0 0
Best Soft Steel Sheets, 5 ft. by 2 ft.	13	0 0
Best Soft Steel Sheets, 2 g. & 24 g.	13	0 0
Ordinary sizes, 24 ft. and 36 ft.	15	0 0
Cut Nails, 3 in. to 6 in.	11	0 0
(Under 3 in., usual trade extras.)		

LEAD, &c.

£ s. d.	
Lead—Sheet, English, 4 lb. and up	23 7 6
Pipe in coils	23 17 6
Soil pipe	26 17 6
Compo pipe	26 17 6
Zinc—Sheet—In coils	33 15 0
Viella Montagne	33 15 0
Silesian	33 10 0
Zinc, in bundles, 1 lb. per cwt. extra.	

COPPER—	
Strong Sheet	per lb. 0 1 0
Thin	" 0 1 1
Copper nails	" 0 10
Copper wire	" 0 10
BRASS—	
Strong Sheet	" 0 11
Thin	" 0 10
Tin—English Ingots	" 0 2 0
Solder—Plumbers'	" 0 9
Turner's	" 0 10
Blowpipe	" 0 1 2

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.	
15 oz. thirds	24d. 32 oz. fourths 3d.
" fourths	13d. 32 oz. thirds 5d.
21 oz. thirds	34d. " fourths 4d.
" fourths	34d. Fluted Sheet, 15 oz. 3d.
26 oz. thirds	5d. " 21 oz. 4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.	
1 Rolled plate, 24d.	Figured Rolled, Ox.
2 Rough rolled and rough cast plate, 24d.	ford Rolled, Ox.
3 Rough rolled and rough cast plate, 3d.	and Arcton, Milled, and Rolled Cath-
	edral, white 3d.
	Ditto, tinted 5d.

* Not less than two crates.

OILS, &c.

Raw Linseed Oil in pipes	
" " in barrels	per gallon 0 2 11
" " in drums	" 0 3 0
Boiled " in barrels	" 0 3 2
" " in drums	" 0 3 5
Turpentine in barrels	" 0 2 0
" in drums	" 0 2 11
Genuine Ground English White Lead, per ton	30 0 0
Red Lead, Dry	26 10 0
Best Linseed Oil Putty	per cwt. 0 10 6
Stockholm Tar	per barrel 1 12 0

VARNISHES, &c.

Fine Pale Oak Varnish	
Pale Copal Oak	0 8 0
Superfine Pale Elastic Oak	0 10 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 0 0
Eggshell Flaking Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottin	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

CAMBERLEY.—For the erection of a Wesleyan Methodist church at Chamberley for the trustees. Messrs. Gordon & Ganton, F.F.R.I.B.A., Finchbury House, Blomfield-street, London, E.C., and Mr. A. H. Dugay, M.S.A., Alpha Chambers, Alexandra-road, Farnborough, Hants, architects. Quantities by Mr. A. H. Dugay.

	Tender A.†	Tender B.‡
Spear & King	£4,180 0 0	£2,550 0 0
J. Crockerell	2,998 0 0	—
Crosby & Co.	2,989 0 0	—
J. B. Seward	2,978 10 8	2,556 0 0
Turner & Kersley	2,980 4 0	—
Martin, Wells, & Co.	2,982 6 0	2,440 0 0
F. J. Privett	2,980 0 0	2,451 0 0
A. Butler	2,947 0 0	—
Bunning & Fitton Adams	2,937 0 0	2,397 0 0
W. Watson	2,759 0 0	2,423 0 0
Jones Bros.	2,673 10 8	2,250 12 0
E. C. Hughes	2,287 0 0	2,251 0 0
G. Kemp & Co.	2,739 0 0	2,238 0 0
W. Wells King, Chamberley	2,824 0 0	2,084 15 5

† First tender. § Revised tender for reduced scheme.

DEAL.—For enlargement of schools in North Wall-road, for the Education Authority. Mr. C. L. Crowther, architect, Deal.

C. J. Howland	£1,185	G. Browning	£948
E. J. Bowles	1,015	Hayward & Parnum	820
E. Travers	987	G. B. Cottow	820
G. Lewis & Son	939	G. H. Dennis & Son	916
Turner & Watts	854	T. T. Dennis, Walmer	910

DEVIZES.—For erecting a mortuary at the Work-house, for the Guardians. Mr. A. J. Randall, architect, Devizes.

F. Randall & Sons	£177 10 0	W. E. Chivers & Sons	£168 0 0
H. Ash	176 0 0		
G. Offer	173 0 0		

(All of Devizes.)

LEICESTER.—For the erection of house, Letchworth-road, Western Park, Leicester, for Mr. J. S. Colman. Mr. H. Bland, surveyor, 37, Dunes Hill road, Leicester.

H. W. Lee	£920 0 0	J. Cole & Son	£739 0 0
Bowles & Son	821 0 0	J. T. Richardson	734 18 0
G. A. Phipps	732 0 0	W. Potter, Blaby	730 0 0

LEICESTER.—For the erection of the road, Western Park, Leicester, for Mr. H. Bland, surveyor, 37, Dunes Hill road, Leicester.

Bowles & Son	£689	Richardson	£887
Haskard, Rudkin, & Beck	675	W. Potter	709

[All the rest of Leicester.]

SHEPHERD'S BUSH.—For new mill-lane, Shepherd's Bush, Messrs. J. Staines & Co., 37, Chancery Lane, London, J. Carmichael, 8, 099, Godson & Son, 7, 950, W. G. Ch.

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THE BUILDER

JOURNAL FOR THE ARCHITECT

AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

III.—No. 3630.

AUGUST 30, 1912.

ILLUSTRATIONS.

GARDEN SUBURB: EXTERIOR OF THE CHURCH OF ST. JUDE ON-THE-HILL. HAMPSTEAD GARDEN SUBURB: LUCAS SQUARE. MR. T. GEOFFREY LUCAS, F.R.I.B.A., ARCHITECT.
INTERIOR. MR. B. L. LUTYENS, F.R.I.B.A., ARCHITECT.
INTERIOR OF THE FREE CHURCH. MR. E. L. LUTYENS, F.R.I.B.A., ARCHITECT.
DITTO, JUNCTION OF WILLISFIELD WAY AND TEMPLE FORTUNE HILL. MR. C. M. CHICKNER, LIC.R.I.B.A., ARCHITECT.

ILLUSTRATIONS IN TEXT.

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OPTIMISM AND ARCHITECTURE.

HE optimist is seldom taken seriously, and has often himself to thank for it. He is either Quixotic or sentimental. As the first, only appeal to the few, the rarer surrounding him. As the second, positive danger, a social will-o'-wisp. He is intolerant of precaution. He is swans. Yet the true optimist is not to be judged by the standards of the so-called "practical" man, nor his premises be too scientifically. The proverb that "many a judgment has been spoiled by a doubtless composed by an. Though avoiding extremes, may look for something of the courage of the Spanish Don cometh the sympathy which evokes nt. Though assured, may claim as a companion, and even was an optimist at least when knowledge a divinity that shapes ds. And optimism primarily is we think, in the sense of being forward and not backward; of ating this general trend going nd us, although this or that may time be caught in a back-wash. possible, of course, by closing one's a railway train to produce ng of uncertainty as to which

direction we are travelling in. But to achieve this, we must shut our eyes.

It is said of some people that they go through the world with their eyes shut, and in their case confusions are likely to arise. Yet, while this inner and inexpressible sense of movement may be the possession only of some, developments, like passing objects, at least carry conviction to all, and a reasonable optimism may often be enjoyed without any demands upon our subliminal self. And a belief in a healthy progress of architecture, we think, may be so enjoyed.

In the first place, architecture of some kind must exist so long as communities exist. Certain races have existed, and still exist, that have been without the instinct for building. Nevertheless, they built, though they had to send to Tyre and Sidon for artificers, as did Solomon of old, or later, when the Arab relied upon the constructive ability of the Copt.

We may, we admit, stand amazed at the prodigious achievements of the past, and compare them to our own disadvantage. But the bare fact that we do admire them, have it in us maybe but to stand dumbly and wonder at the wealth and splendour of the imagination they embody, is in itself evidence that the living spirit that raised them

is not dead. Like Sleeping Beauty it awaits but the kiss, and who shall say that that kiss shall never come? It is only businesslike to ask whether modern conditions are consistent with great building as compared with those that have once prevailed, and, if not, whether these conditions are our masters rather than our servants. What in them demands the respect due to permanence, and what others have been foisted upon us by the exigencies of hurry and the misunderstanding of our needs.

It is scarcely possible to conceive conditions more adverse to architecture than exist at the present day. Great works of the past demanded time for their completion. Rome was not built in a day. Many a modern town is. Materials and labour were either commandeered, or the prices were regulated. There was no opportunity of going to the cheaper market. The gross expenditure was upon the building and not upon the land. These are some of the economical differences which exist, and they could be easily multiplied.

Social life then was less complex, and architectural planning, where it did not give expression to a single idea, was at least simple, and its *motif* was shown by the whole conception. Departmental demands not only complicate the plan, but complicate the whole. A guild-hall is

no longer only a single chamber. A dwelling-house is no longer a living-room, a solar, and a buttery.

Land was measured by acres and not by square feet, and the architect conceived his design in the same generous manner—with largeness and freedom. These are some of the changes forced upon us by social developments, while modern facilities of transit have transformed our conditions both socially and economically. Hotel life has become more popular than home life. Materials are no longer restricted by local production, and the architect suffers from an embarrassment of riches.

Are all these difficulties permanent and commanding of respect? Our opinion is that some of them, at least, are conditions that have grown up under a system of *laissez-faire* and must and will be dealt with. We are not suggesting anything revolutionary. It will be enough for us to instance modern developments in town planning to illustrate the line which may be legitimately taken towards a worthier comprehension of building enterprise. Other conditions have arisen through the misunderstanding and misapprehension of the advantages that progress has offered. To set forth the divergent aims of art and commercialism is almost a commonplace. Yet quite recently we had occasion to notice the great advance made by the reasonable co-operation of these two forces. Such combinations have been little more than experiments compared to the immense possibilities such a co-operation, generously pursued, would open up. Commerce may discover advantages of spending rather than keeping. The spirit of the old Merchant Adventurers may return and find scope in home lands rather than in foreign waters. Once couple imagination and capital—imagination that looked beyond the next quarter-day for a dividend—and few doors would be barred to it. This is not an impossible discovery. The developments of commerce, which have had everything in their favour for a century while art has been denied, may yet employ their advantages to some reasonable end. There is a divinity that shapes these, rough hew them even as the commercial spirit has done, and that there should be money in art generally and in architecture in particular (otherwise than in the trafficking with Old Masters) may not prove the paradox it sounds.

That some such impetus when it arrives would find architecture ready, we have no doubt. The young architect is to-day incomparably better trained than heretofore. It is the stimulus and the positive direction that are needed. This marking time and beating about the bush in which other activities besides architecture are engaged creates a restlessness that finds expression in evanescent enthusiasms and whims.

An interview with a firm of architects was recently given prominence in the daily Press. It advocated a return to that style of reserve and refinement that marked the beginning of the last century, when the architect, as it pointed out, was a man of culture and varied attainment. But the style referred to was the natural outcome of the classical

tastes of the time. We are far from agreeing that the modern architect is not a man of culture when we contrast him with the type referred to. Indeed, if he be cultured at all, his culture is unquestionably very much wider. Breadth was not a characteristic of the culture of two and three generations back. Its limits were strictly confined. What it did it did well. But its limitations were made obvious as soon as it was touched by the romantic revival. The verdict of the mighty *Edinburgh Review* upon Wordsworth was, "This will never do." Neither had the architect of the period the faintest glimmer of an understanding of the nature of mediæval design. Thrust into it by the Oxford Movement and Gothic revivalist, no longer supported by his knowledge of the Classic proportions, evidence of his floundering may be seen everywhere about the country. Wren and Wyatt we excuse. There was no element of romance stirring in their day. But their successors were impervious to the spirit of the time. They endeavoured to deal with mediæval detail as they had been accustomed to deal with the Five Orders. Wordsworth came to stay in spite of his reviewers, and the appreciation of Romance in Architecture has come to stay also. To say of this revival as Mr. Tootles might have said, "It is of no consequence, thank you," is to take up a dangerously empirical position. We are richer than we were, and it is our duty to spend of our increase. If the Victorian epoch can only be looked back on with mixed satisfaction, certain great works we accomplished, among which the Houses of Parliament are pre-eminent. To sum them up by the statement that they present a Classic plan and Gothic detail, and present this as a necessary shortcoming, is criticism misplaced. The successful combination justifies them as being typically English in character. Pedantry clogged the steps of the Gothic revivalists as it had clogged those of their predecessors. Certain of its leaders were unfettered, among whom the names of Burges, E. W. Godwin, and Pritchard at once come to mind, but recorded examples were as stone tablets of the law to the mere copyist.

To-day we are at any rate quit of pedantry. The ban has been removed from this and that means of architectural expression, which alone is evidence of a progressive intelligence being abroad, the fruits of which we may reasonably await in hope.

THE LATE MR. B. H. MANDER.

The estate of Mr. Benjamin Howard Mander, of the Manor House, Trysull, Staffs, and partner of Messrs. Mander Bros., of Wolverhampton, paint, varnish, and japan manufacturers, who died on July 11, aged fifty years, is valued at 115,373*l.* gross, with net personality 143,657*l.*

VACANT LAND CULTIVATION IN LONDON.

There are as many as 14,000 acres of unused land at present within the metropolitan area, and the Vacant Land Cultivation Society, which Mr. Joseph Fels founded twelve years ago, ask for funds to enable them to extend their operations. The society now control an aggregate of 80 acres, representing plots cultivated by 500 men and women and a gross retail value of produce exceeding 6,500*l.* Each plot-holder has grown 5*l.* worth of vegetables per annum in return for 1*l.* spent by the society.

A NOTE ON THE ARCHITECTURE OF BUDAPEST.

BUDAPEST is one of the picturesque cities in the world. It is almost, like some of the castles of the Rhine, picturesque to be really interesting. Views on either side of the Danube resemble bits of scene painted by a master. It is indeed so immediately attractive to the eye that one at first fears may not possess qualities of a serious character. With greater knowledge and revises one's first impressions as the merely picturesque. Budapest goes, it may be considered, some respects to Edinburgh, of the interesting Princes-street, have the drab and spacious Calton Hill, with its classic Arthur's Seat, may, in some respects, find parallels in the classical architecture erected to the memory of Sain and the fortress rising beyond right bank of the Danube. But the most important comparison made between Edinburgh and Budapest is the intensely national feeling of its inhabitants. The Hungarian people, many of the national characteristics of Scotland—his assertiveness, his belief in himself. It is said in Budapest and not in any jocular spirit—that of the Austrian-Hungarian empire is reversed at the death of the Sovereign to Hungarian-Austrian must, however, be remembered, connexion that the populations of countries do not vary to any great extent. Hungary has some millions of inhabitants against the eight millions of Austria. The result is therefore not the same as in England and Scotland, so that cannot serve as a precedent.

The national feeling of the Hungarians is expressed in the architecture of Budapest, which is almost entirely native, and it is expressed after a complex fashion, in which we find certain opposition to the same in Austrian art. The Houses of Parliament, for instance, in Vienna, is classic; the Hungarian building is a medley of styles, by a predominating Gothic influence, the total effect being something between the Royal Courts of Justice, the street and the Town Hall at London. Inside, the spacious meeting chamber, the two parties of the Legislature, extremely ornate and decorated, the niche possesses its sculpture. The Hungarian history, while the spaces are devoted to pictorial representation of national events or scenes, the whole building covers an area of 4½ acres, and was erected from the plans of Steindl, a Hungarian architect, between the years 1883-1885. The building, however, which occupies the most important site in Budapest, the Houses of Parliament, but the Palace which faces it from a lower level on the opposite bank of the Danube. The dynasty of the Hapsburgs, a dynasty of great builders, the architectural history of Vienna, for instance, can omit to mention the influence of the royal house

phases of its architectural development. The present emperor has exercised his power, but has been largely on his private purse for the great schemes in building for the improvement of his capital. We do not know to what extent the emperor has shared in the expense of the building and ornate grounds, for the serried rows of ascending terraces which together occupy so vast a space on the right bank of the Danube, and which no other European capital can boast, are a more imposing expression of the emperor's power. The effect of the Imperial Hapsburg at Vienna, so far as the position is concerned, is tame in comparison. If we, however, look at the finest architectural tradition of the empire, we should say that it exists in the style which is called Baroque. It is difficult to read the history of Budapest in its buildings; but we remain which possess historical interest of any antiquity. There are churches which may be compared to the Baroque churches of Italy, and of a later period the Imperial Palace, which, although enlarged by later emperors, has preserved the Baroque style of the main building commenced by Maria Theresa in 1749. Among the important buildings is the Palace of the Arts, built in 1896 by Haussmann; in which the architect, while adhering to the classic Orders of the Doric, has branched off into Renaissance forms and details which are rather Teutonic than Latin. The architects responsible for the buildings of Budapest as we see them are, as we have said, mostly of native and local origin, and in their buildings it would be to apply abstract architectural principles which do not also take into account national taste and temperament. The Magyar is not a man either of the blood of the Germanic or Latin races. Ethnologically considered, we think he is much nearer the Slav than really of the race. It would be difficult for him to surrender to the culture of the Latin races. On the contrary, some fifty years ago, the architects created some of the best buildings on a large scale, and the classic influence of modern architecture in Budapest there has apparently been the influence of the same kind. We, however, take into account one exception. Among these are the colonnades which lend effect to the statue of St. Gerhard, perched on the right bank of the Danube, and the background of the Millennium Monument which terminates the view of the city. On the other side of the Champs Elysées of the city, the position, which is largely independent of the adventitious elements which give Budapest, just as it is, its great charm as a city, is one of the most considered of town planning of the empire, in addition to the monument colonnade, we have on either side of the museums which contain the art treasures of the nation, and the background a bridge spans the river and provides a fine entrance to the Park.

But the large public buildings of the world would seem mostly to have been erected, and it is not to these that we must look for the most modern expression of the art of architecture, but to the shops, commercial and residential houses, and in almost all the large cities on the Continent a widespread influence is apparent which has as yet scarcely touched England. L'Art Nouveau is certainly the predominating contemporary influence at Budapest. What would we say in England, we wonder, to buildings which to a certain extent correspond to the Post-Impressionist and Futurist movements in the sister art of painting? With few exceptions there are few buildings at Budapest which would entirely satisfy the student educated in classic or Gothic art. A little while ago we heard two professors of architecture, an Englishman and a German, discussing the work of the celebrated German architect, Alfred Messel. "How do you reconcile his use of such-and-such forms?" asked the English professor. "Oh, we consider them most beautiful!" answered the German. "They are the forms of our national art." And this, we daresay, would be the answer of the Hungarian in regard to any criticism we might make in discussing the architecture of Budapest, which, in our view, possesses much of the restless element of the Czar's, the national dance. This expression of the new art may strike us as bizarre and meretricious, but, so far as Budapest is concerned, it is the outcome of a genuine feeling, and it seems to be arriving, especially within the last year or two, at a stage of development which will probably command more serious consideration than it has yet received.

NOTES.

Regulation of Advertisements. TO THOSE who use the highways for the purpose of enjoying some of the most picturesque scenery available near London, and not with the object of ascertaining the latest quack remedy or the best motor tyre, the announcement made in the daily Press that the Kent County Council has framed a by-law under the Advertisements Regulation Act, 1907, will give unmitigated satisfaction. The by-law is to apply to all parts of Kent excepting municipal boroughs and urban districts with a population exceeding 10,000, and prohibits the exhibition of any advertisement which shall be visible from any public highway or footway, or from any railway or open land or water open to the public, and so placed as to disfigure the natural beauty of the landscape. We believe this is the most drastic by-law which has yet been framed, but it must be remembered that under sect. 2 of the Act existing hoardings and advertisements have to be exempted from the operation of the by-law for a period of at least five years from the making of the by-law. Having regard to this provision of the Act, it is a pity that five years have been allowed to elapse since the Act became law. The difficulty experienced in framing a by-law that was sufficiently specific, and which in

the opinion of the Home Office was capable of being enforced, accounts for some of the delay, but Hampshire, it will be remembered, led the way, and passed a by-law a year ago.

The Trade Union Congress.

THE Trade Union Congress (the 45th) will commence its proceedings on September 2 at Newport (Monmouth). The number of delegates which it is announced will attend is 500, twenty-one less than last year, but they represent unions with an increased membership—some 2,000,000, as compared with 1,662,123. This is the second consecutive year which has been marked by industrial unrest, culminating in serious strikes. In 1911 10,247,100 working days were lost owing to trade disputes, and in the seven months of this year 38,840,300 working days have been lost from a similar cause. In such circumstances as these the Congress might well concentrate its attention on the question of trade disputes and the best means of avoiding strikes, which are having such disastrous effects upon trade at large, but especially on the working class community; but there is reason to fear that much of the time may be taken up in discussing less practical and important questions. The Dock, Wharf, Riverside, and General Workers Union has a resolution on the agenda relating to conciliation and arbitration, and the Typographical Association has a resolution relating to the enforcement of agreements on all persons employing labour in any industry in connexion with which some agreement has been arrived at between the unions and employers engaged in that industry; but these appear to be the only resolutions bearing directly on the above question. Neither the nation nor the unions themselves can long endure such a strain as has been put upon them in consequence of the reckless recourse to strikes, involving, as is the case with sympathetic strikes, persons between whom there is no actual dispute.

The Insurance Act Resisters.

THERE have now been three prosecutions against persons who have deliberately determined not to comply with the provisions of the Insurance Act, the latest case being that of a builder. In each case the magistrates have convicted and have imposed a heavy fine, but have consented to state a case. In those circumstances we refrain from commenting upon the merits or demerits of the points raised in defence. These points seem to have been principally that the Commissioners were not in a position to carry out at present some of the provisions of the Act relating to benefits, and that the regulations made under the Act were not in order and consequently were void. The former of the two points seems based on a contention that there is a contractual relation between those who have to pay contributions and the Commissioners; the latter point turns on the publication of provisional regulations. Both points, however, if there is any substance in them, would only afford temporary relief to those called upon to pay contributions under the Act, and we take this opportunity of



Fig. 1. Plan of the Hampstead Garden Suburb.

strongly advising our readers not to waste their money in this kind of passive resistance to the Act. The Act is vexatious in itself, and the multitudinous regulations issued under it almost daily render it even more incomprehensible than it was originally; but, apart from one or two test cases, nothing is to be gained by wholesale passive resistance, and persons aggrieved will do well to reserve their energies to secure amendment of the Act on constitutional lines.

THE HAMPSTEAD GARDEN SUBURB AND ITS ARCHITECTURE.

In the development of this large estate an opportunity has been given to members of the architectural profession to work out their individual problems with the knowledge that each unit is benefited and its value enhanced by its enforced correlation with the work of others. It is in this breadth of conception, this subordination of the unit to the mass, that the Hampstead Garden Suburb rises above the ordinary collection of residences. A piece of mosaic is something more than a number of small stones, and this suburb is something more than a series of well-designed houses.

It occupies a strategic point in the natural configuration of London's outer ring. The wide view northwards from the crest of Hampstead Heath begins with the suburb, and stretches out over and beyond it to the distant Chiltern Hills. But for the ordered development which is now assured over an area of more than one square mile the beauty of this view would in a few years have been merely historic. As it is, a new beauty is being added, and the increased interest given to the foreground does not detract from the value of the more distant view.

In 1907, in the midst of green fields, the first sod was cut; since then nearly seven miles of new roads have been made, well over 1,000 houses have been erected, and a population of 5,000 at least has grown up.

In the development of Greater London this has been the only instance of a railway having been carried out into the open country with the intention of attracting a population to use the railway. All other railways have waited for the population to come first. As originally schemed there was to have been a station on the Tube from Charing Cross to Golder's Green under Hampstead Heath, and, as it was felt that this would greatly try the pleasure-giving resources of the Heath, a Committee was formed in 1903, and after arduous negotiations 80 acres of land adjoining the Heath were purchased. The London County Council became possessor of the land, which was to be maintained as an open space for ever. So far efforts had been centred on securing an addition to Hampstead Heath,

but at the same time it was obvious that the policy of the railway company was certain to lead to the open land around Golder's Green being covered with houses. It was felt by the Committee that here was a great opportunity not only of securing an addition to the Heath, but of ensuring the maintenance of the unique prospect to the north, and,

three sides of the open space to be secured by the Hampstead Garden Suburb Trust, Ltd.

In analysing the reasons for the able growth of the suburb we find that the land was secured through the co-operation of the Eton College Trust, next place, the landlord (who is the Hampstead Garden Suburb Trust, Ltd.) with small profits, the maximum allowed by a self-obtained Act of 1903 being 5 per cent. Where only 5 per cent are taken on land bought below value a continuous development is possible.

Further than this, there is no other guaranteed surroundings have great attraction. The publication of principles of development, and the fact that the promoters of the suburb are strong enough to enforce these principles, given residents a feeling of security as to their amenities which is rarely obtained elsewhere.

It is especially to be noted, moreover, that the building is a large scale, entirely taken the place of building plots or small areas by individual owners. The Trust itself has not been able to undertake much beyond the making and general development of the estate, although it has erected the Central Square, staff cottages, drivers' flats, and cottage homes of some 25,000. The remainder of the work has been done by the building organisations. The Improved Dwellings Company has built a large number of cottages let to weekly tenants. Waterlow Court, which consists of self-contained flats. The Garden

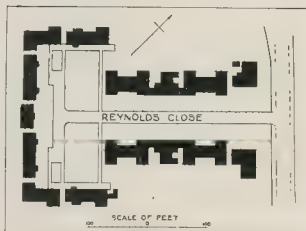


Fig. 2. Example of 20-ft. access road to a group of houses.

further than this, of providing an example of town extension on model lines. Accordingly in the course of the negotiations the area of the 80 acres of open space was so arranged that a fringe of land was left on its east and west sides belonging to the Eton College Trustees. A larger portion to the north formed the remainder of the Trustees' land, and they agreed to convey all their property 243 acres in extent—round the



Fig. 3. Reynolds Close.

Messrs. Parker & Unwin, Architects. (For Plan, see Fig. 2.)

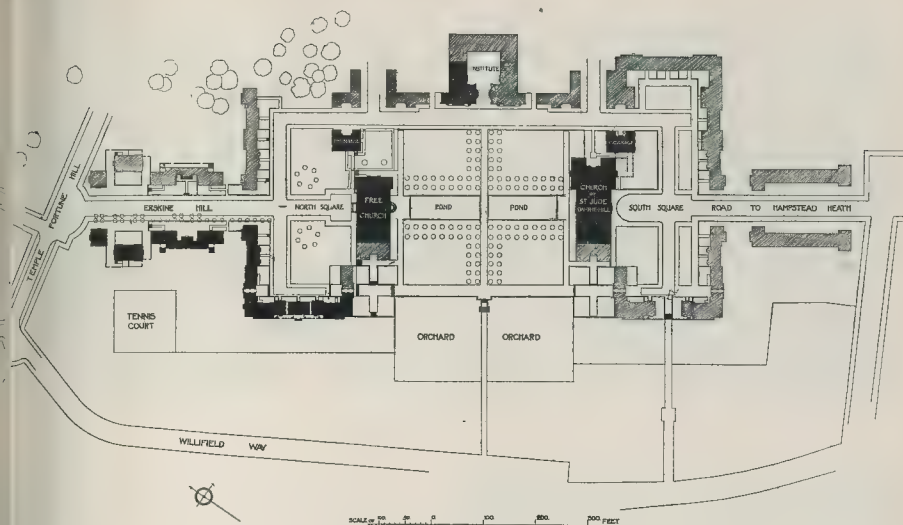


Fig. 4. Plan of Central Square.

Mr. E. L. Lutyens, Architect.

(Solid black indicates executed work.)

ent Company (Hampstead), Ltd., in hand the construction of houses designs of well-known architects, clients by arranging with their and obtaining estimates from large firms. The Hampstead Tenants, Ltd., and the Clubhouse, a large number of houses, the two blocks of shops, people's homes. This Society is to Co-Partnership Tenants, Ltd., on of various co-partnership buildings in different parts of the country, than half of the building on the has been done by the Tenants' which works by direct labour supervised by its own staff. The tenants hold the Society, but the bulk of the supplied by outside investors and Public Works Loan Commissioners. rents are limited to 5 per cent., and profits go to the tenants as a bonus. While principally building small property, the Hampstead Tenants, also responsible for some of the

best work in the larger houses, notably the northern side of the Central Square, designed by Mr. E. L. Lutyens, and Heath Close and Reynolds Close, by Messrs. Parker & Unwin, examples which are referred to and illustrated in this article.

The principles for which the Hampstead Garden Suburb stands are now well known. Planning, not street by street, but as a whole, enables the houses to be suitably grouped, and a definite restriction as to the number of houses to be allowed leaves room for open spaces between the groups. The Trust has limited itself to a maximum of eight houses to the acre. Besides the private gardens provided for each house, there are various allotment grounds, tennis-courts, bowling-grounds, and gardens open to the public. It is noteworthy that the orchard and the beds of flowers, although unfenced, have remained unmolested, and have shown that, although thousands of people have visited the suburb, the public has fulfilled the injunction on the notice-boards to "protect what has been

planted for their pleasure." Most of the roads have been planted with almond, cherry, acacia, maple, birch, and other ornamental trees, and hedgerows of sweet-brier, yew, holly, Japanese and wild rose have been provided in place of the ordinary fences. The natural beauty of the land is rigorously protected, and no trees are cut down where by any ingenuity of planning they can be left. While houses of very various sizes are built, the positions of the different types are definitely fixed. Generally speaking, the smallest houses are at the north end of the estate, the next class is on the western portion, while to the south are the larger houses, with beautiful views over Hampstead Heath. Sites for public buildings are allocated in advance, and several of these sites have been given by the Trust. Architectural control is exercised with a completeness hitherto unknown on the ordinary building estate. The position of houses in relation to those adjoining is considered. Suitable materials are insisted on, and a scheme of treatment for several adjacent houses may be laid down, to be carried out as the individual plots are built upon. All the roofs are covered with tiles, most of which are hand made and sand faced. It is not surprising that such forethought and control have produced a suburb of remarkable unity and individuality, bright with its open spaces, gay with flowers, and healthy from its elevated situation.

The general scheme of development, as seen in the plan reproduced herewith (Fig. 1), was prepared by Messrs. Parker & Unwin, the architects to the Garden Suburb Trust, in consultation with Mr. E. L. Lutyens. The very irregular shape of the ground and its varying slopes called for an informal treatment. The main thoroughfare, Hampstead Way, is in its winding route typical of most of the other roads. A note of formality is struck, however, in the lines of the roads and buildings grouped around the Central Square (Fig. 4), which rises high above the other parts of the suburb, and this stiffening pulls together and dominates the more sinuous lines of the outskirts. A subsidiary centre is formed by the village green, the club-house, and the elementary school in Willfield Way. The levels of the ground form a natural basin where Hampstead Way meets the Finchley-road, and advantage is taken of this to make four roads converge on an open space in the hollow, which will eventually be treated with ornamental water and be surrounded with shrubs and flower-beds.

A special Act of Parliament secured by the Garden Suburb Trust allowed, among other things, variations in the width and

D



Fig. 5. Free Church (North Side) and Manse.

Mr. E. L. Lutyens, Architect.



Fig. 6. Temple Fortune Hill.

Messrs. Parker & Unwin, Architects.

construction of roads. A road not exceeding 500 ft. in length and giving access to a group of houses may be as narrow as 20 ft., provided the houses on either side are 50 ft. apart. The effect of this is that a feature of the general lay-out is the number of short *cuts-de-sac* of widths narrower than those usually prescribed by the by-laws. Groups of houses may be set in retired positions off the main roads (Figs. 2 and 3) and treated as architectural units, an improvement on the usual practice of dealing with each house separately. Scale is increased, the simultaneous notes are fewer and broader, and good architectural effects are obtained. When the closes are linked together by foot-paths, as, for instance, the series of paths connecting Willfield Way through Wordsworth Walk and Coleridge Walk with Erskine Hill, the principal objection to "dead ends" is removed and at the same time the charm of their quietness is retained.

The development scheme now being carried out as shown on the plan is in itself a great achievement, but there is something more to follow. In the early days of the suburb the plan was thought by most people to represent a complete scheme. But very soon, as success became apparent, negotiations were on foot with the adjoining owners, the Ecclesiastical Commissioners, for a large extension. Meantime it was impossible to disclose to the public the full inwardness of the Central Square, which seemed to belie its name in rubbing shoulders with the boundary. To this uncertainty as to the ultimate limits of the design is to be attributed a feeling of cramping here and there, which will be seen to have disappeared when the plans of the extension of the suburb are published. This extension more than doubles the area of the suburb, and opens out the country to the north-east across to East Finchley Station. The Hampstead Garden Suburb Trust has

agreed to lease 112 acres from the Ecclesiastical Commissioners, while Co-Partnership Tenants, Ltd., have taken up 300 acres more, making in all, with the original 243 acres, 655 acres, or over one square mile.

The land comprised in this great addition is being planned by Messrs. Parker & Unwin on broad, free lines, influenced but not absolutely controlled by the contours. A series of radial roads branches out from the Central Square with long, unbroken vistas across the valley to the north-east. On the opposite slopes two of these lines will terminate at important public buildings, while in the hollow between a market-place is proposed, with an adjoining open space 20 acres in extent. It is satisfactory to know that owing to the success of the original scheme it has now been found possible so largely to increase the area over which the governing principles of the garden suburb will extend.

Architecturally the suburb is dominated by the group of buildings which with conspicuous success Mr. E. L. Lutyens has placed on the spacious plateau of the Central Square. The two churches, one on either side, with a broad expanse between, are striking examples of modern ecclesiastical architecture in a setting which is unique. The spire of St. Jude's and the cupola of the Free Church will form a new feature in the landscape for miles around, as conspicuous as the spire of the Church of St. Mary, Harrow-on-the-Hill, which is clearly visible from the plateau. On the south side of the square stands the Established Church, closing the vista from the Heath at the top of Heathgate, and on the north side is the Free Church, forming the termination of the slope of Erskine Hill. On the east is the Institute—one wing only completed so far—and on the west the view is left open over a sloping orchard to the distant hills.

The Church of St. Jude, illustrated

on our Plates, is broad and its masses, and is strikingly its blending of round arched saucer domes, with details of a stately character. On the outside the note is the great street carried from ridge to eaves over aisles in an unbroken slope down a few feet of the ground, the rain-pipe from a stone eaves cornice

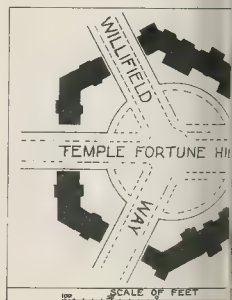


Fig. 8. Example of Street Int.

(For View at this place, see Insert)



Fig. 7. Wordsworth Walk.

Mr. H. A. Welch, Architect.

brick channel, which is carried along the base of the walls, avoid down pipes, at the expense of in stormy weather. The transept not project on plan, are marked ridge and gables, with spacious windows on the crossing stands the lofty tower surmounted by a lead-covered nave and aisles are lighted by large dormer windows and by the window, but this end is temporary will be extended several funds are forthcoming. The walls with 2-in. bricks, the facings being grey with dressings of a rich red roofs throughout are tiled. The effect of the interior is not impressive unusual amount of timber in the where rafters, struts, and purlins riot in a confusion which is also necessary.

The Free Church (Fig. 5) is interesting as an example of concrete construction applied to and at present this construction indicated by the large beams trude from the temporary wall of end, supported on unfinished. The roofs, dormers, and brick treated in a similar way to the stone but instead of a square tower and the crossing there is an octagonal



Fig. 9. Group of Houses in Temple Fortune Lane.

Mr. E. Gay Dawber, Architect.

design tiled and surmounted by a
red lantern. The steep pitched
of the transepts in both churches,
their long semicircular-headed win-
dows are specially interesting examples
of brick design and craftsmanship.
The tower of the Free Church stands high
above the nave floor, which is not level, but
slopes considerably towards the west
end, an arrangement which, although not
favourable in some of the best designs
of nonconformist churches, and has much to
recommend it on the ground of suitability.

The church stands to the east of the
Manse, and the Manse occupies a
central position in relation to the Free
Church. Each house is a square block of
three stories, the hand of Mr. Lutyens,
simple, rather severe lines and an
absence of bay windows.

It is on the suburb a high general
impression of architecture, and, owing to the
impression of any cottage exhibitions
which have been held at Letchworth, with
the standard "freaks," the continuity of
the standard has been so well kept up that
the standard, principally in the neighbour-
hood of the northern part of Hampstead Way,
is more regrettable. If the promoters of
the scheme had been more certain of
the standard when the suburb was in its infancy
it is probable that the stricter architectural
control which is now exercised would
have prevented some of these eyesores.
There is no doubt that the standard of
the suburb has gradually been raised as the estate
developed and the certainty of its success

has been assured. Such a later portion as
Bigwood-road and the eastern part of Mead-
way shows both in the quality of the designs
and in the general grouping the good results
which can be obtained by an insistence on
the requirements laid down. Not only has a
tone been maintained on the suburb itself,
but the adjoining estates recently developed
show a distinct improvement on the usual
suburban type, an improvement obviously due
to the example of the garden suburb. There
are, however, one or two places where a better
design appears to have been shelved in favour
of another, possibly on the grounds of
economy. Where, for instance, is Messrs
Parker & Unwin's group for the Hoop
Lane entrance, which would have been much
preferable to the blocks which have lately
been built? And we should have liked to
see Mr. Edgar Wood's fine design for the
Heath end of Wellgarth-road carried out.

The accommodation provided and the size
of rooms in the various classes of houses are



Fig. 10. Houses in Meadway.

Mr. T. M. Wilson, Architect.

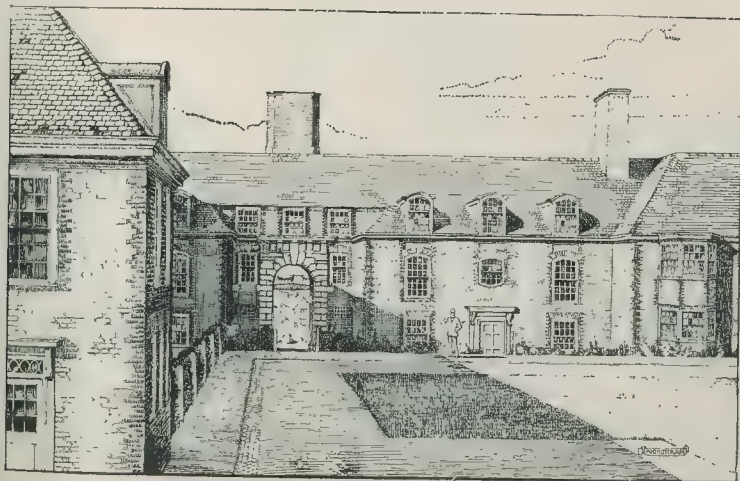


Fig. 11. Part of North Square.

Mr. E. L. Lutyens, Architect.



Fig. 12. Linnell Close.

Mr. Michael Bunney, Architect.

generally rather limited, and according to provincial standards would often be considered very insufficient. It may be that the increased possibilities of open-air life are taken into account in designing the houses. There is, however, a noticeable improvement in accommodation in the later types of houses.

The buildings on the Hampstead Garden Suburb may for convenience be classed under three heads:—(1) Dwellings for single families; (2) grouped dwellings, flats, and shops; (3) public buildings.

(1) Dwellings for Single Families.

(a) *Cottage Property.*—Some of the least pretentious cottages are those of the Improved Industrial Dwellings Company in Erskine Hill and Willfield Way. In Wordsworth Walk (Fig. 7) Mr. H. A. Welch has created a charming group of twenty or thirty cottages in several blocks on either side of a narrow *cul-de-sac*, terminating in a central block with an effective feature in half-timber work. Temple Fortune Hill, by Messrs. Parker & Unwin, is an admirable example of a vista on a straight street (Fig. 6). In the treatment of street intersections we notice occasional boldness and originality. The junction of Willfield Way and Temple Fortune Hill (Fig. 8 and Plate) has been very happily dealt with by Mr. C. M. Crickmer, who has also designed simply and effectively the northern part of Erskine Hill.

(b) *Small Houses.*—Houses of a slightly

larger type than the last are arranged in Hampstead Way (northern part), Willfield Way (southern part), and Temple Fortune Lane. In Willfield Way, Mr. George has secured a good street picture by several well-designed groups round with two old trees, and his square in Hampstead Way which bears the name of the architect is worthy of particular notice. This is the best piece of grouped design in the suburb, and forms the subject of the inset Plates.

In Temple Fortune Lane Mr. George has an excellent group, illustrated by Mr. T. M. Wilson's block in (Fig. 10) is an instance of a good treatment of semi-detached houses.

(c) *Larger Residences.*—The immediately to the north of the Square call for special comment, on one of the highest parts of the suburb.



Fig. 13. Part of "The Great Wall," showing Summer-House overlooking the wall.

From a Drawing by Mr. C. P. Wade.



Fig. 14. Preliminary Design for Aged People's Homes.

Messrs. Parker & Unwin, Architects.

From a Drawing by Mr. C. P. Wade.

have been designed in a continuous and two sides of North Square and groups on the west side of Erskine. E. L. Lutyens, the architect of these houses, has been very successful in his treatment, which is quite different from the "cottage" architecture of the ground below. A sketch in Fig. 11. Silver-grey bricks are the general work, with red-brick stone is employed sparingly for windows and doorways. A skilful effort is overcome the difference in levels of the roofs to maintain an even ridge line, strong cornices carried level round the groups at first floor or eaves, as in North Square being sunk below the road; the back elevation is in this respect, as the ground slopes to the rear. The interior planning has been sacrificed to the symmetry of elevation. A large and important front window should light something in an office.

Close and Reynolds Close Messrs. Unwin have adopted a brick treatment rough-cast, and the result is dignified. The houses in Heath Close are linked up with large first-floor or open-air rooms. This connexion is architecturally, but the average of a house of this size has a persistent unreasonable preference for a "cottage" building.

Close (Fig. 12) is another very satisfactory example of fairly large houses grouped and set clear of the traffic roads. The Georgian houses, mostly designed by Mr. Michael Bunney, are very satisfactory. Originally three were designed separate houses in style, but they met, and mutually agreed to the level of the eaves, and the lines of the whole group, while freedom in the matter of detail; it is one of the instances of that correlation of facts which is so desirable.

Southwards over the Heath are the largest houses, detached, with a dense adjoining the "great wall" divides the built-up suburb from the Heath. At intervals along the wall are houses or look-out towers, and the when completed, will be a distinctive feature in the suburb (Fig. 13).

Grouped Dwellings, Flats, and Shops. The plan of the suburb is not completed, but houses are provided for families. It is also at housing the fragments of the and the individuals, who, together with the complete families, make up the



Fig. 16. Block of Flats over Shops, Finchley-road : Back View, from Hampstead Way.
Messrs. Parker & Unwin, Architects.

population of any centre. It has succeeded in part at least of this aim, as witness the homes for aged people, picturesquely called the Haven of Rest and more commonly known as "The Orchard," the cottage homes where those needing care, protection, and assistance will live under adequate and suitable administration; and Waterlow Court, where ladies earning their own living are lodged in self-contained flats with a common dining-room, reception-room, kitchen, and household staff.

The aged people's homes are in a two-story quadrangle designed by Messrs. Parker & Unwin, with an exterior balcony and stairs giving access to the upper floor; a sketch of the original design made by Mr. C. P. Wade is reproduced herewith (see Fig. 14). The flats contain living-room, scullery, and bed-recess, with the use of general oven, baths, and laundry.

Waterlow Court, designed by Mr. Baillie Scott, forms the terminal building in Heath Close. Seen from the Close it presents a long range of half-timber work, with a low entrance-way in the centre leading through the building and guarded by heavy gates. Beyond the entrance the building stretches foursquare, with low-arched cloisters round an open court (Fig. 15). This quadrangle is very attractive, and the whole effect of the building imparts a quiet, conventual air which makes it difficult to realise that across the fence is the busy "Tube," used as their

daily conveyance by many of the residents. Waterlow Court has been in existence for some years, and it is a little surprising that no similar building has been erected as a men's hostel. It should be possible to improve on the usual private lodgings by a house specially designed for the purpose.

While the suburb is not a self-contained town, dependent on itself for retail stores, and while an important shopping centre has sprung up just outside the suburb at Golder's Green Station, it has still been found advisable to provide a number of shops near the other end of the suburb. These are located in two interesting blocks on Finchley-road, one on either side of the entrance to the suburb by Hampstead Way, erected by the Hampstead Tenants, Ltd., from designs by Messrs. Parker & Unwin. The buildings are distinctly mediæval German in character, story piled on balconied story until they overflow among the high-pitched roofs and finish at last in a square tower covered with steep hips. The ground floor is used for shops, with a straight frontage line from end to end, while the frontage line of the upper stories breaks forward at either end of the blocks to form an arcade over the end shops. The arcade piers and arches are in ashlar work, while the rest of the walls are in brick of a well-variegated tone. Oak half-timber work, with brick filling, and oak balconies are features of the front elevations. The well-designed wrought-iron balconies were carried out by the Artificers' Guild. The flats and offices on the upper stories are approached by a broad outside balcony near the first-floor level, extending along the back of each block for its whole length over the rear of the shops. Outside staircases lead up to this balcony from the street level at the ends of the blocks. The south block, which has just been completed, is centrally heated. The massive stretch of these buildings on either side of Hampstead Way forms an effective and picturesque entrance to the suburb. The back elevation (see Fig. 16) is equally prominent, making a fine background to the public garden at the foot of Temple Fortune Hill, while it serves to screen off from the dwellers in the suburb a rather doubtful group of buildings just beyond. The blocks are a happy contrast to the usual type of suburban shop property.

Another building of a kind not often met with is the block at the end of Corringway, consisting of motor garages, with flats above for chauffeurs and their families. The idea of confining within small limits the noise inseparable from the care of motors is a sound one, but it does not necessarily follow that all the chauffeurs and their families should for their sins be confined within these same limits. What have they done to deserve such a punishment? Surely there might be arranged a small inferno for motors only, leaving the families to inhabit, like others, the paradise of the garden suburb.

A group of small flats, at the north end of Hogarth-hill, designed by Messrs. Parker & Unwin, shows that an architectural effect can be obtained even where the tenants pay only



Fig. 15. Waterlow Court : Interior of Quadrangle.
Mr. M. H. Baillie Scott, Architect.

5s. 9d. a week. This group, with the two others on the opposite sides of the road, is another good example of the treatment of street junctions. Near the same place a series of small buildings with four small flats above and four below, designed by Messrs. Parker & Unwin, indicates the desire for this type of accommodation. A block of good-sized flats is now being built, and another large quadrangular block which is being designed in the collegiate style by Mr. G. L. Sutcliffe, the architect to Co-Partnership Tenants, Ltd., is to contain a co-operative kitchen and a large dining-hall for the use of the tenants.

(3) Public Buildings.

When all the people are housed and provided with shops there still remains the question of their indoor recreation and education. To this question the suburb gives an answer. Besides an elementary school, which is being built by the Hendon Urban District Council, and the well-grounded hope of a secondary school, there are two buildings round which the educative and recreative life of the suburb centres. The Clubhouse, on Willfield Green, is the property of the Hampstead Tenants, Ltd., and carries on a varied and valuable organisation for social enjoyment. Messrs. Parker & Unwin have designed the building to form one side of an irregular village green, and the long sloping roofs and simple yet picturesque treatment of the tower are in harmony with the situation as thus conceived. The position of the tower, apparently haphazard, is in reality well thought out to form a notable landmark.

The other building which has functions similar to the Clubhouse is the Institute, occupying one of the most important positions on the suburb. It forms part of the comprehensive scheme for the Central-square laid out by Mr. Lutyens, and when completed it will be axial with the east, and west line through the centre of the square. So far only one wing has been built, but it is sufficient to indicate that the completed design will be a valuable addition to the architecture of the suburb. It is treated in the Renaissance style, and harmonises well with the neighbouring buildings. Classes, conferences, and debates are held in the Institute, which forms the centre of the intellectual life of the suburb, a source of keen interest to Mrs. Barnett, the founder of the whole movement.

Finally, beyond the housing of the people and their social and educational welfare, their religious needs remain to be satisfied. And as these are higher than the former it is reasonable, as well as symbolic, that the tangible and visible expression of religious aspiration should be placed on the highest and most commanding site. So it is that when we rise up to the level of the Central Square we find here the two churches of the suburb, which have been described earlier in this article.

Standing there on the central plateau, to which we have climbed up from the lower levels, we look down below to the west and to the north and to the south, and see the clustered red roofs among the gardens and the towers over the Club and the shops, reminding us of the varied life going on around, and displaying the result of definite and organised effort, consciously directed towards the producing of order and beauty in the homes and surroundings of the people. And then we turn and face the east, where the great virgin area of green fields and woodland, as yet untouched, lies open to the builder, and we look forward with hope in the knowledge that on this land, too, the seal of the Garden Suburb is set.

GENERAL NEWS.

Co-partnership Festival.

At the Co-partnership Festival held on the estate of the Ealing Tenants, Ltd., on Saturday last, there was an exhibition of plans and drawings of the various developments which are now taking place at Liverpool, Hampstead, and elsewhere in connexion with the Co-partnership in housing movement. It was announced that of the 450 houses on the Ealing Co-partnership estate only one is now unlet, a state of things which also prevails at Hampstead. The exhibition was under the direction of Mr. A. J. Flint and Mr. A. E. Aston of the Co-partnership Tenants, Ltd.

Protection from Fire, Hampton Court Palace.

It is anticipated that the Palace is protected from fire, as far as human precautions can provide, by means of the new high-pressure water supply which was installed a few months ago and supplemented with many improved appliances. Every apartment in the building is now newly numbered, so that each of the resident firemen can read the alarm bell by his bedside, which indicates, thrice, the precise place where fire has broken out. The new installation of alarms is that of the Gamewell system, and is in connexion also with the homes of the firemen who live in Hampton and Molesey.

Penrith Castle.

The site, about 7 acres, of Penrith Castle is about to be purchased from the London and North-Western Railway Company by the Urban Council at a price of 1,800*l.* for purposes of public works and pleasure-grounds. The Castle is constructed of the local red sandstone from which the place took its British name, and was originally erected, it is supposed, as a protection from incursions of the Picts and Scots. Richard, Duke of Gloucester, who for five years was Sheriff of Cumberland, made it his residence. The structure was dismantled in the course of the Rebellion, and much of the materials were sold.

La Grande Chartreuse.

The Minister of the Interior has sanctioned the expenditure necessary for repairing the roof of the now secularised monastery, which it is expected will be registered as one of the "historical monuments" of France. A project is entertained for the conversion of the buildings as a natural science museum, with observatory, laboratory, and botanical garden, more particularly for resident students of the flora and geology of the Alps, and to be affiliated to Grenoble University.

The Preservation of a Perthshire Castle.

Official announcement is now made of the placing of the historic castle of Huntingtower under the protection of the State for preservation. The castle, which is situated about three miles from Perth, was offered to the Office of Works by the owner, Major Mercer, of Huntingtower, and the Office of Works have accepted the offer under the terms of the Ancient Monuments Act.

New Stock Exchange, Genoa.

The Nuova Borsa has just been inaugurated in Genoa. It was built upon the Piazza Delferrari, of grey granite, after designs in the Renaissance style of Signor Dario Carbono, of Rome, at a cost of 250,000*l.* The interior decorations being by Signor A. Coppede, of Florence. The former Loggia di Banchi was erected in 1570-95, from Vannoni's plans and designs, as completed by G. Doria; in 1839 the Commune gave it over to the Chamber of Commerce, who restored and redecorated the fabric sixty years ago.

Stained Glass Windows at S. Barbara's, Ashton-under-Hill, Evesham.

Three stained glass windows have been placed in the chancel of the Church of S. Barbara, Ashton-under-Hill, Evesham. Those on the south side are designed with figures of the four Evangelists enclosed with borders and canopies. The north window represents S. Barbara, the Patron Saint. S. Barbara, with the Sacramental Cup in the first light, with an angel carrying a harp and chanting in the adjoining one; above these figures a choir of angels with musical instruments and carrying the crown, and in the tracery her emblem of the Tower. The windows were designed and painted by Messrs. F. Holt & Co., Warwick.

Property Sales.

The list of more important properties recently placed in the market includes Swinton, in Bervickshire, extending over 1,160 acres, which belongs to a family now represented by Mr. J. E. B. Swinton, of Swinton Bank, Peebleshire, in whom it has continued since the time of King Edgar, and one of whom, namely, Liulf, of Swinton and Bamburgh, is the first individual Scottish subject whose ownership of land can be attested by extant contemporary documents.—Swarthmoor Hall, Ulverston, built temp. Elizabeth, is memorable as the home of Mrs. Margaret Fell, widow of Judge Fell, who married George Fox in 1669. Fox built the meeting-house at Swarthmoor, where, and in the Hall, are preserved many

personal relics of him.—Caythorpe Castle, Grantham, was built for the late M. Lubbock, after Professor Reginald P. designs, upon an eminence overlooking the Vale of Belvoir towards Belvoir Castle, Creeksa Place, Burnham-on-Cree, in 1569, one of the most interesting Tudor houses in East Anglia, and of some fine oak work and stained glass. Hendon Hall, Middlesex, a Georgian mansion associated with Garrick, who was its

The Road Board.

During April-June last advance aggregate amount of 123,315*l.* have been with approval of the Lords of the Treasury of the Road Improvement Fund to councils and other highway authorities. Of the grants in respect of improvement works—including grants for tar macadam, and surface-tarring—absorb 105,186*l.*, and the rest being for widenings and improvements of corners and bends. A sum of nearly 1*l.* further indicated towards projects under consideration, and the Board announced are prepared to contribute 875,000*l.* the making of the contemplated works from London to Hounslow, by way of Smith and Brentford. In their second report, just issued, the Board express the opinion that this is "one of the most important of its kind in the public improvement of the present time," and that "some part of the Fund should be used for assisting a number of large schemes for improvement approaches to great cities or towns." The case of London, in particular, is deserving first consideration. The new eastern road, if fully carried out is estimated to be 1,750,000*l.*

All Saints' Church, Newland, Gloucestershire.

The much-needed work of repair and renovation of this church has now been brought to a conclusion. The alterations have cost 1,000*l.* The church is a building in the Decorated and Perpendicular styles of architecture, and among its features is an interesting font of 1601. In the aisle is an altar tomb of the time of Edward with recumbent effigies of Sir John and his wife, while in the north aisle is a monument to Sir Edmund Probyn, Baron of the Exchequer, 1740. Each of the chapels possesses a picture of the Virgin and Child. The beautiful ambury is contained in the tower. The ancient rood stairs still remain. The church was restored in 1882 at a cost of 1,000*l.* In the churchyard are the steps and the ancient stone cross, and also a rare monument with the recumbent figure of a man in costume.

Electric Street-Cleaning Machines.

German municipal authorities are now using street-cleaning machines of improved design and operated by electricity. The machine comprises a water-tank, brushes, and rubber scrapers, and a forty-cell storage battery providing power for working the brushes and scrapers. It is stated that some twenty machines of this type are at present in Berlin, the machines being able to travel at speeds up to 9 miles an hour and from 18 to 25 miles a day. The battery is recharged at different points in the city.

The Growth of Coventry.

An inquiry was held by Mr. R. G. H. Sutton, M.Inst.C.E., Local Government Inspector, at Coventry, on the 15th ult. regarding the application of the City Council for an increase of the rate of 10*l.* per 100*l.* of rateable value, amounting to 80,757*l.* required for the improvement of municipal buildings and for various improvements necessitated by the rapid growth of the city. The Town Clerk (Mr. Sutton), who supported the application, explained that the cost of the municipal buildings would be 100,000*l.* The design was accepted in an open competition which 160 architects entered. He explained the need for the buildings, pointing out that the present offices of the city were scattered about the town. The proposed scheme would include a Council chamber, committee-rooms, but not a town hall. Town Clerk mentioned that 12,000*l.* was required for surface drainage of Earlston and Chapel Fields, 280*l.* for improvements, and 1,477*l.* for the relief of tithe and land tax on the sewage farm.

BOOKS.

Structural Account of the Churches of Shropshire. By the REV. D. H. S. CRANAGE, D.D., illustrated with permanent photographs by MARTIN J. CRANAGE, with ground plans of the most important churches by W. ARTHUR WEBB, A. Part 10. The Liberties of Shropshire. Wellington, Shropshire. (H. K. Lewis & Co., 1912.)

In concluding part of Mr. Cranage's structural survey of the churches of Shropshire which has occupied him for the last ten years. As an essay in scientific method, free from the hoary errors and prejudices of the popular topographer, there is much to praise and little to blame in what has been a labour of love to its author. The photographic illustrations are excellent, and technically beyond reproach; they would have been better, for the sake of uniformity, to have lettered the plans and names of the various parts of the churches. In the case of those which are not planned, the internal details would have assisted the reader in forming an idea of their size. Details of the architecture as they appear, however, are not so easily described, and there is no species of description to which a lack of lucidity is not liable. However, though such criticisms are not the order of the day, it is not to be said that the author's critical sense has succeeded in producing a work of considerable interest and value to the student of architecture. Shropshire is surpassed by few of its churches by many counties. Mr. Cranage points out, "the tower of the spire of Worcester, the font at Worcester, the fan vaulting at Tong stand out as of great importance." Apart, however, from the question of architecture pure and simple, the churches are rich in archaeological interest which appeal to a different instinct, and are the less of real importance. The Liberties of Shropshire, with which Mr. Cranage deals, the principal churches now more or less intact are Holy Cross, Claverley, to each of which considerable devotion. Though all east of the west of the former central tower of Holy Cross, the remaining portions, with the exception of the eastern bays and tower, offers a text which Mr. Cranage has expounded with great lucidity. The secular buildings which have, of course, long been neglected; it is interesting to note that the ruins on the site revealed the foundations of a house with an eastern apse of the type as those of Durham and Reading. The absence of lettering on the plan of the church renders the description somewhat tedious to follow, nor is the arrangement of the description itself any too clear. We are, too, that the piscina in the chapel in the north-east corner of the north transept, referred in the text to the same period as the XVth-century east window, is on the plan as XIVth century. The tracery windows in the ground floor of the porch are ascribed to "the XVth or the very beginning of the XVIth century." They are described as "the work of the ground stage, undoubtedly does belong to this period, and statement loses weight when we find the author does not hesitate to class the XVth-century inscriptions the arches to the XVth-century windows in the ground floor of the porch, in spite of the fact that the arches course very well with those of the XVth century. The case for a central tower, if it existed, at any rate intended, is clear. The example of a disappeared central tower at Claverley in Berkshire, where all four late XIVth-century supporting arches are untouched, but the upper part has been replaced, probably in the XVth century, and a west tower was added to replace it. The evidence of its completion is given in the form of bell-ropes on the internal arches. In the case of St. Mary's at Claverley the explanation is that the late

XIVth-century west tower was abandoned before it was finished in favour of a central tower, and that this again was demolished to secure a more uninterrupted chancel by the removal of the eastern arch, when the bell-chamber of the west tower was built in the latter half of the XVth century?

The beautiful little church of Battlefield, the date of which is fixed by documentary evidence between the years 1406 and 1409, is rendered doubly interesting from the fact that three of the windows have tracery of pure XIVth-century type, though their mouldings show them to be contemporary with the rest of the building. A still more remarkable example of recessive design is considered by Mr. Cranage to exist in the three-light south-west window of the still surviving Lady Chapel of old St. Chad's at Shrewsbury, which he is disposed to refer to the late XVth century. The evidence which he places before the reader is certainly in favour of such a date, though the design of the tracery, which is composed of foliated spherical triangles, and the wave-mould of the jambs, constitute, so far as the present writer is aware, an almost unique example of the tendency to "Decorated" influence, which is occasionally manifested in the Gothic of the later XVth and early XVIIIth centuries. The tracery of this genre is usually flowing, and seems to be founded upon the resuscitation of flamboyant type exemplified in the beautiful tomb of Abbot Wakeman, erected about 1540 in Tewkesbury Abbey; the geometrical forms, on the other hand, are almost entirely confined to variations of the foliated circle so dear to the mason of the early XVIIIth century.

The work concludes with a general survey of the ecclesiastical architecture of Shropshire, not the least interesting part of which is a careful analysis of the "low side" windows which still remain, illustrated by drawings and photographs.

Dansk Arkitektur. Gennem 20 Aar 1892-1912. (Copenhagen: E. S. Larsen & Hasselbalch.)

In this book we are presented with a most interesting series of plates illustrating the progress of Danish architecture during the past twenty years. These are prefaced by an introduction in which due honour is paid to MM. Herholdt and Meldahl, who were foremost among those who sought to stimulate a growth of national architecture, reinforced in no small degree by the study of the Renaissance in Italy. The examples show a strong appreciation of the picturesque, the brightness of the northern builder, despite the restraint imposed by a classic setting. The predilection for the pilaster rather than the column is evident. The influence of brick architecture, a traditional element, no doubt accounts for this, and the treatment of brickwork in some instances shows a most happy resource in the use of this material.

The mullioned window is almost universally retained in design, whose detail is otherwise formally classic, and this helps to impart a newness which would seem to be indeed a characteristic of Danish architecture. We think that those pioneers who set out to achieve a style worthy of their age and the history of their country have accomplished their purpose with a singular absence of that conscious effort which their work might not unnaturally have revealed.

Preparation and Uses of White Zinc Paints. By PAUL FLEURY. Translated by Donald Grant. (South, Greenwood, & Son. 1912. Pages xvi. +262.)

At a time when a Departmental Committee is concluding its labours on the question of restricting the evils of white lead paint the publication of this volume is particularly opportune. M. Fleury, at one time an advocate for white lead, approaches his subject from the standpoint of an expert who recognises the legal obligations imposed upon his country, and his conclusions may be summarised by the statement that white zinc may be substituted quite successfully for white lead, given willingness on the part of the workman to learn how to use the material aright—an opinion which we believe will be endorsed by authorities in this country.

The first five chapters (pp. 1-61) deal with general remarks on painting different surfaces, with detailed reference to the comparative properties and application of white lead and white zinc. These chapters also contain many useful formulae for making up zinc paints and some explanation of the discordant views of

writers upon their use and value. Chapter VI. deals with the testing of commercial white zincs, and gives an account of some classic researches which have resulted in the generalisation that four coats of zinc are equivalent to three coats of lead paint. Two chapters which follow are devoted to the work of the Dutch Commission and some criticism of its conclusions. Chapter IX. on the manufacture of white zinc, is most instructive as showing the great variations in this compound as produced commercially, and is followed by two chapters dealing with legislation imposed in different countries relative to the use of lead compounds.

The last chapter comprises thirty-eight pages dealing with methods of analysis (many quite of a simple and lay character) for painters' materials, and the book concludes with that most desirable feature, a good index.

That the translator has carried out his work effectively and is fully conversant with his subject is shown by a number of footnotes from his pen throughout the book, some explanatory, some critical. The text is a little verbose in places, but the book should certainly be studied by painters and manufacturers anxious to keep abreast with the trend of developments in this important trade.

The Painters' Pocket-Book. By ARTHUR SEYMOUR JENNINGS. (John Heywood, Ltd., and the Trade Papers Publishing Company, Ltd. 1912. 3s. net.)

This little book, though primarily intended for the use of painters and decorators, contains many notes that should be useful to architects. Simple tests of painters' materials, cautions as to the causes of stains, discoloration, and blooming in paints and varnishes, and various practical hints not found in ordinary architectural handbooks are given, and as the book is actually of pocket size a corner on the desk may well be found for it.

Reports of Rating Appeals. By E. M. KARSTAM and HAROLD R. WARD. (Butterworth & Co. 8vo. Pp. xxx. and 365.)

This little volume, as the authors point out in their Preface really forms a continuation of the series of reports of Rating Appeals, in which the last collection of reports by one of the present editors, Mr. Karstam, appeared in the year 1908. The present volume seems to be in every way up to the excellent standard set by the preceding ones, and will be found to contain serviceable reports of most of the rating cases of importance which have been decided in the Superior Courts since the issue of the last volume, together with useful selections from the decisions of various Quarter Sessions, the most notable of which is undoubtedly the elaborate judgment given by Sir Robert Komer and other magistrates at the Herefordshire Quarter Sessions, 1910. The general arrangement of the book is similar in character to that of previous volumes of the series. Part I. contains the reports of the cases heard at Quarter Sessions, and Part II. deals with the cases decided in the King's Bench Division, the Court of Appeal, and the House of Lords. The several cases which arose owing to the reduction in value of licensed premises consequent upon the extra duties imposed by the Finance (1909-10) Act, 1910, are very fully reported, and altogether the volume is arranged on a plan which should appeal not only to legal practitioners, but also to all who are in any way concerned in rating matters. It can certainly be cordially recommended as a useful and valuable addition to any legal library. There is a good table of cases and an adequate index.

BOOKS RECEIVED.

ESTIMATING. By T. D. L. PIPER. (Portsmouth: The Ubique Press, Ltd. 3s. 6d. net.)

FIRE PREVENTION AND FIRE PROTECTION. By J. K. FREITAG. (London: Chapman & Hall, 17s. net.)

REINFORCED CONCRETE RESERVOIR, EAST COWES. In reference to the "Engineering Note" in the *Builder* of the 23rd inst., describing the reinforced concrete reservoir, East Cowes, we omitted to mention that the reservoir has been treated with the waterproofing material "Ceresit," which was supplied by the British Ceresit Waterproofing Company, Ltd., on account of the Trussed Concrete Steel Company, Caxton House, Westminster, the whole work being carried out by the contractors, Messrs. Bradling & Co., East Cowes.

ILLUSTRATIONS.

The Hampstead Garden Suburb.



OUR inset plates this week consist of illustrations of buildings at the Hampstead Garden Suburb, and they are given in connexion with an illustrated article which appears on p. 250. The Church of St. Jude-on-the-Hill and the Free Church are both the designs of Mr. E. L. Lutyens, and their relative positions will be understood by reference to the plan of Central Square, given on p. 251. Neither of them has been completed so far, that of St. Jude awaiting the eastern termination of the chancel and an extension of the nave westwards, as well as the erection of the timber-framed and lead-covered spire seen in the sketch reproduced on one of the plates. The nave of the Free Church will likewise be carried further westward, but the central crowning dome and the east end are already finished. The contractors for St. Jude's were Messrs. Farnell & Son, of Rugby; and for the Free Church Messrs. J. W. Faulkner & Sons, of London.

The square of houses in Hampstead Way was designed by Mr. Geoffrey Lucas and carried out by Messrs. William Moss & Sons, Ltd., of Loughborough. The walling throughout is of red brick, relief being obtained in places by the use of dark headers; the upper part of the walling, except the gable ends, is rough-casted, and the roofs are covered with tiles. The houses at the junction of Willfield Way and Temple Fortune Hill were designed by Mr. C. M. Crickmer, and carried out by the Second Hampstead Tenants, Ltd. In the view we reproduce on one of our plates the clubhouse is seen in the distance, with its brick tower closing the vista.

MEETING.

SATURDAY, AUGUST 31.

The Institute of Sanitary Engineers.—Northampton centre. Arrangements have been made for a visit of members and friends.

COMPETITION NEWS.

A list of current Competitions is printed on page 268.

Huddersfield Town Planning Competition.

The Competitions Committee of the R.I.B.A. have considered the conditions of this competition, and while they cannot advise the Council to bar the competition they consider the conditions in many respects unsatisfactory.

R.I.B.A.: The Soane Medallion.

The attention of intending competitors for the Soane Medallion is called to the following modifications in the conditions:—

1. No restriction is placed on the size of the strainers, but they should be of reasonable size.
2. The plans, sections, and elevations to be drawn to 1-16th scale.
3. A section through the front buildings up to and including the rail heads of the lines to be drawn to a scale of 8 ft. to an inch.
4. Plans of the upper floors and basement need not be drawn.

Rangoon Municipality, Burma: New Municipal Buildings.

Messrs. Ogilvy, Gillanders, & Co., agents for the Rangoon Municipality, of 67, Cornhill, E.C., write for the information of intending competitors that the date in the conditions in Clause 28 has been altered from August 31 to September 28, and in Clause 14 from January 1 to February 1, 1913. The latest date for posting letters to reach Rangoon by the latter date will be the Indian mail of January 10, 1913.

Intending competitors are informed that the assessor is an Associate of the Royal Institute of British Architects and is Consulting Architect for the Government of Burma. The duties of the assessor will be in accordance with Clause 2 of the Regulations of the R.I.B.A. for architectural competitions.

The selected architect will have undivided responsibility for the carrying out of the work. The duties mentioned in Clauses 22, 24, and 25 of the Competition Conditions have been modified, and the duties of the selected architect will be those specified in the R.I.B.A. Schedule of Professional Charges. Clause No. 4 of the Conditions has been modified, and payment of the commission will be in accordance with the R.I.B.A. Schedule of Professional Charges. The plan numbered "6" in Clause 19 of the Conditions may be omitted by competitors.

CORRESPONDENCE.

Hot Water Supply.

SIR,—In Mr. Frederick Dye's edition of "Hood's Treatise on Warming Buildings by Hot Water" (third edition, 1897, Spott), and in the portion of the book dealing with hot-water supply, it is stated on pp. 437, 438, and 439 that draw-off services from a tank system should be taken from the main flow pipe between boiler and tank, and that if circulation is desired in such draw-off pipes they should be returned into the main flow again at a point higher or lower; and it is claimed that, provided the main flow terminates at a point high up in the tank, all the hot water will be drawn off before any cold water comes out at the tap.

I venture to state that this is quite an error, and, as the advice given must frequently lead to failures in the proper working of the tank system, I trust that I may be doing my professional brethren a service in pointing this out.

The author very pertinently points out that it is important to remember that when a tap is opened water flows towards it from both directions along the main flow, but he does not appear to see that if the draw-off services are taken from the main flow cold water very soon arrives at the tap by way of the boiler to which on the opening of the tap cold water immediately descends.

What, then, is the best method of ensuring that all hot water in the tank is extracted from the taps before any cold water reaches them? It is only possible to do this by connecting all draw-off taps to a pipe, leaving the tank either at the top or very close to it. And it is not possible to keep up a circulation in this pipe (unless all taps are above the level of the tank), because to maintain a circulation involves returning the draw-off pipe to the main flow (or return) at some point not higher than the lowest tap, for if it is carried upwards again there would be no circulation, as the colder water would not rise out of the dip so formed.

As soon as such a draw-off pipe, then, is returned into the main flow (or return), at a point below the level of the lowest tap, water on the opening of a tap begins to flow not only from the top of the tank, but also from the main flow or return, with the result that the hot water (if the circuit is made by joining to the main flow) from the boiler, a relatively small quantity, is soon exhausted and cold immediately begins to flow from the tap. Moreover, the tendency must be for only cold to flow out of the tap, and for the rest or hot portion of the twin flow of water from the tank to the tap to be overcome by the superior weight of the cold water, especially if the tap is nearer the level of the boiler than that of the tank.

It follows, then, that with taps below the level of the tank, as they usually are, we cannot get a circulation, and must put up with the inconvenience of drawing off the dead water which has become cold in the pipe before getting the hot. This, of course, is the main drawback to the tank system; but after that we can draw the whole of the hot water before getting any cold from the tank. This I hold to be the only certain and satisfactory way to connect draw-off taps to the hot water in the tank system.

W. B. HOPKINS, A.R.I.B.A.

Berkhamsted.

[** Mr. Hopkins's letter is not very clear, and shows some misconceptions. We assume that he refers to small domestic installations having a boiler at the lowest level and a hot-water tank above the highest fitting, the cold supply to replace hot water drawn off being introduced either at the bottom of the tank or at a point in the return pipe. The hot

draw-off services should, of course, be from the flow (which contains very full boiler temperature less only taken from the pipe by the air, rounding it). The extent to which off will disturb the regular flow circulating pipes depends largely proportions of the system—that is relative sizes of the pipes, together head of water combined with the in temperature of flow and return.

In a properly arranged system, it would not reverse the flow as M seems to think it would. There is change of temperature at the top it is run off for some minutes consec although the hot water withdrawn by cold which passes through the is heated on its passage to the sizes of boiler, etc., are seldom s as to maintain a constant tempera tap.—Ed.]

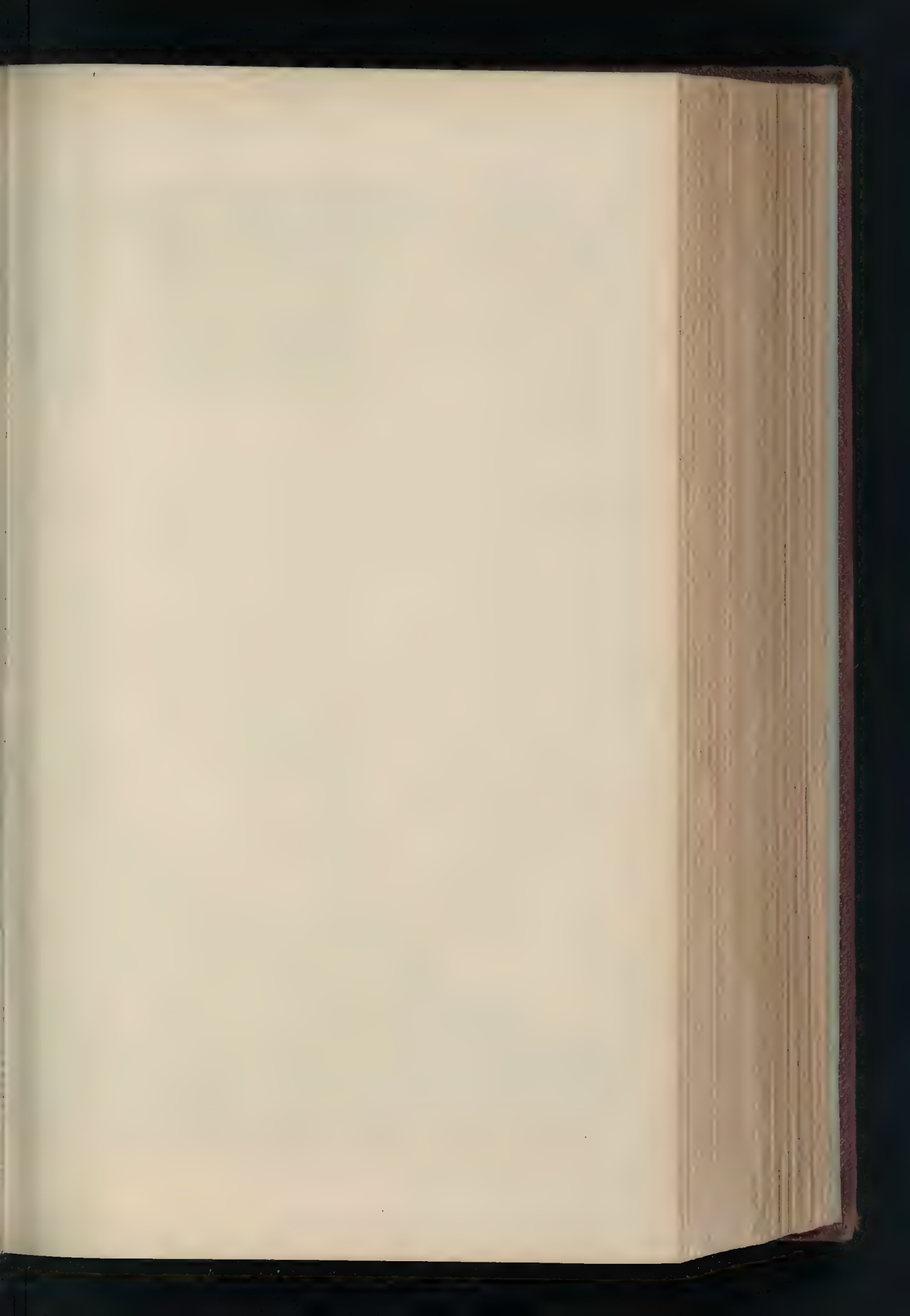
FIFTY YEARS AGO

From the Builder of August 3

The Pneumatic Despatch Com

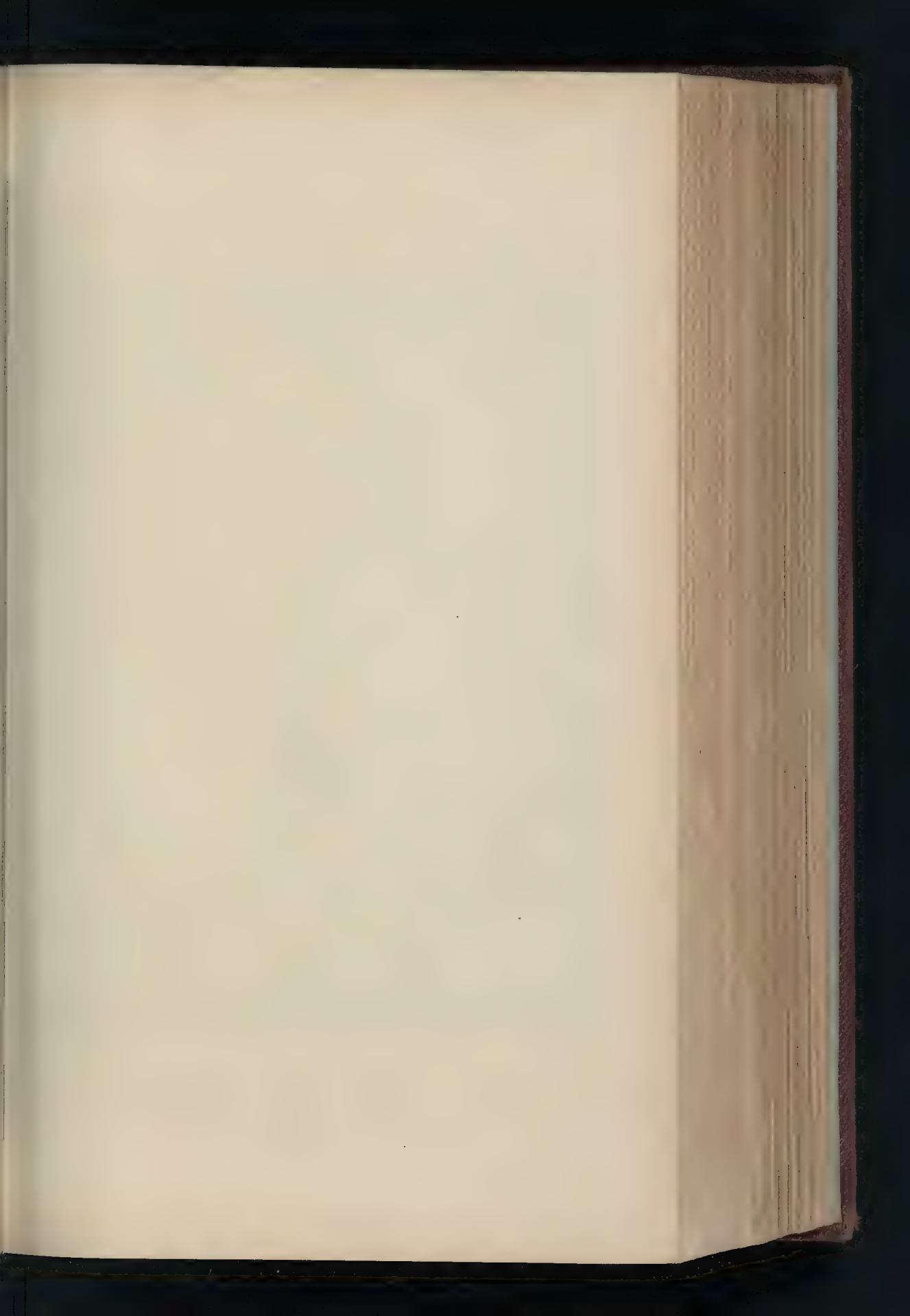
THE second ordinary meeting of pany has been held, the Duke of B in the chair. The report of the stated that arrangements had been with the London and North-W pany for the carriage of parcels, not less than fifteen miles per ho a rate of charge not exceeding t rate. The railway company are al sites for stations at Camden and E free. The Despatch Company w lay down a 4-ft. tube to connect t and Euston stations; also a line latter station to a station in High also a line thence to a station at the new market in Smithfield; and a station in Gresham-street. The regretted that they had not bee make arrangements with the Po the Government departments.

* * * *propos* of the above, we f 1667 Denis Papin read a paper Royal Society, in London, in suggested a system of pneumatic but it was not before the XIX that anything was done on comm In 1824 a scheme was patented with the carriages propelled p inside it. A smaller tunnel fou with carriages outside it, was 1834. This scheme also failed 1839 Mr. Clegg patented an spheric railway." Experiments v with this system with a pipe 3 and 102 ft. long. The slot in through which the connexion vehicle was made was closed w tinuous leather valve. This sy installed on two miles of line Kingston and Dalkey (Ireland) in worked until 1855, and evoked interest that the French Governm 1845, voted a sum of 1,800,000 experiments to be made. The s also tried upon other British lines abandoned, and it seems to have realised that other methods offer advantages so far as the conv passengers or heavy goods was What is now called pneumatic de introduced in 1853 by J. Latimer C installed a tube, 1½ in. diameter an long, to convey written message the Central and Stock Exchange the Electric and International Company in London. This was the first of its kind in commercial improvements have since been r now the Post Office has more t miles of tube in use in London al tubes are of lead, protected by an of cast-iron; the bores are, for t "house" tubes, 1½ in., and for tubes chiefly 2½ in., with some 3 in



THE BUILDER, AUGUST 30, 1912.

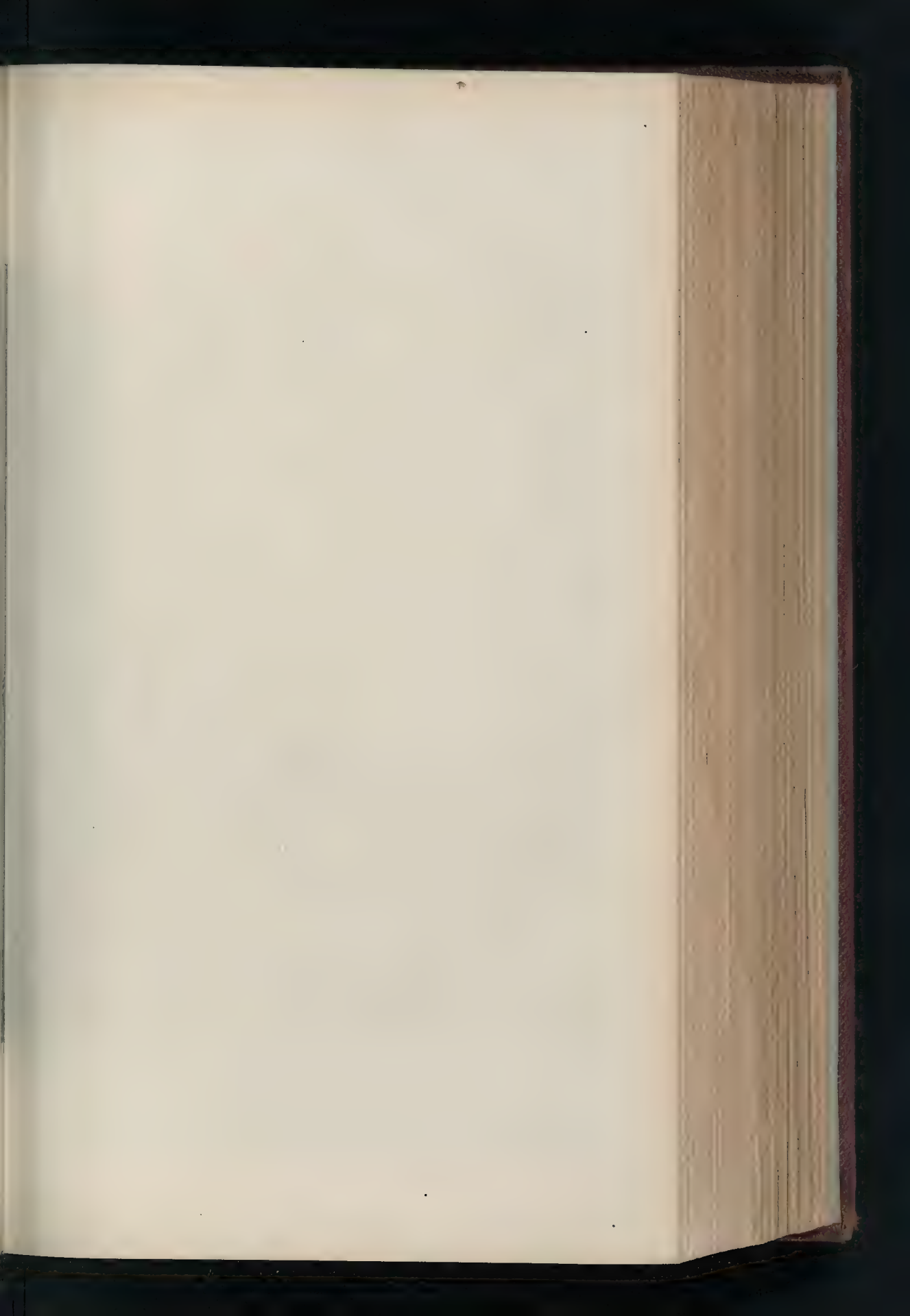


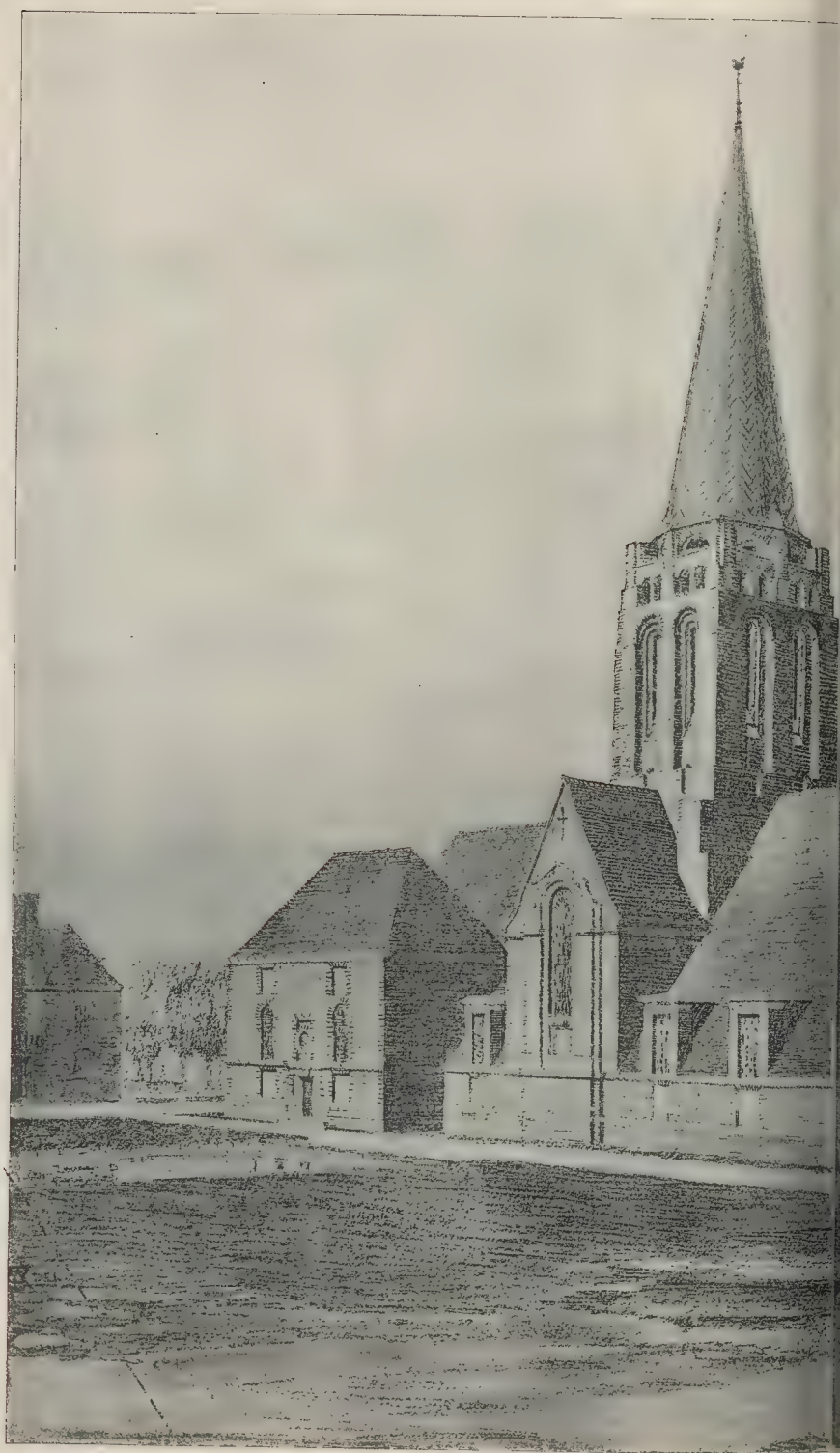




INN D-OT. ARKADIA. LITH. CO. & P. L. SAN STEPHEN

HAMPSTEAD GARDEN SUBURB: INTERIOR OF THE CHURCH OF ST JUDE ON-THE-HILL
MR E. L. LUTYENS, F.R.I.B.A., ARCHITECT.





HAMPSTEAD GARDEN SUBURB: EXTERIOR OF



N-THE-HILL—Mr. E. L. LUTYENS, F.R.I.P.A., ARCHITECT

THE BUILDER, AUGUST 30, 1912.



INK PHOTO SPRAGUE & CO. 69 & 70, DEAN STREET, SOHO, W.

HAMPSTEAD GARDEN SUBURB: INTERIOR OF THE FREE CHURCH.
MR. E. L. LUTYENS, F.R.I.B.A., ARCHITECT.



HAMPSTEAD GARDEN SUBURB JUNCTION OF WILLIFIELD WAY AND TEMPLE FORTUNE HILL
MR C M CRICKNER LIC RIBA

THE CAMPANILE, VENICE: ITS HISTORY AND RECENT RECONSTRUCTION.



The Campanile and Basilica of S. Mark, Venice.

no exaggeration to say that the Campanile of St. Mark at Venice is a unique position among the towers of the world. Dr. Compton alluded to this in the eloquent address which, in the Ducal Palace on April 26 last, he prefaced the opening within that Palace of a marvellous exhibition—the “Exhibition of the Campanile” (*La Mostra del Campanile*). “The tower of St. Mark,” he said, “is not an isolated monument, but a part of the life of the city, containing within itself all its history, its art and all its history, when it fell into ruin has no reason to be rebuilt. Instead of this it formed part of the whole—a part indeed of the tower and complex monument of which no one should or could be allowed to alter. And not only did the tower claim its tower, but Venice herself, her traditions hallowed to art, her lagoons with the wide sweep of the lagoon, and the sailor seeking with his soul the angel of gold in its summit.”

And the same sentiment of pride and affection running through all the

ages of V.ietian history. "The tower (*al campanil*)," writes a Venetian in the XVth century, "does not seem to be a piece of stone, but, endowed with senses and feeling, now he weeps, now smiles, now he speaks out loud, and then so low that it can scarce be heard. He weeps and sighs when he sounds the knell of punished crime ; he smiles when he rings a double chime of joy bells ; he speaks out loud with the *bora* (the north-east wind), his voice is low with the *sirocco* (the hot wind of the south). He wakes and summons to their labours every kind of people, from the Doge and his Councillors to the nobles, the priests, the doctors, the lawyers, the merchants, the artisans. Don't you really think that this is the watch-tower of the world ? (*Non ve par che questo sia un seggiolal del mondo*?) " And Sig. Luigi Serra writes this spring:—"As an integral part of the physiognomy of Venice, as a living expression of herself and her lofty spirit, as organically connected with and connecting the lines of the Piazza and the Piazzetta, and as watch-tower and herald of the skies, the Campanile was needed to reappear. And with it the Loggetta : for the Loggetta with its exquisite

grace tempered and softened the austerity of the tower."

The tower itself dates from the earliest years of Venetian history. The end of the IXth century has been suggested, and Sansovino seems to confirm this; but other authorities carry back the construction as late as the XIIIth century, when the Doge Domenico Morosini notes—"Under me was built the Campanile of S. Marco, of admirable workmanship." What seems probable (being supported both by old tradition, and by the latest researches into the foundations of the fabric and its material) is that there was a considerable lapse of time between its commencement and completion in its more definite form. These researches since its fall have revealed the fact that up to a certain level it had been constructed from Roman bricks, probably taken from Altinum and Heraclea, and this seems to confirm the tower to have belonged to the very earliest days of the Republic. Dr. Ricci alluded to this, too, in his inaugural address:—"Flying from the barbarians and their savage acts, insecure as the wave and as the ship, they had passed from Heraclea to Malamocco, from Malamocco to Rialto.



The Campanile in Construction, with the Movable Platform.

(By permission of Messrs. Alfieri & Lacroix.)

... But the power and name of Rome were still in the memory and soul of these peoples, and were yet invoked in vengeance of their slaughter by the Huns and Lombards. Therefore they willed their tower to be Roman—Roman

in its spirit, its material, its construction."

For this Campanile was essentially a watch-tower, and belonged to the whole period of the Republic to which of their city: from its great lagoons could be dominated and kept against barbarian invasion the first it was exposed to the elements, and again and again by lightning or partially burnt again in 1405 (when it was set on fire by the illuminations after the capture of Padua), again in 1489, when it was destroyed by lightning, and the *ridotto* of the tower, which stood then below, destroyed, falling stones—a disaster which was followed by such a violent earthquake in 1511 that for the first time its bells could be rung.

This was in the period when Venice alone against the leagued monarchs of Europe, Spain joining France (the Pope to despoil her. Antonio was then *Procuratore* of the Republic under his direction the *Protomastro* possibly working on the design of which had been made after 1450 constructed the Campanile in the style which it has held since, setting on the gilded angel, of which Sanudo wrote in 1513:—"May he take his place in an hour, and be of good omen to this Republic." Jacopo Sansovino added later (1564) to adornment his Loggetta, a little Renaissance design.

There seems to be little doubt that this *mastro*, Bartolommeo Buon, had shared the popular superstitions of the tower were extensive; and he had the hesitation in adding considerable weight to be placed upon those foundations.

It was the investigations of Boni, in 1885, which first led to the supposition that the foundations beyond the circumference of the base—a theory that subsequently were only too fully to confirm; see that while in successive years (more especially in that of Bartolommeo Buon's time)



The Campanile in Construction, up to the Belfry.

(By permission of Messrs. Alfieri & Lacroix.)



The Campanile in Construction, including the Belfry.

(By permission of Messrs. Alfieri & Lacroix.)

had grown in height and weight, and the efforts of later generations, and the great work accomplished by the Loggetta (1537-42), to which the tower, which was thus completed within six years. Two sub-committees had been appointed for the materials and general supervision; and as the tower began to rise the "castello mobile," or movable frame-

407 sq. metres, or very nearly double the surface. The project for reconstruction was approved by the Municipality in December of 1905; and on April 1 of 1906 Count Grimani, as Sindaco, laid the first stone of the new tower, which was thus completed within six years. Two sub-committees had been appointed for the materials and general supervision; and as the tower began to rise the "castello mobile," or movable frame-

President Charles de Brosses, *Les Familles, écrites d'Italie en 1789*, a copy of which now lies before me, describing his visit to the church and the Ducal Palace (he wrote of the Gothic revival and actually calls the building, "un vilain monsieur, mais, sombre et gothique, du plus bel effet!"), must add next, "After the great tower which is near the islands and little towns which keep her company, the lagoons, and all the Comacchio as far as the Alps, Carinthia, Trieste, the Coasts of Dalmatia."

the old tower more than would never recollect quite such a new as this. Perhaps the gallant aid here by his lively Gallic he adds next, "Je vis de la foi, l'Épire, la Macédoine, l'Archipel, Constantinople, la grande et le grand seigneur."

old tower fell in 1902, involving the Loggetta in its ruin, but without any loss of life or damage to S. Marco ("He fell," said the "like a gentleman"—"cadeva uomo"), the impression in the dense; an impression of grief and which was echoed throughout the old, and which found utterance in the words of the Sindaco of Venice, Count Grimani. "It must rise again as, and as it was! (dove era)"

of patient reconstruction, from that promise has been accurately and we can recollect the which was awakened among the men, on the day of its inauguration, the Ducal Palace, after describing the great restoration of the Campanile under Antonio Boni, added: "In 1513 the work and the chronicler could note, the anile of S. Marco is now restored, the labours and industry of Antonio Grimani. Four centuries it, and it is still a Grimani who, in will and love of Venice, has great monument to rise again."

Boni was the first to examine, the foundations of the fallen tower to its reconstruction; and he died in June of 1903 by Cav. Luca When he, too, withdrew his place by a Committee, which was first in enlarging the foundations, been (as we stated) contained in the of the tower itself; and, present as the nucleus, they constructed a strong enclosure of Istrian at while the old foundations had perished of 222 sq. metres, the of the present tower cover

city, and in the restoration of the Angel which crowned the tower—the Committee reproduced on the second bell, the largest of those recast, the portrait of Pius X. and his signature.

The angel above mentioned (who represents the Archangel Gabriel) was very cleverly reconstructed in its entirety from the numerous fragments of his predecessor, and is connected with the summit of the tower by a very strong pivot of steel, while a movable metal staircase can be attached to his feet; the actual belfry is of iron, and arranged so as to minimise the oscillation caused by the bells, while it is of interest to note that the statues of "Justice" and "Venice" have been replaced, as well as the two winged lions which Napoleon removed during his power at Venice.

The bells themselves weigh, respectively, 3,625, 2,556, 1,087, 1,366, and 1,011 kilogrammes, and the angel (without the pivot just mentioned) 1,300; the tower itself from outside the ground to its summit weighs 8,900,000, and with its foundations included about 12,970,000 kilogrammes.

Our illustrations will give a very fair idea of the *castello mobile*, or movable platform, which was used by the workmen, while the materials were brought up to them by the lifts from within; and we believe we are correct in saying that this great work was completed without any accident or loss of life whatever.

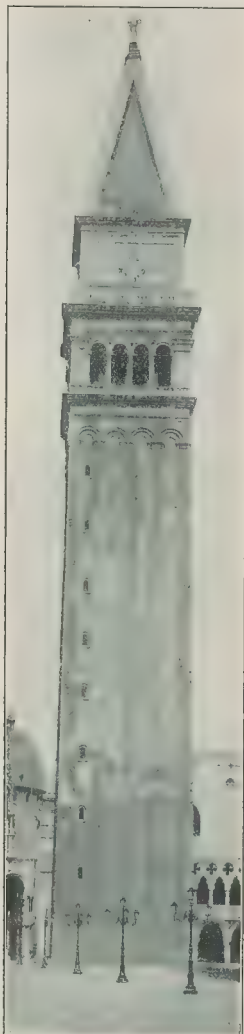
Lastly, we would like to describe briefly the no less successful restoration of the Loggetta of Sansovino. We have already alluded to this beautiful construction, which replaced the earlier Loggia dei Cavalieri, and was erected by Jacopo Sansovino in 1540; the figures with which he adorned it had each their special significance—armed "Pallas," signifying the wisdom of the Senate of Venice, and its alert intelligence; "Mercury," denoting eloquence and the love of letters; and similarly the exquisite nude figure of "Apollo" and the draped "Peace," who extinguishes her torch. The Loggia had been completely crushed by the Campanile in its fall; and when Sig. Boni came to Venice after the disaster his first care had been to carry into the Ducal Palace all the fragments of sculpture from out the mass of ruined bricks. Then commenced the work of reconstruction, in many cases very difficult; in the group of the "Virgin and Child," the head, shoulders, and thighs of the little S. John had entirely disappeared, and there were no less than 1,600 separate pieces.

When Luca Belzoni, in 1903, succeeded Boni the reconstruction of the above group was handed over to Pietro Zei, and to Emanuel Musarelli the bronzes of the Loggia, as well as the angel. The result is entirely satisfying: Pallas now meets us as before, beneath the Loggia, armed, alert, and vigilant, and beside her Mercury, Peace, and the lovely young Phœbus are enclosed by those wonderful gates of Antonio Gai.

The scene of the opening of the Campanile on S. Mark's day (April 25) of this year was one never to be forgotten. The marvellous and unique surroundings the splendour of the pageant itself, as the representatives of the King, of Italy, of Venice, and the guests of honour, landing from the Bacino and advancing through the Piazzetta, were met in the Piazza itself by the Patriarch and his clergy coming forth through the opened doors of S. Mark—the stream of banners which followed the procession—and all this bathed in brilliant sunshine made a wonderful picture. But the psychologic moment of that day came when again the great bells—silent for ten years—pealed out their welcome, when the startled pigeons soared out into the blue, and the pure clear voices of three thousand children from behind the Palace joined in that triumphant song of Marneti:—

"Fratelli d'Italia,
L'Italia s'è desta!"

Venice had woke to life—and Venice stood for Italy! S. B.



The Campanile of S. Mark, Venice.

work, came into use, while for the carrying up of the materials a Steigler elevator was used, which also, when the bells had been recast, lifted them, on June 22 of 1910, very easily into their lofty place.

We were given to understand at Venice this spring that the bells had all been broken save one; the new peal was solemnly blessed on June 15 by the Patriarch of Venice, and—as the Pope had expressed his desire personally to share in the expense of recasting the bells of his beloved

THE BUILDING TRADE.

THE INSURANCE ACT: UNEMPLOYED INSURANCE.

WHEN the Insurance Act was passed and Schedule II. was before Parliament, which contains the "list of insured trades for the purposes of Part II. of this Act relating to unemployed insurance," we hardly think that it was contemplated that the application of this part of the Act would be nearly so extended as it already has become in practice.

The Chancellor of the Exchequer in introducing the Bill spoke of unemployment insurance being applied by way of experiment in certain especially selected trades, and the schedule contains seven trades:—Building, construction of works, shipbuilding, mechanical engineering, ironfounding, construction of vehicles, sawmilling carried on in connexion with any other insured trade. When it was proposed to apply this class of insurance only by way of experiment it was generally understood that the trades the subject of such an experiment would be definitely specified. How far this has not proved the case may be gathered from the decisions of the umpire appointed under sect. 91 of the Act determining the classes of persons who are to be deemed included or excluded from this part of the Act.

The decisions already published number close upon 800, and only those decisions are published which relate to classes of workmen or which involve some new principle. Anyone studying these decisions will see what confusion is arising under this part of the Act, and how impossible it is from these 800 decisions to frame any general guiding principles. Matters are made even worse when decisions are given which, as stated in the published reports, are intended to modify decisions already delivered.

We need hardly give examples; many of our readers have probably already had bitter experience of the condition of affairs to which we are now drawing attention. One instance will suffice. In the latest published report "workmen engaged in writing signs on buildings, ships, or vehicles," are held to be within this part of the Act, and this decision is intended to modify a decision by which it was held that "signwriters who are engaged wholly or mainly in the writing of signs and writing on office-doors, gilding letters, etc.," are exempt from this part of the Act.

Now, under which of the seven headings contained in Schedule VI. can writing signs on buildings be said to fall? All the specified undertakings appear to involve "construction" of something, unless it be "decoration," of buildings and ships; thus the conclusion appears to be that writing signs is treated by the umpire as "decoration."

If the experiment of unemployment insurance was intended to be a tentative movement, the trades to which it was applied should have been limited, and they should have been defined with accuracy. As it is, the definitions are of little use, and matters are made worse, as we have pointed out before (see the *Builder*, May 31), by sect. 107, subsect. 2, which provides: "In determining any question as to whether any trade in which a workman is or has been employed is an insured trade or not regard shall be had to the nature of the work in which the workman is engaged rather than to the business of the employer by whom he is employed." This subsection is entirely incompatible with the idea of an experiment limited to certain trades.

THE RAILWAYS: STRIKES AND INSURANCE.

THE statements made at the half-yearly meetings of the principal railway companies generally afford an indication of the prosperity or want of prosperity in the trade of the country and of trading conditions. The two features of the past half-year have been the loss owing to the coal strike and the increased charges imposed by the Insurance Act.

The London and North-Western Railway in the half-year showed a diminution of receipts of 193,541L., attributed to the strike, the Great Western a decrease in revenue of 234,348L., the Midland Railway 235,580L., and in consequence

most of the companies have declared dividends of about 1 per cent. less for the half-year.

In face of these diminished receipts caused by labour unrest a measure passed in the supposed interests of the working classes, the Insurance Act, is placing a severe additional charge on the companies. On the Great Western system this is estimated at 60,000L. per annum, whilst on the North-Eastern the charge is estimated at 40,000L., which represents $\frac{1}{2}$ per cent. of dividend.

Thus it is apparent that, whilst labour disputes have been the cause of serious loss in what should have been a time of commercial prosperity, legislation is seriously increasing the fixed charges.

In face of the cry for nationalisation some figures quoted by a proprietor at the meeting of the London, Brighton, and South Coast Railway are deserving of attention. He stated that in order to earn the amount divisible in the half-year on the ordinary stock, 93,080L., the company had to pay in rates and taxes and Government duty 118,478L. The income-tax had yet to be deducted from this, the net result being a sum earned for the ordinary stock proprietors of 87,659L., and for the Government and municipal bodies 123,908L. A similar statement could no doubt be made in connexion with the other companies. These Government and municipal charges are lost sight of when labour agitators accuse the shareholders of greed, and it is well that attention should be drawn to that proportion of the earnings which goes to the shareholders as compared with the proportion devoted to public purposes.

LAND TAXATION PROPOSALS.

QUESTIONS in the House of Commons have failed to elicit much information as to the Committee with which the Chancellor of the Exchequer is associated to investigate the question of the taxation of land values. It is said to be an entirely informal inquiry, but in formal inquiries under the aegis of a Chancellor of the Exchequer into questions which relate to future taxation are surely an innovation, and must have a serious influence on the value of the property likely to be taxed. Budgets are always kept secret because many forms of property can be so handled that if it is known that a tax is likely to be imposed that tax can successfully be evaded. The land, as we were constantly reminded when the Finance Act was introduced, cannot be removed, and in the 1909-10 Memorandum appended to the Report of the Departmental Committee on Local Taxation this fact is again dwelt upon: "The owner of land cannot withdraw it or conceal it." Until the year 1915 the full effects of the Finance Act cannot even be estimated, as the valuation cannot be completed until then; thus the land is already subject to taxation most uncertain in its incidence, and it is considerably depressed in value in consequence. Is this the time to talk of further taxation of the same subject? Extremists desire to tax the private ownership of land out of existence, and they may possibly be credited with the idea that the more the land is depreciated the easier will their object be accomplished, but we decline to believe that members of the Government can have any such object in view. We do, however, desire to draw attention to the very serious effect on land values and building enterprise produced by this informal inquiry into the subject of land values and taxation countenanced by a responsible Minister.

DRILL HALL, ALDERSHOT.

A new drill hall has been erected on Redan Hill for the Aldershot Territorials. The drill hall is 80 ft. long and 40 ft. wide. In addition, there are offices for stores for E Company, 4th Hants Regiment, the Hants Brigade Company, A.S.C., and the Hants Carabiniers, as well as rooms for officers and sergeants. On the first floor are a large lecture-room and a men's recreation-room, in which there will be facilities for various games. At the rear of the building are also quarters for the caretaker. The building is of red bricks, rough cast on the exterior, with a roof of asbestos slates. The builder is Mr. W. J. Snuggs, of Aldershot.

TRADE UNION MEMBERSHIP.

THE figures published in the *Labourer* relating to the membership of the trade unions appear to show a direct connexion between membership and militancy. The membership during the year 1906 was the largest recorded since statistics have been available for the purposes of comparison. The increase was 3,010,346, or 23.3 per cent. This increase of membership was most noticeable in those trades in which there were disputes. Thus the iron and steel trade, the transport trade in which the increase showed the largest increase, and the textile trade, in which the increase was the next largest, were the trades most affected by the increase. From the above statistics it would appear that the unions flourish in stormy times; militant policy is necessary to them to increase their membership.

Against such a deduction it may be said that the previous year showing a large increase in membership was 1907, a year in which a considerable number of disputes occurred. However, it may be pointed out that the exception of railway employees, in which the increase was the largest, was a disturbance of the trades which showed a decrease, and that that year was a year of considerable agitation in the railroads as between the trade union and the unions and the companies. In this year 1906 was the year in which the prominence was again given to the passing of the Trade Disputes Act, and in the year 1905 the increase in the membership of the unions was 1.2 per cent., in 1906 it was 10 per cent., and in 1907 13.4 per cent. It must be admitted that against the essentials to the maintenance of the trade unions as they are constituted.

GOVERNMENT BUILDINGS WORK.

MATTERS of importance to the building trade are discussed in the Report of the Parliamentary Committee on Estimates, which has just been issued. Referring to the Royal palaces, etc., the Committee states that they are informed that competition for work and materials are being invited, open competition, following public notice, if possible, or by limited competition among selected firms in special cases of building work, open competition, except in some instances, the provision of Labour. Existing buildings were adapted for new purposes, and the urgency of the work allowed time to prepare bills of quantities was stated that such works were more than 5000. The Committee hopes that in any similar provision of service, which may become necessary, such reasonable time may be allowed for the preparation of the necessary bills, and that the Office of Works to permit the Office of Works to plan in the most economical manner. There is an exception to the rule of open competition in buildings which the Committee considers to be proper. If the work to be taken involves exceptionally difficult or specially-skilled workmen, tenders are only invited from firms known to be capable of carrying out the work in a satisfactory manner. For repairs are needed in an ancient building, as Holyrood, or in a very elaborate building, such as the Houses of Parliament, only invited from selected firms, and that if open competition was entered, the lowest tender might be that of a firm which, though good enough for ordinary purposes, lacked the special skill and experience required for this class of work, minor, but not unimportant, point of this limited competition is the fact that men who are employed in the Royal palaces, including Westminster, become responsible for the safety of such places, where the entrance is not very desirable. Passing over maintenance contracts, the Committee states that this contract, in London alone, is worth about 200,000L. a year, and embraces all alterations and repairs exceeding 300L. The Committee

The restoration of the tower of Wellington Church is now being carried out, and some particulars of the work are given in a recent issue of the *Herefordshire Times*.—"An inspection of the interior revealed a condition of things at once pitiable and alarming. The Norman windows from the battlements to the Norman windows of the belfry, were two great gaps large enough for a man to stand upright. One of these, on the north side, had been deliberately made for the purpose of allowing the hammer of the old clock to swing free as it struck the bell. The other, on the south side, was a mere gap, the stone, as it may seem, kept in place with practically nothing to support it. These gaps have been filled up solid with cement concrete. Above each of the Norman windows immediately below the XVIIIth century masonry a concrete bander with an iron bar was inserted. This bander will serve to carry the greater weight of the XVIIIth century masonry which the Norman arches had before to carry."

Underneath the first bell framing, which consists of huge oak beams 14 in. by 12 in. thick stone corbels have been placed. These enormous beams, bearing the whole weight of the bells and framing, were found to be firmly fixed in the west wall of the tower the other but owing to the list in the tower the other end of the beam was held up by only 3 in. of stonework. . . . The stone corbels now hold these beams in perfect safety on their projecting brackets. Just above these beams was the weakest part of the tower. Here the chief pressure was felt from the heavy XVIIIth century addition pressing down from above, from the outward thrust of the enormous bell framing, and from the jar of the ringing bells. Here it is that four iron tie rods, 1½ in. each in diameter, with 4-in. plates concreted in with screw ends, have been fixed. By means of these the masonry has been screwed nearly 2 in. nearer to the perpendicular. Below the bell framing the north and south walls have been opened out, concreted, and faced with ash stone. In the clock chamber in future the bells will be rung. Here the walls were honeycombed with fissures. Above and below the windows concrete bonders, 4 ft. 6 in. long, have been placed. The work is being taken in hand by Messrs. Beavan & Hodges, of Hereford, to the plans of Mr. Bettington. All the features of the Norman building are being preserved.

DUNFERMLINE LIBRARY EXTENSION.

Plans prepared by Mr. James Shearer, architect, in connexion with a large extension of the Central Library at Dunfermline, have been accepted by the Public Library Committee. The cost is estimated at about 11,000l.

SPINNERS' HALL, BOLTON.

A new building has been erected for the Bolton Operative Spinners Association from the designs of Messrs. Potts & Hennings, A.R.I.B.A., architects. The building contains three assembly halls, accommodating respectively 750, 300, and 160; also nine offices, retiring-rooms, kitchen, and caretaker's rooms. The contractors are Messrs. William Townson & Sons, Ltd., and the hall was formally opened on Saturday last.

BANK IMPROVEMENT, WOLVERHAMPTON.

Extensions and alterations are to be carried out at the Metropolitan Bank, in Lichfield-street. The architects are Messrs. Cossins, Peacock, & Bewley, of Birmingham, and the scheme involves the demolition of the present bank premises and the erection of a three-story building with frontages executed in Darley Dale stone. The builders are Messrs. T. Elvins & Son, of Birmingham.

TRADE NEWS.

Under the direction of Messrs. Yeates & Jones, architects, Worcester, Boyle's latest patent "air-pump" ventilators have been applied to the Girls' and Infants' British Schools, Worcester. Under the direction of Messrs. William & Segar Owen, architects, Warrington, the firm's latest patent "air-pump" ventilators have been applied to the new dining hall, Warrington Workhouse.

The Crompton-road School, Macclesfield, are being supplied with Shorland's warm-air ventilating patent Manchester grates and patent exhaust roof ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester. The New Schools, Fakenham, are being supplied with the firm's patent exhaust roof ventilators.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Proposed extensions to fish market (5,800l.). Mr. W. Dyack, Surveyor, Burgh Hall, Aberdeen.

Barrow (Suffolk).—Six houses: Mr. A. R. Cameron, Surveyor, Rural District Council Offices, Thunpoe.

Cheltenham.—Hospital buildings (780l.). Mr. J. Meek, Clerk, Guardians' Offices, Cheltenham.

Chinley.—Twelve houses, Green-lane: Mr. J. W. Jackson, Fishguard.

Clatterbridge.—Extensions to workhouse: Mr. J. E. J. Ollive, Clerk, Wirral Guardians, 54, Hamilton-street, Birkenhead.

Coatbridge.—School, corner of Drumpellier-street (2,700l.), for the Monkland School Board, Coatbridge.

Crawley.—School, Mr. L. Thompson, County Council Buildings, Horsham.

Devonport.—Dispensary and alterations at infirmary: Mr. A. Gard, Clerk, Guardians' Offices, Devonport.

* See also our list of Competitions, Contracts, etc., on another page.

Dovercourt.—Garden city (50,000l.); Mr. F. G. V. Brown, architect, Dovercourt.

Dumbarion.—Alterations and additions to slaughterhouse (1,300l.); Mr. J. Briggs, Surveyor, Burgh Hall, Dumbarion.

Edinburgh.—Picture house: Mr. Thomas Stewart, 150, Lauriston place.

Failsworth.—Proposed baths, Wrigley Head (3,000l.); Mr. George F. Gray, Surveyor, Urban District Council Offices, Failsworth.

Faversham.—Extensions to Baptist church (850l.); Messrs. Ratcliff Brothers, builders, 16, West-street, Faversham.

Gainsborough.—Four shops, Church-street: Mr. S. W. Parker, Surveyor, Urban District Council Offices, Gainsborough.

Glasgow.—Improvements of several congested areas; Mr. A. B. McDonald, Surveyor, Burgh Hall, Glasgow.

Harcombe (near Chudleigh).—Residence, laundry block, garage, etc.; Mr. J. A. Lucas, architect, Guildhall-chambers, High street, Exeter; Messrs. Woodman & Sons, builders, Bartholomew-street East, Exeter.

Hornsea (Hull).—Reconstructing public rooms (1,000l.); Messrs. W. E. Walker & Sons, architects, Hull; Mr. C. M. Stephenson, builder, Hornsea.

Hull.—Vicarage, Albert-avenue (1,550l.); Messrs. W. S. Walker & Sons, architects, 77, Longgate.

Kingstown (Ireland).—Baths and washhouses (1,000l.); Mr. F. Weaver, builder, 72, Glashale road, Kingstown.

Kirkcubbin.—Drill hall for the Dumfries Territorial Association (1,000l.); Mr. James Young, builder, Sanquhar.

Leagrave.—School (3,379l.); Mr. O. P. Drever, builder, 69, Round-hill-road, Kettering.

Lyme Regis.—Eight houses, Lower Early Mead Field; Mr. F. H. McDonnell, Surveyor, Town Hall, Lyme Regis.

Malden.—Extensions at new county buildings (1,000l.); Mr. H. P. Maybury, Surveyor, West Borough-chambers, Malden.

Matlock.—Pavilion in Matlock Park (4,000l.); Mr. J. Turner, Architect, Town Hall, Matlock.

Milnbridge.—Additions to St. Michael's Church, Scar-lane; Mr. A. Shaw, architect, Golcar.

Montgomeryshire.—Forty houses; Mr. T. Alwyn Lloyd, architect, London.

Northfleet.—Extensions to gas producer house for M.P. Messrs. Henley's Telegraph Work Company, Ltd.

Norwich.—Hotel, Bethel-street, for the Y.M.C.A.; Messrs. E. Boardman & Sons, architects, Queen-street, Norwich.

Oldham.—Hospital and extensions to Strinsdale and Westhulme hospitals; Mr. E. C. Foote, Surveyor, Town Hall, Oldham.

Paxton.—School; Mr. F. W. Crook, Secretary Kent Education Committee, Caxton House, Westminster, S.W.

Pentrecwytch.—Congregational chapel: Messrs. Thomas Mcager & Jones, architects, Swansea; Messrs. Thomas & Jones, builders, State street, Morriston.

Pershore.—Proposed cottage homes (1,000l.); Mr. A. E. Baker, Clerk, Guardians' Offices, Pershore.

Perrin.—House, Wilson-street, Craigie; Mr. Andrew Gowans, builder, Perth.

Rishton. Workmen's dwellings; Mr. John Parker, architect, 106, High street, Rishton.

Saddleworth (Yorks).—Proposed fifty-five houses (16,000l.); Mr. J. H. Reynolds, Surveyor, Urban District Council Offices, Saddleworth.

Scotstown.—Twenty-three houses for the Scotstown Estate and Building Company; hall, Station-road, Scotstown West, for Messrs. Henderson & McDonald.

Seaham Harbour.—Fifty-three houses: Mr. J. Burrell, Surveyor, Urban District Council Offices, Seaham Harbour.

Sedburgh.—Pavilion; Messrs. Hicks & Charleswood, architects, 67, Westgate-road, Newcastle.

Sharrow.—Improvements at St. Andrew's Church (1,200l.); Mr. W. H. Wood, ecclesiastical architect, Newcastle.

Sheffield.—Sunday school (1,650l.); Trustees of the Fifth Park United Methodist Church.

Southport.—Lodge (650l.); Messrs. Fairbridge & Hatch, builders, 9a, Aughton-road, Birkdale, Southport.

Spalding.—Drill hall; Messrs. Scorer & Gamble, architects, Bank street-chambers, Lincoln.

Sparsholt.—Proposed farm school: Mr. D. T. Cowans, Hants County Council Offices, Winchester.

Stafford.—Post-office: Mr. H. Smith, builder, Wolverley, Kidderminster.

Stamford.—School; Mr. H. Donaldson, County Hall, Grantham.

Stockport.—Extensions and alterations to police buildings (15,000l.); Mr. J. Atkinson, Surveyor, Town Hall, Stockport.

Stretford.—Plans have been followed:—Seven houses, Darley-street, Fred Thorpe; extensions to the Trafford Wharf, for the Co-operative Society, Ltd.

Sunderland.—Day training cottages to Bede Collegiate School (places). Mr. F. G. Taylor, Builder, Town Hall, Sunderland.

Swansea.—Isolation block at (300l.); Messrs. Humphreys, Ltd., Knightsbridge, S.W. Business premises place: Mr. H. C. Portman, 6, Fisher-street, Swansea. Messrs. Brothers, builders, Heathfield-yard.

Wallsend.—School (12,000l.); Mr. builder, Morpeth.

Ware.—Enlargement of laundry house (2,800l.); Clerk, Guards Ware.

West Cornforth.—Theatre for Gray, proprietor of the New Electric Cooche.

West Hartlepool.—School; Mr. J. Clerk, Town Hall, West Hartlepool, to be appointed by competition. Electric power-station (480l.); Messrs. Son, builders, Burn-road, V pool.

Whitefield.—School (800 places) Little, architect, Ribblesdale-place.

Whitley.—Cemetery building (4, W. Allison, builder, Southchurch Auckland.

Wirral.—Proposed alterations to and extensions at infirmary (2,400l.); Messrs. Wirral.

Wolstanton.—School; Mr. S. H. Basford, Stoke-on-Trent.

Wolverhampton.—Buildings, Cattle Market (700l.); Mr. G. Green, Town Hall, Wolverhampton.

Workshop.—Re-erection of Margu, Inn; Messrs. Vallance & Westwick, Mansfield; Messrs. Vallance & Bly, Duke-street, Mansfield.

York.—Recovering home (1,988l.); Messrs. Guardians' Offices, York.

Youghal Dwellings.—Messrs. C. & Levis, architects, Youghal.

AN ANTI-TUBERCULOUS EXHIBITION.

IN view of the recommendation of the Committee on Tuberculosis, a special exhibition has been organized by the Society of Medical Officers of Health, headquarters, No. 1, Upper Mount-Russell-square, London, W.C. It is a comprehensive one, the exhibits ranging from the building materials to the epidemiology and phylomonometers. Shelters undergoing open-air treatment are three patterns are exhibited, two being coated with an antiseptic liquid, do not, in the present day, appear to be lodgings of the kind calculated to raise drooping spirits; they are undeniably well ventilated, having, in addition to a louvre, constructed chiefly of venetian blind, third is enamel painted in white and mounted on a turntable so that it may be varied with the weather; about it a suggestion of cheerfulness should think an important factor in a cure. All these shelters are of low prices, so that their destruction is not a great loss to the community.

Cooking appliances suitable for use are exhibited, and a special feature of the Zurich system of house-to-house refuse collecting. This is a scheme of the use of special covered wagons "sanitary dustbins," so arranged that rubbish after it has once been put into is not again subject to being dislodged every gust of wind. When full, inverted on the roof of the wagon, forward, the one movement opening covers of both bin and wagon and refuse to fall from the one into the other. Pulling the empty bin back again, two covers. Provision for the disposal of the rubbish is made by constructing the wagon as a series of flaps, which would resist the muscular but the type of dustman in vogue in the country, though they are said to work well in those of those trained under conscription by the Continental towns in which the system is adopted.

WESTONS," BEMBRIDGE, ISLE OF WIGHT.

se is situated in the Swain's-road, and is planned so that the rooms are on the garden front, the east, overlooking Selsey Bill. The walls are built hollow of local stone covered with white rough-cast. The roof is covered with red sand-faced half-round ridging tiles. The front and back are brought down to large verandahs, supported on pine posts and framings. The internally are quite simple, the hall being panelled with deal filled in with green canvas, and the rooms with Oregon pine timbers, from the saw and stained a dark-ir. The main staircase is of Oregon plain square newels, carried up supported by beams and simple brackets. The chief rooms have mantels specially designed by the architect, A. Jessop Hardwick, F.R.I.B.A., on-Thames. In addition to the plan shown by the accompanying are four large bedrooms, a bath and cupboards, with space in the for enlargements. Messrs. Love & Bembridge, were the general contractors. Messrs. Humphrey Jackson, & Co. supplying the special fittings.

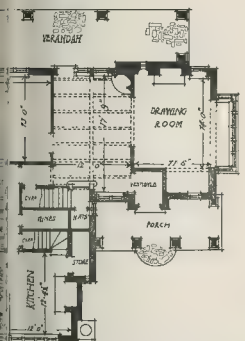


Front View, "Westons," Bembridge, Isle of Wight.

Mr. A. Jessop Hardwick, F.R.I.B.A., Architect.

MEDIAEVAL MASON.

in the Middle Ages was commonly as a mason simply. Where, however, a number of masons were employed as in the accounts of mediaeval they were divided into various groups in the wages ledger being



ns," Bembridge, Isle of Wight.

essop Hardwick, F.R.I.B.A., Architect.

ter a distinctive heading. We see of a number of masons set down under heading "Fremasyns," another group heading "Setters," and others under "Row-masons," "Entailers," "yers," and "Hard-Hewers." The meaning of the term freemason is not the setters we may believe to have by whom the stone was set or laid cut and trimmed. In one account-builders' expenses (Record Office MS. 474-12) the setters are referred "tars of stone." We are not able to meaning of the term "lodgmen"; tion, so far as we are aware, occurs of accounts alone. The "hard-hewer" bly be by whom the stone was cut ed ready for the setter. "Row-may be a term for rough-mason. Dictionary defines rough-mason as one only with unhewn stone."

ct kind of work done by the "Row-m is not clear. His position apparently ly inferior to that of the freemason, 499-19 the former are paid 6d. a the latter 3s. 4d. a week. The MS. tioned relates perhaps rather more "ow-mason" than is commonly met e is not frequently referred to at all documents. From this particular e we learn that the "Row-mason"

worked on chimneys and on the floors of large ovens. There is, however, no reason to suppose that his work differed materially from that of an ordinary mason. In this important MS. we find a record of the employment of two different sets of "Row-masons" at the same time. The one group consisted of individuals who were paid by the day; the other group worked and were paid by the piece. These pieceworkers were known as "taskers"—that is, task-workers, men who worked by the task. The taskers were paid so much at a time in instalments, which was the manner usually adopted for the payment of men working by the piece. Richard Lewis, one of these masons and a tasker, was, we find, paid 10s. "in parte of payment for hys task work."

In MS. 479-11 the masons appearing under the names of "rough-layers" and "row-layers" were probably "Row-masons." In MS. 477-12 a large number of names of rough-layers appear. Of these the chief warden received 10d. a day, the warden 8d., and the remainder 7d. and 6d.; apprentices were paid 5d. and 6d. In the building of New College, Oxford (MS. 479-11),

the warden of the rough-layers had 7d. and the others 6d. a day. Where a large number of masons were employed a foreman, known as the "warden," was generally engaged.

In a large volume containing a record of the expenses connected with the erection of an important building in 1539 (Rec. Off. MS. 477-12) we see that the warden of the masons received 4s. a week, the setters 3s. 8d., and the lodgemen 3s. 4d.

In MS. 479-26 is an entry recording the wages paid to a mason and stating that food and drink were found by the mason himself: "Item payed to William Carter, mason, for his labor vi. days, with mete and drynke att his owne charges the same weke, at viid. the day, iiii. viid."

In MS. 479-11 more than one master mason was employed, each having xliid. a day. "The varden, masons, and scetters" each had 8s. 8d. a week, and every freemason 3s. 4d. This was for work done at Wolsey's New College at Oxford in the time of Henry VIII. The hard-hewers are referred to in MSS. 479-9 and 11 as having been paid 3s. 4d. a week. The mason's



Garden View, "Westons," Bembridge, Isle of Wight.

Mr. A. Jessop Hardwick, F.R.I.B.A., Architect.

of the Act, "Lines of building by sect. 31, is not to affect the special statutory powers of railway or railway purposes."

relates to "naming and numbering and is outside the points we are at but Part V. "Open spaces about height of buildings," contains a provision for railway companies in the only sections which could apply to, sects. 47 and 49, relating to buildings.

tion under Parts VI and VII. is curious. By sect. 201 (8), "any structure situate upon the railway or station premises, and used for purposes of or in connexion with a railway company," is exempt from the operation of Parts VI and VII. respectively to "Construction of and "Special and temporary buildings or structures"; but in addition a general exemption, sect. 86 exempts the operation of Part VII. "Structures erected or set up upon the premises of any railway company," and "any structure situate upon the premises of a railway company." The remainder of the Act we need not consider, as with matters not relevant to our and we can now refer to the duties of Surveyors.

provides that, "Subject to the provisions of this Act, and to the exemptions mentioned, every building or and every work done to, in, or building or structure, and all matters the width and direction of streets, the line of building in streets, the open spaces about buildings, and of buildings, shall be subject to the discretion of the district surveyors. . . . it will be observed, fall within the of the Act above alluded to and the exemptions of railway companies are considered.

and VII. of the Act are those on every occasion inspection, as they construction of buildings and to structures, and from these two exemption for railway companies is the same as under the other Parts, 20, extending, as it does, to building premises used in connexion with the office.

class of exemption is more comprehensive considerations of the special referred upon the companies by of Parliament.

ing on this latter class of exemption found noted in the *Builder*, 1908 (London County Council v. Coal and Railway Society, Ltd.). The London and Railway Company had leased the land within of deviation to the Coal Company, option to resume immediate possession had been erected beyond the line. One of the Judges of a Court held that the Railway Company had exercised special legislative powers, and were, therefore, not exempted from the provisions of the Act; a second Judge Companies Act to prohibit building the building line; whilst the third of that the land was being used for purposes, and that the London Building restricted the restriction enforced by the Act. This case will illustrate the problems involved by this class on.

point to be borne in mind appears in the case of "construction of the exemption from Part VI, is provided the building is on railway and is used for the purpose of or in with the traffic of the railway

which the Finance Act came into operation), increment value duty should only date from the day of the purchase. It was pointed out that as no increment duty was payable between the two dates the vendor had to pay no duty, but the purchaser, if he resold the property at the same figure he gave for it, might yet be called upon to pay increment that had accrued due while the property was still the vendor's. The Chancellor of the Exchequer admitted that a case had been shown for an amendment of the law; indeed, he said the amendment to the Act proposed did not go far enough, as the case had to be considered where a contract had been entered into before the commencement of the Act.

An unforeseen difficulty has arisen, however, in carrying into effect an amendment which is called for to do away with a manifest injustice, as the Chancellor said the amendment could only be inserted in the Bill if it did not take the Bill out of the Parliament Act by converting the Bill into other than a money Bill. This question is still in abeyance, pending decision by the Speaker.

A motion abolishing increment on minus values was not carried, but it was stated that the Scotch decision, which we noted April 26 last, and which held such a practice to be an absurdity, is being carried to the House of Lords.

LONDON COUNCILS.

East Ham.—Dr. W. Benton, Medical Officer of Health for the Borough, in his annual Report for 1911, which has just been issued, states that the Borough is well supplied with houses and tenements, and that there is still a large number of houses being built. Plans were submitted and passed for the erection of buildings, comprising:—439 single tenement houses, forty-seven double tenement houses, fourteen shops and dwellings, one lock-up shop, two picture palaces, one school, twenty-three additions and alterations, etc. to business premises, and eleven additions and alterations, etc., to private houses. A regular system of house-to-house inspection has been carried out in the Borough, and a number of defects remedied. The very important work of inspecting choked drains has received much time and attention. There are 26,860 houses in the Borough, and at 2,359 the drains have been unstoppered and cleansed, which is equal to 8.7 per cent. of the houses, as compared with 9.7 per cent. for the previous year. These figures at first glance appear large, but it is to be remembered that the houses are drained by the combined system, six or more houses running into a common drain, intercepted from the sewer by a siphon. A thoughtless, or careless, act of an occupier would cause the whole of the houses connected to the common drain to be choked. At 613 houses the drains have been tested either with water, smoke, or chemicals, and at 262 houses the drains were discovered to be defective. In 507 instances, as compared with 310 for the previous year, notices have been served calling upon owners to abate nuisances caused by defective roofs, eaves, gutters, and rain-water pipes.

Damage and dilapidations are frequently the result of neglecting what is sometimes considered minor sanitary defects, but it is a great mistake to suppose that these necessary adjuncts to a dwelling-house can be disregarded. A defective rain-water pipe will cause dampness, discomfort, and probably injury to health. On 537 occasions it has been necessary to call attention to defective and insufficient underfloor ventilation, damp walls, and defective, or want of damp-course. Of this number, 401 relate to insufficient underfloor ventilation. It is to be regretted, Mr. Benton thinks, that architects and builders do not provide for a thorough current of air to pass under the floors of houses. If more attention was given to this when the house was under construction much trouble caused by dampness would be prevented. Dampness in dwelling-houses is certainly too prevalent in the Borough, especially in houses built prior to the East Ham Improvement Act, 1903, which gives power to the Council to regulate the level of the ground floor of new buildings intended for human habitation. This Act is consistently put into operation, and is of great advantage to the district, although it may cost the builder a few more pounds for construction. Notices have been served during the year to abate nuisances caused by dilapidated yards or forecourts in 941 instances. The importance of having the yard of a dwelling-house paved cannot be over-estimated, both in the interest of health and cleanliness. If the ground adjacent to the brickwork is paved with an impervious pavement, it will prevent dampness, and will help considerably to keep the interior floors clean.

Greenwich.—Dr. E. G. Annis, Medical Officer of Health for the Borough of Greenwich, in his annual Report for the past year, draws attention to police-court proceedings, which were instituted in connexion with works carried out at the London County Council Deptford Pumping Station. These proceedings, Dr. Annis states, were, after much correspondence between the respective officers and the Committees concerned, finally withdrawn on assurance being given by the Chairman of the Public Health Committee of the London County Council that in future, when any sanitary work was being carried out by that authority, they would give the Greenwich Council notice respecting the carrying out of such work, and would deposit the necessary plans of drainage in connexion therewith. The facts upon which these proceedings were initiated throws, he says, a very curious light on the attitude of the County Council in respect to sanitary works carried out by them, for they erected buildings not complying with the requirements of the London Building Act with regard to structure, not complying with the by-laws of the London County Council with regard to sanitary fittings, and, in fact, in some respects, being definitely contrary to the accepted present-day standards as regards sanitary arrangements, and, further, not complying with their own by-laws with respect to the giving of the necessary notices, and the deposit of plans; and, as indicated above, although the summonses have been withdrawn on promise of good behaviour in the future, yet the building in question still stands as it was erected.

In another part of the Report the Medical Officer states that the Housing and Town Planning Act, 1909, had been carefully considered, and, as a result, that portion of the Borough lying between the River Thames and the main road throughout the district, i.e., Woolwich, Trafalgar, and Greenwich roads, together with the continuation of Eastney-street on the south side of the main road, and in the West Ward, the rectangular plot enclosed by Lewisham-road, John Penn-street, the River Ravensbourne, and Albion-hill, and in the South Ward, the somewhat rectangular plot enclosed by Blackheath-hill, Maidstone-hill, Point-hill, Blissett-street, and South-street, had been delineated as the district for the special inspections required under the Act.

Hford.—Plans have been passed for Messrs. Rawlin, Culver, & Co. for five houses in Charbury-gardens; also for Mr. A. T. Haines for five houses in Vicarage-lane.

Islington.—Dr. A. E. Harris, Medical Officer of Health for the Borough, in his annual Report for 1911, just issued, states that builders, who were for the most part of the speculative class, in their desire to build as much as they could on a given piece of land, erected houses with basements, which, in older buildings, were almost, if not entirely, below the level of the street. This answered very well so long as there was no servant difficulty, but as it increased, so did basements become unpopular, and there was an increased demand for non-basement houses which could not be fully met in Islington. In the newer districts very attractive houses have been largely built in the Queen Anne style, but without the Queen Anne solidity. They have nice artistic exteriors, but the rooms are sometimes dark, the French windows are not suitable for this country, and, owing to the door-like method of opening, do not afford sufficient ventilation to the rooms. Their panes of glass, divided by many bars, admit the minimum of light, while they require the maximum of labour to clean; and the fanlights, many of which do not open, are for the most part glazed with coloured glass, so that near the ceilings efficient ventilation and light are not afforded where they are most requisite. Builders will find out by-and-by that people will discover, as already many have, that large windows with sliding sashes are the only efficient means of providing those two great necessities of life—good light and ventilation, without draughts, to keep the air sweet and pure; and that the sliding sashes also afford far better means for regulating the supply of air than is furnished by the windows of these picturesque houses, which are better adapted for warm climates where the people live with open windows nearly all the year round. In England, however, except in some very sheltered spots, they are not suitable.

Tottenham.—At a recent meeting of the Joint Hospital Board plans submitted by the Architect, Mr. A. J. Hardwick, for works to be carried out at the isolation hospital, were approved, and tenders are to be invited for carrying out the work, which is estimated to cost over 300l.

Tottenham.—According to Dr. S. Seokings, Acting Medical Officer of Health, the number of houses and shops and houses actually erected during the past year was 150.

LONDON COUNCILS—continued on page 270.

BUILDING—Continued.

ten at the commencement of each the latest date when the tender, or those willing to submit tenders,

3. **Hull.**—**JETTY.**—The Humber Board invite tenders for the renewal in ferro-concrete of the jetty in buoy shed on the east side of the Hull. Specifications and forms of offer, Alfred W. Franklin, Secretary, Buildings, Hull.

4. **Cairo.**—**PAVILIONS.**—Tenders for the Chief of the Administrative Works Ministry, Cairo, for the three new pavilions to Khanka (in Qalubia). Specification, plan, and quantities at the office of the Service, Public Works Ministry, Bury St. Edmunds.

5. **Crosshills.**—**BUILDING.**—Erection of the new house at Crosshills, near Skipton, architect, Skipton.

6. **Derlington.**—**STABLES.**—For extension at Harrogate, architect, Skipton.

7. **Golar.**—**HOUSE.**—Erection of a house at Golar, architect, Skipton.

8. **Hallifax.**—**PICTURE HOUSE.**—For a picture house at Ward-end, Halifax, architect and surveyor, George

9. **Hereford.**—**ALTERATIONS.**—For alterations to the Art School, Castle Street, Hereford, architect, Shire Hall.

10. **Law.**—**HALL.**—For proposed new hall at Law, 8th Battalion, H.L.I., 84, to Messrs. Trill & Stewart, Law.

11. **Liverpool.**—**MORTUARY.**—For the mortuary at the Workhouse, Brown Street, Liverpool, architect, Haigh, 2, Exchange-street East, Liverpool.

12. **Newcastle.**—**SCHOOL.**—The Council of Newcastle, Newcastle, invite tenders for a new agricultural school, W. H. Knowles, F.S.A., architect, Newcastle, Newcastle. Quantities on file.

13. **Pontefract.**—**HALL.**—For alterations, Market-place, Pontefract, for Messrs. J. H. Griffiths, architects, Pontefract, and Messrs. Pennington, architects, Pontefract.

14. **Purston.**—**RESIDENCE.**—For the residence at Purston, near Foston, architect, J. Tennant, architect and surveyor, Purston.

15. **Rypon.**—**HIPPODROME.**—For the Hippodrome, Rypon, measuring about 84 ft. long, and consisting of wood framing, iron and steel, including iron, steel, and fittings. Particulars tender from Mr. R. S. Griffiths, architect, Rypon.

16. **Walsby.**—**HOUSE.**—Erection of a house in Walsby, for the Yorkshire Coal Owners' Association, Edmondson, M.S.A., architect, 71, Walsby.

17. **Worthing.**—**PIER EXTENSION.**—For the extension of the pier, including erection of piles, steel girders, beams, bracing, and other works. Drawings and quantities from the Messrs. J. Mansergh & Sons, 5, Westminster, on deposit of 5l.

18. **London.**—**MACHINE.**—For 250 men's shirt capacity washing machine, Brook-street, Kennington, description of the machine, with drawings, from Mr. J. L. Goldstein, (Guardians' Boardroom) Brook-street, Kennington-road, London.

19. **Ardsley.**—**BRIDGE.**—For the new Mill Bridge, over the River Ardsley, specification, quantities, and drawings, from Mr. J. E. Riding Surveyor, County Hall, Ardsley.

20. **September 5.**—**Felixstowe.**—**ACCUMULATORS.**—For extensions to accumulators and balancer booster. Specifications, with general conditions and form of tender, at the Town Hall, Felixstowe. Deposit of 1l. 1s.

21. **September 9.**—**Cardiff.**—**STEELWORK.**—The Directors of the South Wales Portland Cement and Lime Company, Ltd., invite tenders for the constructional steelwork required in the extension of their works at Lower Penarth, near Cardiff. Plans seen, and specification and quantities from Mr. John W. Rodger, architect, 14, High-street, Cardiff.

22. **September 10.**—**Mexico.**—**WHARF.**—Tenders are invited by the Ministry of Communications and Public Works for the reconstruction of the Custom House Wharf at Alcala, State of Sinaloa. Plans and specifications at the "Oficina de Partes de la Secretaría de Comunicaciones y Obras Publicas," Mexico City. Deposit of 100 dollars (about 10l.).

23. **September 14.**—**Middleton.**—**WELL.**—For sinking a well and erecting a pump in Lisgoold. Mr. John Stanton, Clerk to the Council, Boardroom, Middleton Workhouse.

24. **September 24.**—**Lanark.**—**BRIDGES.**—Reconstruction of two bridges, carrying the Steel Company of Scotland's Branch Railway over the new highway at Newton station. Specification and quantities from Mr. Robert Spittal, Road Surveyor, District Offices, Hamilton.

25. **October 1.**—**Melbourne.**—**DREDGE.**—For the construction and delivery of a twin-screw sand suction hopper dredge of 1,200 tons capacity. Deposit, 200l. Plans, specifications, and conditions of the Agent General for Victoria, Melbourne-place, Strand, London.

26. **October 9.**—**Bradford.**—**SEWER.**—For the construction of a circular outfall sewer in tunnel from Fringhall to Strangford, 10 ft. in diameter and 4,800 yds. in length, with two shafts, 9 ft. diameter, 85 yds. and 104 yds. deep, with observatories, object pillars, etc. Drawings seen, and specification, conditions of contract, quantities, and form of tender from Mr. James Watson, M.Inst.C.E., Waterworks Engineer, Town Hall, Bradford, or of Mr. Joseph Garfield, Assoc. M.Inst.C.E., Sewage Works Engineer, Escholt Hall, near Shipley. Deposit of 5l. 6s.

FURNITURE, PAINTING, MATERIALS, etc.

27. **August 31.**—**Blaby.**—**PAINTING.**—For the painting, whitewashing, and cleaning of kitchen, dining-house, and laundry block and other rooms, etc. Particulars from Mr. B. A. Shires, Clerk, 1, Friar-lane, Leicester.

28. **September 2.**—**Pontefract.**—**PAINTING.**—For painting, cleaning, etc., of the Free Library. Specifications at the Municipal Offices.

29. **September 3.**—**Stockport.**—**PAINTING.**—For painting the wood and iron work at the following parks and recreation grounds within the borough, viz.:—Grimsbottom, Heaton Norris, and Houldsworth Recreation-grounds and Alexandra Park. Conditions of contract seen, and specification and form of tender from Mr. John Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

30. **September 3.**—**Kentworth.**—**FENCING.**—For the supply of about 700 yds. unclimbable wrought-iron fencing and gates; 160 yds. strained wire fence and ornamental wrought-iron entrance gates. Plans seen, and quantities and particulars, on deposit of 2l. 2s., from Mr. Sholto Douglas, C.E., Architect, and Surveyor to the Council, Council Offices, Kentworth.

31. **September 10.**—**Edmonton.**—**PORTLAND CEMENT.**—The Edmonton U.D.C. invite tenders for supply and delivery of Portland cement. See advertisement in this issue for further particulars.

32. **September 11.**—**London.**—**PAINTING.**—For external painting, repairs to the stonework, and pointing work where required at Branch Workhouse. See advertisement in this issue for further particulars.

33. **September 12.**—**London.**—**FITTINGS.**—For dispensary and grocery store fittings at Forest Gate Sick Home, 35, Forest-lane, Forest Gate, E.C. Plans and specification by the architect, J. W. Dunford, 100c, Queen Victoria-street, E.C., with conditions of contract and form of tender, on deposit of 1l.

34. **September 17.**—**Canterbury.**—**PAINTING.**—For internal and external painting at the Corn Market. Particulars from Mr. A. C. Turley, A.M.Inst.C.E., City Surveyor, Canterbury.

ROADS, SANITARY AND WATER WORKS.

35. **August 31.**—**Cheltenham.**—**SEWAGE.**—For the construction of nine combined circular sewage tanks in three sets, and eight percolation filters, 101 ft. diameter, with the necessary roads, drains, conduits, and other work. Specifications and quantities on deposit of 3l. 3s. and drawings seen at the office of Mr. J. S. Pickering, M.Inst.C.E., Borough Engineer, Municipal Offices, Cheltenham.

36. **August 31.**—**Gosport.**—**ROAD.**—For the reconstruction, widening, and improvement of the road between Longue and Laing, commencing near Bristonlongue, southwards for a distance of 4,065 yds., and the north coast road, extending from Armadale westwards for a distance of

7,321 yds. Specification and particulars from Mr. I. M. Macgregor, C.E., County Road Surveyor, Dornoch, Scotland.

37. **September 4.**—**Blyth.**—**EXCAVATION.**—For the excavation of about 80,800 cubic yds. of clay and other materials in open trench at North Blyth. Drawings seen, and specification, quantities, and form of tender from Messrs J. Watt Sandeman & Son, C.E., 1, St. Nicholas-buildings, Newcastle-on-Tyne, on deposit of 2l. 2s.

38. **September 12.**—**Bromley.**—**ROAD.**—For the supply of road materials. Mr. Edward Hasehurst, Clerk to the Council, Council Offices, Park House, Bromley, Kent.

39. **September 2.**—**Sandwich.**—**MATERIALS.**—For supply of 550 tons of granite, 150 tons of granite chippings, 4 in. sieve, and 50 tons 3-16 in. sieve; also for 180 ft. run of 12 in. by 6 in. granite channeling, 180 ft. run of 10 in. by 4 in. kerbing, and 240 ft. run of 12 in. by 6 in. kerbing. Tenders to be delivered to the Town Clerk's Office.

40. **September 3.**—**Dinas Powis.**—**ROADS.**—For private street improvement works in Highwall-road, Dinas Powis. Plan and specification seen, and quantities from the Surveyor, Mr. James Holden, A.M.Inst.C.E., Park House, 20, Park-place, Cardiff.

41. **September 3.**—**Middleton.**—**STREET.**—For the making-up of Hanson-street. Plans seen, and specifications, form of tender, and quantities from Mr. W. Weiburn, Borough Surveyor, Town Hall, Middleton, on deposit of 10s. 6d.

42. **September 4.**—**Haslington.**—**PAVING.**—For the paving of the private streets known as Back Lake-view, Back Vane-street, Back Rodridge-street, Back Garden-street, Back Accolm-street, End and cross streets off, all at Station Town. General conditions and specification with particulars, and form of tender from Mr. J. E. Johnston, Waterworks Surveyor, Easington, Castle Eden. Deposit of 2l.

43. **September 4.**—**Howe.**—**PAVING.**—For paving and other works in Silverdale-road. Plan and specification at the office of the Borough Surveyor.

44. **September 4.**—**Lancaster.**—**SEWAGE.**—For the construction of settling tank and diversion of sewer at Consett Park Farm. Quantities from Mr. G. W. Westgarth, Surveyor, Lancaster.

45. **September 7.**—**Troutbeck.**—**DIVERSION.**—For a road diversion at Limefit, in the township of Troutbeck. Plans, specification, and quantities from Mr. Joseph Birtley, County Surveyor, 7, Lowther-street, Kendal.

46. **September 7.**—**Worsborough.**—**ROAD.**—For the widening and reconstruction of a portion of the Wakefield and Sheffield main road, known as "The Cutting." Plans, sections, and specifications seen, and quantities from Mr. John Whitaker, Surveyor to the Council, Worsborough.

47. **September 9.**—**Bedlington.**—**STREETS.**—For the making-up of the back street between Unity-terrace, Ridley-terrace, and Selborne-terrace, etc., Cambois, and the two cross streets leading thereto. Plans, specification, and quantities from the office of the Surveyor of the Council, Mr. E. Johnston, Bedlington.

48. **September 9.**—**Hendon.**—**ROADS AND SEWERS.**—The Hendon U.D.C. invite tenders for storm-water culvert, kerbing, channelling, paving, road-widening, metalling, and other works. See advertisement in this issue for further particulars.

49. **September 9.**—**Newington.**—**SEWERS.**—For extension of sewers at Newington. Plans and specifications with the Engineer, Mr. Leonard B. Grant, High-street, Stungbourne.

50. **September 9.**—**Skipton.**—**ROAD.**—For the construction of a 15-ft. roadway on the hilltop, the Fifth Recreation-ground, Skipton. Particulars from Mr. Aldridge, the Council's Engineer, Town Hall, Skipton.

51. **September 10.**—**Bedford.**—**GRANITE.**—For the supply of about 2,800 tons of broken granite, 2,870 tons of ironstone slag, and 1,600 tons of ironstone slag for macadam for road-making. Forms of tender and particulars from Mr. N. Greenfield, A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Bedford.

52. **September 10.**—**Belfast.**—**SPECIALS.**—For the laying and jointing of about 110 lin. yds. of 30-in. and 1,100 lin. yds. of 48-in. steel pipes and specials, and other works. Specification seen, and quantities and form of tender from the City Surveyor on deposit of 1l. 1s.

53. **September 10.**—**Leatherhead.**—**MATERIALS.**—For the supply of materials. Specifications and forms of tender from Mr. Sidney R. Drake, Surveyor, Council Offices, Leatherhead.

54. **September 11.**—**Garshalt.**—**ROAD.**—For works of road-making, paving, surface, drainage, etc., at Stanley Park-road. Plans, sections, and specification by Surveyor, Mr. W. Willis Gale, A.M.Inst.C.E. Quantities and particulars, on deposit of 1l., from Mr. C. P. Lovelock, Clerk, District Council Offices, The Square, Garshalt.

55. **September 11.**—**Strood.**—**WATER SUPPLY.**—For laying of about 200 lin. yds. of 8-in. cast iron water pipes in the grounds at the Council's Location Hospital, Whitehill-road, near Gravesend. Specification of works with Mr. J. E. Povey, Clerk to the Council, Union Offices, Strood, Kent.

56. **September 12.**—**Fishguard.**—**ROAD.**—For the construction of 833 lin. yds. of roadway, together with retaining and parapet walls, wire fences, surface-water drains, etc., at Dinas-hill, Fishguard. Plans and specification, conditions of contract, and form of contract seen, and quantities, with form of tender, at the Shire Hall, Havardweston, on deposit of 5l. 3s.

57. **September 12.**—**Gosport.**—**MATERIALS.**—For the supply of the following materials, etc.:—Artificial paving stone; broken stone for macadamizing; castings of cast-iron, stone, gravel and sand, etc.; kerb, channel, and setts; stoneware drain pipes. Specifications, forms of

ROADS, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

Tender, etc., from the Surveyor to the Council, Town Hall, Gosport.

SEPTEMBER 12.—**Hounslow.**—PAVING.—For relaying the wood block paving in High-street, Hounslow from the junction of Bath and Staines roads to the White Bear Public-house, Hounslow. Plans seen, and specification, quantities, and form of tender from Mr. J. G. Carey, A.M.I.C.E., Engineer and Surveyor to the Council, on deposit of 2l. 2s.

SEPTEMBER 14.—**Fen Ditton.**—SEWAGE.—For the construction of about 500 yds. of 9-in. sewer, with manholes, etc., in Ditton-lane. Plans at the Surveyor's Office, Brunswick House, Cambridge. Deposit of 5l.

SEPTEMBER 17.—**Acton.**—ROADS.—For making-up Montague-gardens and Oakley-avenue, and resurfacing roads with tar-macadam. Forms of tender from the Surveyor, Council Offices, Winchester-street, Acton, W.

SEPTEMBER 23.—**Frodsham.**—STREETS.—For the making of Volunteer-street and Sandfields. Plans, specifications, and quantities with Mr. Henry Swetenham, 49, Northgate-street, Chester, the Council's Surveyor. Deposit of 10s. 6d.

SEPTEMBER 23.—**Weston.**—STREET.—The making of Clark's-terrace and lane and certain back passages (see sets) at Weston Point. Plans, and quantities with Mr. Frank J. chambers, Runcorn, the Council's deposit of 10s. 6d.

SEPTEMBER 30.—**Cairo.**—SANITARY.—Tenders will be received at the office of the Administrative Service, Ministry, Cairo, for the sanitary at the three new pavilions at Lunatic Asylum (Gallubia). Specifications and estimate at the office of the Administrative Service, Public Works, Cairo.

Auction Sale.

Nature and Place of Sale.	By whom Offered.
*BUILDING MATERIALS, NORWOOD—On the Site	Verward & Yates

LONDON COUNCILS—continued from page 267.

as against 199 for the previous year. Buildings of other descriptions number sixty-four, as compared with sixty-seven in 1910. The number of additions and alterations made to existing buildings was forty-one, as contrasted with forty-nine in 1910. Plans estimated cost of 397 new buildings during the year, as compared with 312 during last year. New streets and extensions of existing streets numbered five (as against fourteen in 1910), and their total length was 2,375 ft., as contrasted with a total length of 6,715 ft. for 1910: 190 ft. of new 9-in. soil sewers, and 78 ft. of 15-in., and 475 ft. of 9-in. surface water sewers have been laid under the supervision of the Building Department. On the London County Council Estate certificates have been granted for fifty-one houses completed during the year; thirty-two others are in the course of construction.

FOREIGN AND COLONIAL.

Building, etc., Canada.

The University of Toronto will erect a new building for a gymnasium, dining hall, reading and billiard rooms, etc., at an estimated cost of 1,150,000 dollars (about 256,000l.). The name and address of the architect may be obtained by British manufacturers on application to the Commercial Intelligence Branch of the Board of Trade, 75, Basinghall street, London, E.C.

Reinforced Concrete and Metal Work, Bulgaria.

With reference to the notice on p. 496 of the *Board of Trade Journal* of June 6 relative to a call for tenders by the Bulgarian Directorate-General of Railways and Ports for the supply of reinforced concrete and metal work for warehouse sheds at Varna and Bourgas, at an upset price of 195,000 francs (7,800l.), the *Official Messenger* (Sofia) of August 14 notices that, none of the tenders received having been accepted, a further adjudication under modified conditions will be held. Offers, accompanied by certificates of competency, will be received up to 5 p.m. on September 2 at the "Bureau des Finances, Graf Ignatieff 12," Sofia. Copies of the form of tender, with revised specifications, drawings, and conditions, may be obtained from the "Direction Générale des Chemins de Fer et des Ports de l'Elat Bulgare," Sofia, on payment of 10 francs (8s.) per set. Local representation is necessary. A list of agents established in Sofia may be obtained by British firms on application to the Commercial Intelligence Branch of the Board of Trade, 75, Basinghall-street, London, E.C.

PATENTS.

APPLICATIONS PUBLISHED.*

17,549 of 1911.—James Garvie: Apparatus for making concrete pipes *in situ*.

17,720 of 1911.—John Croft Smith: Windows, doors, and the like.

21,469 of 1911.—Richard Wilson: Joint for wooden eaves, spouts, or gutters, and the like.

21,697 of 1911.—John Gustav Adolf Rhodin: Manufacture of cement.

23,010 of 1911.—George Gordon Brodie and James Daniel Prior: Cooking ranges.

23,205 of 1911.—Titus Searson Robert William Anderson: Method of and means for insulating walls, ceilings, decks, bulkheads, or the like, against the conduction of heat.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

23,488 of 1911.—Ioich Nakahara: Electric door operators.

23,391 of 1911.—Rudolf Herman Lange and Walter Charles Knebelkamp: Door-holders.

955 of 1912.—Lucien Adenot: Draught-excluders for doors and the like.

2,802 of 1912.—S. M. Wilmot & Co., and Samuel Mullett Wilmot: Construction of gates for field, estate, and general purposes.

4,322 of 1912.—Edward Hottot and Claude Hamilton Harris: Automatic apparatus for opening greenhouse windows, skylights, fanlights, and other hinged sashes.

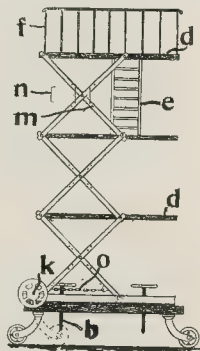
8,200 of 1912.—Henry Imrie (Arthur Pack-scher): Glazed frames.

8,404 of 1912.—Wilhelm Liegener: Walls and the like.

SELECTED PATENTS.

8,619 of 1911.—Johannes Fock, jun.: Lazy-longs scaffolding.

This relates to lazy-longs scaffolding, which is mounted on a wheeled carriage and is raised by chains *a* wound on a ratchet drum *k*, and is provided with platforms *d* and ladders *e*, hinged to the under sides of the

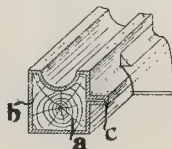


8,619 of 1911.

upper platforms. The top platform carries a winch and is provided with handrails *f*. The lazy-longs are maintained in the extended position by a pawl engaging the ratchet drum, and by clamps *n* engaging in holes *m* in the levers of the lazy-longs. The structure is adjusted to be horizontal by screwed spindles *b*.

8,884 of 1911.—Adolf Muller-Deuschmann: Glazing.

This relates to glazing-bars for window frames which are formed of wooden laths *a*



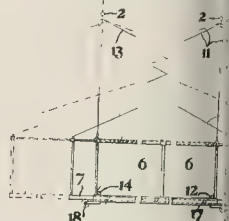
8,884 of 1911.

with sheaths of metal *b*, the ends of which are lapped to form flanges *c* to support the glass panes. The corners of the frames are formed

of separate corner pieces of structure.

9,147 of 1911.—Percy Edgar Builders' cradles.

This relates to builders' cradles, suspended by ropes *f* from beams, which are constructed sections 6 and side sections 7, 8, and the central sections and connect to move simultaneously in or out

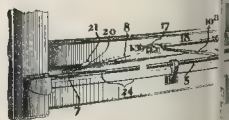


9,147 of 1911.

ends of the sections are connected by passing over pulleys carried by tackle 2, and over guide-pulleys *h* on the floor of the central section. They are guided on the central section 17, 18, carried by the side section respectively.

9,382 of 1911.—James Henry George Richard Leadson: Or lights and casements.

This relates to fanlights or casements which are opened and closed by a rod, one end of which is pivoted to a sliding member 7 sliding in a slotted tube



9,382 of 1911.

the other end to a member 17 bracket 18 on the fanlight, to which 17 is also pivoted an arm 10a, the end of which works in a fixed slot in the frame. The arm 8 is formed with a cam work against a fixed pin 21, so that on the closing movement the arm 8 is pivoted against the frame. The operation is operated by cords 24, the tube 5 and passing over pulleys 25.

9,768 of 1911.—William Henman Beasley Heap: Domestic hearths.

This relates to hearths consisting of trimmer tiles, bricks, or blocks transversely to the length of the hearth supported at their two ends by a wall respectively, the tiles and formed with notches in the ends to engage a fillet secured to the transverse support. The tile has a V-shaped notch *b* at each end, and is supported upon a ledge *c* formed by the brick

METALS (Continued).

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" " 26 g.	20 10 0	—	—
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Ordinary sizes, 5ft. to 8ft. 20 g.	15 0 0	—	—
" " 22 g. and 24 g.	15 5 0	—	—
" " 26 g.	16 5 0	—	—
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to 5 ft. to 20 g. and thicker.	13 10 0	—	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	—	—
" " 26 g.	15 10 0	—	—
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(Under 5 in., usual trade extras.)			

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LEAD—Sheet, English, 4th, and up		£ s. d.	
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Soil pipe	24 10 0	—	—
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Valle Montagne	33 15 0	—	—
Silesian	33 10 0	—	—
Zinc, in bundles, 1s. per cwt. extra.			
COPPER—			
Strong Sheet	per lb.	0 1 0	—
Thin	"	0 1 1	—
Copper nails	"	0 1 0	—
Copper wire	"	0 1 0	—
BRASS—			
Strong Sheet	"	0 0 11	—
Thin	"	0 1 0	—
Tin—English Import	"	0 2 0	—
Solder—Plumbers'	"	0 0 9½	—
Finest	"	0 1 0½	—
Brass pipe	"	0 1 9½	—

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1 Rough cast plate, 24d.		anic, Arctic Muffed,	
1 Rough rolled and		and Bolted Catho-	
1 Rough cast plate, 3d.		dral, white	84d.
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" " in drums	"	0 3 0	—
Bolled	"	0 3 2	—
" " in barrels	"	0 3 2	—
" " in drums	"	0 3 5	—
Turpentine in barrels	"	0 2 8	—
" " in drums	"	0 2 10	—
Genuine Ground English White Lead, per ton	30 0 0		
Red Lead, Dry	"	28 10 0	—
Best Linseed Oil Putty	per cwt.	0 10 6	—
Stockholm Tar	per barrel	1 12 0	—

VARNISHES, &c.

Per gallon.		£ s. d.	
Fine Pale Oak Varnish	"	0 9 0	—
Pale Copal Oak	"	0 10 6	—
Superfine Pale Elastic Oak	"	0 12 6	—
Fine Extra Hard Church Oak	"	0 10 0	—
Superfine Hard-drying Oak, for seats of Churches	"	0 14 6	—
Fine Elastic Carriage	"	0 12 0	—
Superfine Pale Elastic Carriage	"	0 16 0	—
Fine Pale Maple	"	0 10 0	—
Finest Pale Durable Copal	"	0 13 0	—
Extra Pale French Oil	"	1 1 0	—
Eggshell Flating Varnish	"	0 18 0	—
White Pale Enamel	"	1 4 0	—
Extra Pale Paper	"	0 12 0	—
Best Japan Gold Size	"	0 10 6	—
Best Black Japan	"	0 16 0	—
Oak and Mahogany Stain	"	0 9 0	—
Brunswick Black	"	0 8 0	—
Berlin Black	"	0 16 0	—
Knottin	"	0 10 8	—
French and Brush Polish	"	0 10 6	—

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday, [N.B.—We cannot publish tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is stated, nor any list in which the lowest tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BOSTON.—For rebuilding the town bridge, for the Boston Corporation:—
Goddard, Massey, & Warner,
Nottingham. £5,612 11 6

KENTISH TOWN.—For reinstatement after fire at Block A, Malden factories, Malden-crescent, N.W., for executors of the late Mr. P. W. Rowney, Mr. Walter J. Ebbetts, F.R.I.B.A., architect, Savoy House, 115, Strand, W.C.:—
W. Hammond* £830

LONDON.—For rebuilding and alterations to Primitive Methodist Church and Sunday schools, Forest Hill, S.E. Mr. J. W. F. Philipson, architect, Newcastle-on-Tyne. Secretary, Mr. F. G. Bush, 162, Stanstead-road, Forest Hill, S.E.:—
Jones & Andrews £4,399
Holliday & Green W. Smith & Son 3,983
wood 4,258
W. V. Good 4,197
E. H. Hollings Thomas & Edge 3,801
worth 4,147
A. Black & Son 4,168
Batley, Son, & Holness 3,865
J. Podger & Son 3,840

WEDNESBURY.—For alterations and additions to public baths and municipal offices. Messrs. Scott & Clark, architects Wednesbury:—

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J. Dallow & Sons	9,740 0 0
Oakley & Coulson	9,558 0 0
G. E. Probert	9,391 13 8
H. Doris	9,347 7 1
H. Gough & Son	8,972 0 0
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A JOURNAL FOR THE ARCHITECT

AND FOR ALL INTERESTED IN THE

CONSTRUCTIVE & DECORATIVE ARTS

III.—No. 3631.

CATHEDRAL CHURCH OF ST. PAUL, NAMIREMBE, KAMPALA, UGANDA.
PROFESSOR HERBERT PITE, F.R.I.B.A., ARCHITECT.
WEST FRONT, SANTA MARIA MAGGIORE, ROME.

BAROQUE ARCHITECTURE—II. (contd.):—
INTERIOR OF THE CHURCH OF THE Gesù, ROME.
S. CARLO ALLE QUATTRO FONTANE, ROME.
S. MARIA DELLA FAGE, ROME.

SEPTEMBER 6, 1912.

ILLUSTRATIONS.

ILLUSTRATIONS IN TEXT.

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PERSONALITY AND ARCHITECTURE.

EDUCATION has, like architecture, suffered from the attempt to apply it by rule, too much from without, as a kind of ornament. That architecture is *decori urbium*, a familiar motto puts before that aim, and it is through knowledge the citizens and their ways that to embellish the city.

Increasing attention given to education now-a-days from many points of view, and in its correspondence with architecture, is bringing into clearer light the city, both as starting-point and primarily it has to lead out the attributes and mental constitution of the pupil—what he is, in fact—may instruct, develop, and make efficient to the growth of character—what he has the power to become. Personality, as to its identity, must be granted; a man can only use his faculties, but it is in his power to use them, or to misuse, abuse, or neglect them. It seems strange that only now becoming evident that good, that it may even amount to a duty to try to instruct, to build up the knowledge which he has not the power to assimilate, to try to train that do not exist.

The tremendous change that has been going on during the last

150 years the old and present methods of education are seen to be inadequate. One result of that change has been that in the far greater subdivision and specialisation of work, in the springing up of new occupations, new types of personality have arisen, and others, like the architect's, now require training to a higher pitch of efficiency and comprehensiveness. In the growth of the social organism towards truer co-ordination the need of the right man in the right place becomes more apparent. Correspondingly the individual difficulty of choosing a calling becomes more insistent.

The necessity of getting men of the right mental qualities and constitution in the architectural profession is the more felt now that its education is being brought up to modern requirements. Many, of course, are from an early age sufficiently self-conscious of their own powers and desires to self-determine their own calling. But there are many others—we would say a considerable majority—who are not, and some of these drift into architecture from various indefinite traits, such as a taste for drawing, a tendency to art, and the like.

We are not aware of any statement by any professional or educational body as to type of personality, particular mental constitution, or special aptitudes necessary in those who would become

architects. The only qualification asked for as a rule is a good general education, which is vague as a test of fitness, as the usual routine process may mean much to one personality, little or nothing to another. The result is, we fear, that the term general may often be taken in the sense of the Scottish professor, who, when asked what he meant by good "generally" applied to a certain student, said "Not particularly."

The process of selection or weeding-out is left till professional education has advanced a stage or two, and, though more feasible in the better system and opportunities now prevailing, so experimental a method obviously presents serious disadvantages for many students. Earlier selection is desirable, natural selection, if possible, through the student's own knowledge of his possibilities and desires; but at all events some way of testing, at the very outset, whether an aspirant has essential characteristics fitting him for architectural training and practice. We do not think it beyond the scope of general education to make this possible in most cases at school-leaving age. On the contrary, it is just in those early years that care should be taken to give the special individual characteristics, that constitute personality, opportunity to show themselves and develop.

The question is, then, what can be done now to this end, and what more under improved but still possible conditions? We hear much of the greater complication and responsibility and the more exacting nature of an architect's calling to-day as compared with earlier periods. But, though this may imply the necessity of a far wider, a more comprehensive and exact education, a more varied efficiency, the broad attributes of personality are the same for the complete architect to-day as in the days of Wren, Brunelleschi, or of Iktinos and Calliocrates.

His position is that of leader of a body of co-operating mechanics, craftsmen, artists, and various functionaries whose operations he has to direct, control, and manage to one end. He is the organiser, co-ordinator, arranger, the planner who must be able to scheme and contrive as constructor. So far he would be a good builder—or other things—and architecture must be good building, but also something better. So that further he must have initiative and invention, the originating and creative impulse and energy of the able designer. He must have the intuitive sense of fitness, keen perception of beauty, imagination free to range over things known and beyond them. He must have the artist's power to communicate and impress his conceptions upon others, his capacity of hand and eye, to make concretely visible the thought his mind can visualise. Again, he must have the judicial power, the intuitive insight and quick decision necessary in the arbitrator, the assessor of "values," and the critic, and something of the evident personality that impresses and carries weight as adviser, supervisor, and leader.

Capacity for art, of course, he must have, but, it is well to remember, the quite kindred capacity for practical science also. He stands, in fact, at the synthesis of art and science. In the old popular division of useful and fine arts he stands midway, and intimately related to both, between those who "make" for practical uses and those whose making is more directly for spiritual ends. His must be the healthful and virile feeling of art for life's sake, the perpetual office of which is to educate in the perception of the beauty which everywhere in the realm of nature and of man is coincident with truth and fitness to some purpose.

In attempting to state broadly the personal attributes essential for the making of the complete architect we must bear in mind both the unity and universality of personality. Though for convenience we enumerate separately the functions or categories of functions, we must realise they do not exist as separate powers of the mind, but as a synthetic unity defying analysis. In their infinite possibilities of combination and interaction, and with other attributes as important but more general, arises the infinite variety of individualities and possibilities of specialisation. But architectural education aims at the production, not of the trained specialist, but of the fully-instructed and efficient architect; and its growth is showing that such a finished product involves the starting with the right raw material. It

is a true application of the principle that "*Poëta nascitur, non fit.*" The poet is essentially the "maker." So is the architect. His buildings, like the poet's verses, must not only, to use Emerson's phrase, "rhyme well," not only be true in construction and to some purpose, but must express in their own peculiar way some underlying thought of beauty.

We have no ready-made scheme by which these right men are to be discovered. If a board of practising architects could be formed—men of marked and varied individuality and experience—before whom every aspirant would have to state personally why he proposed to become an architect, and give some evidence of natural qualifications therefore, something more might be done than by any examination testing his standard of general education.

The defects of this proposal are, however, under present conditions, sufficiently obvious. If Registration come, the subject will have to be considered, and possibly some such test as this, already used elsewhere, may be thought out.

But, after all, this only affects one part of the problem. By advice and discouragement it may tend to the elimination of the unfit, but hardly to the discovery and encouragement of the fit. For that we must look to a process of natural selection; how to bring that more freely into action is the real question.

We have alluded to the complementary difficulty in choice of occupation. So many youths leave school—some even, be it whispered, the Universities—without definite consciousness of their own possibilities, or concrete knowledge of the present actual work of the world. Having passed through a certain routine, they have acquired perhaps the necessary foundation or instruments of learning; they may have attained various, sometimes high, proficiency and culture, classical, mathematical, scientific. It is a sufficient starting-point for some, but in a majority personality is yet more or less latent, has not been sufficiently brought into contact with the facts and actualities outside to awaken it to full sense of its particular sympathies and potentialities in relation thereto.

Thought tends to the concrete rather than the abstract, especially in the young. We know that insatiable questioning faculty, beginning almost with speech. In former articles we have made some reference to an incipient educational movement, aiming by more objective teaching to build up that natural practical interest in immediate environment, and lead on, with developing capacity, to all the phenomena of civilisation in their complex co-ordination. The tracing of occupations and industry, for instance, from earliest beginnings to the present in their correlation with each other and with activities of local government, teaching, art, and the rest, gives a vital interest to geography and history that appeals to the young mind, tending to rouse and differentiate its sympathies and desires.

We mention this movement again here to point its suggestiveness towards the

natural selection we look for; also as the inception of a system will retain all that is good in classical and modern methods, harmony instead of contrast, that character is only fully developed the efficiency of the particular of each personality. This, of course, is matter of general but not less, therefore, of professional interest. Architects are interested in seeing the "good general education" for their purpose; for unless that education be right it is of no good to the superstructure. They must remain passive. Of all citizens as professors of the great organic constructive art, have an appointment in raising in human society a not made with hands, of which buildings in brick and stone have made the symbols.

ST. GEORGE'S HALL AGAIN.

WE publish in this issue from Mr. Hastwell, the President of the Architectural Society, an endeavouring to induce the Corporation to consider a sketch of providing a suitable place for the statue of statutory at either end of the street. Considering that the whole *raison d'être* of the act of vandalism contemplated was to prepare a position for the late King's statue, it appears to be most reasonable that such a request should meet with response. There appears, however, to be in the actions of the Corporation over this matter some of the eagerness which characterises the action of a girl who, having to make a marriage from which friends would dissuade her, meets objections by hastening the event, and so renders protest useless.

As Mr. Grayson points out, the proposal is dual in its character, the objects aimed at in the Corporation scheme are unfortunate and ill-considered. Nothing perhaps in architectural planning needs more careful consideration than that of an external stair in conjunction with a main building of the importance of George's Hall such a scheme is the most careful adjustment and the new stairway will lead "nowhere in particular to the vestibule behind the Judge's chair is no adequate space at the top which the flight starts, nor is there a practical possibility of forming a great hall.

Thus the proposal has neither artistic value to recommend it nor by the means of such trivial details with the adjuncts of a great building which have been condemned is practically the unanimous opinion of the leading architectural societies. The Liverpool Corporation intends its spirit of independence and contempt of competent advice.

We are afraid it is now too late to expect a change in the official

more act of successful vandalism recorded.

It would be an interesting study to show how far the sense of inheritance in the past has been a part of the life of any nation or age.

At the very point to the action of the authorities in rebuilding the city of S. Mark's as an example of the past, but we are afraid the remains do not appeal to the average Italian as an asset for making a living in the city than in any other light. The lights turned her face away from the glorious traditions of her art to copy crudely, and the less inspired examples of the past in Europe. In mediæval Europe the ruins of one century often destroyed the work of their forefathers, but they did not usually something to give in

the can (if such a time is to come) to face the great works of the past (the recent past) by work of intrinsic merit, and even then necessity demands it, we are dishonest stewards, wasting the inheritance which does not belong

to us still seek for the key which will give the sympathies of the average man enable him to feel with us in the past, to leave a history written on the life of our generation, and this feeling will come a sense of the work of our fathers. The few of the few is, as it is too common in the face of rampant

NOTES.

We heartily welcome the new issue of the Local Government Board circular, No. 285, calling attention to the necessity for a periodical revision of the laws relating to new streets and by-laws, in view of the new methods of construction and the trials introduced since some of the laws were framed. By-laws were intended to curtail, but to securing good building, and the lack of common knowledge that often failed in their intention, has been the cause of considerable and annoyance to all concerned in the operations. We are glad to see, therefore, that portion of the Bill commenting on some of the defects in rural districts which will lead to the building of proper cottages by reason of their very provisions, and we hope that the Bill will lead to the speedy revision of the existing by-laws.

It will be a healthy sign of progress in the applied arts when producers begin to show the practical interest in the art schools expressed in the letter of the "Editor" to the *Times* of the 10th. In the stimulus to revived interest between education, art, and that would result therefrom, the reintegration of the aims and

interests of the artist and art teacher on the one hand and of the producer and the public on the other, there could not but be reactions beneficial to art and its restoration to its rightful office as the interpretation of use and purpose in terms of beauty, and the joyous and efficient expression of character and ideal. Only in such restoration will it again be seen by all as the fully healthy condition of living and working, and rise out of the clouds of anæmic or hypocritical cant and sentimentality that too often separate it at present from sane and virile activities. In this we see one of the ways mentioned in our "Note" upon "National Art Training" a fortnight ago, by which industry will eventually free itself from its slavery to capricious and arbitrary fashion. Following "Manufacturer's" letter, and complementing and emphasising it by the juxtaposition, is one, signed by "Artist," calling attention to the same difficulty, which is dealt with mainly from the point of view of architecture in our leading article to-day—the difficulty, namely, of selecting only such students for training as are qualified by natural fitness for an art career. "Artist" incidentally comments upon the delusiveness of the copying faculty as a promise of art, and in this also there is food for much serious reflection with regard to architecture and architectural education and practice to-day.

Condition of Holborn Viaduct.

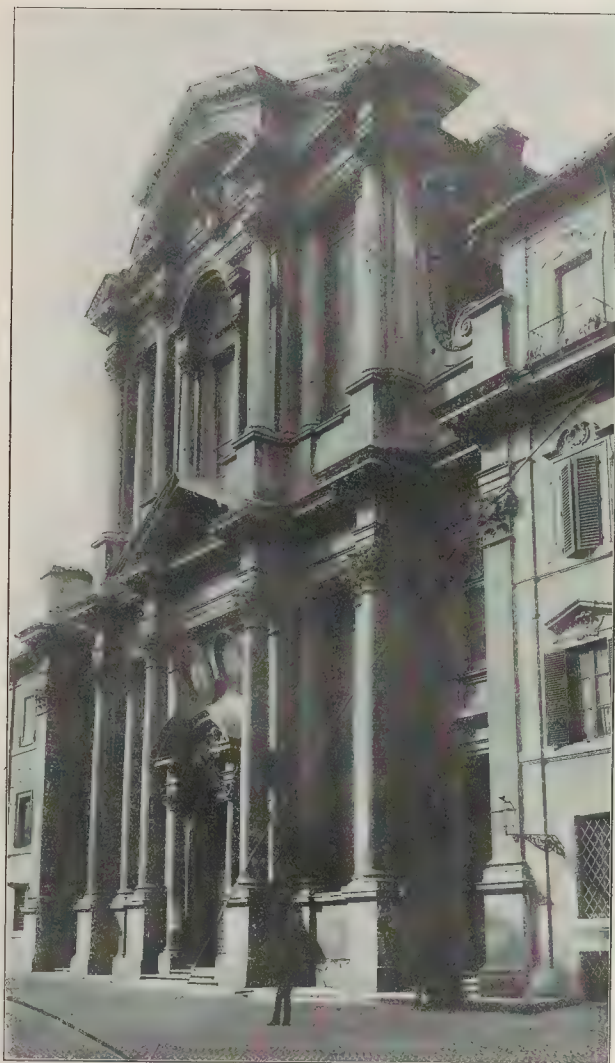
THE defects which have been for some time past evident in the twelve granite columns supporting the main span of Holborn Viaduct are beginning to assume a serious character. The shafts of the columns are, in plan, hexagons of about 2 ft. 6 in. side, the faces being so hollowed as to make the shape resemble a group of six large keel mouldings, and each consists of a shaft of polished red granite, monolithic save for a bed stone about a foot high and a necking stone of somewhat less than a foot. They stand upon moulded bases and high plinths. Trouble arose some time ago from the fact, we believe, that the bed joints are made with sheets of lead, the tendency of which to spread laterally under pressure tore asunder some of the bed stones. It is probable that these injuries would have been more pronounced but for the fact that the bed stones, unlike the main shafts, have each a vertical joint at the centre. For some time there has also been evident a tendency of some of the stones to shift upon their beds, which is probably due to movements of the iron arch ribs carrying the roadway, and it must contribute to the causes inducing unforeseen stresses in the shafts. This shifting of the stones is most pronounced in the eastern range of columns, in nearly all of which the large monolith has shifted westwards upon its bed, while the necking stone shows a still further displacement in the same direction. In the western range there is much less of this movement, but where it occurs it seems to be towards the east. The most serious features, however, are the considerable number and the general distribution of the cracks now in evidence. Recent inspection from the footway, under conditions which made it impossible to

assert that no defects were overlooked, showed that ten of the twelve bed-stones are broken, and three, at least, of the necking-stones, while the main stones themselves are in four or five cases cracked or otherwise injured. It is to be feared that the very great increase in the weight of and vibration caused by present-day motor traffic is responsible for the trouble, and, if this be so, those charged with the maintenance of the structure will, before long, have to take serious steps to secure its safety.

Women as Architects.

THE alleged suitability of women as architects is again under discussion in the daily Press, as the result of what is called "Lady Osborne Morgan's criticism of male architects" in the course of the inaugural ceremony of the Arts and Crafts Exhibition in connexion with the National Eisteddfod at Wrexham. Lady Osborne Morgan, in congratulating the promoters on the success of the exhibition, is reported to have said, referring to the designs for workmen's cottages in the competition promoted by the Welsh Housing Association*: "The profession of architecture offers strong inducements to women. The knowledge and experience of the home should enable women to make it a profitable as well as a useful profession, for, with all due deference to the lords of creation, I do not think male architects quite understand the construction of a larder." Probably these remarks were not made seriously, but a point of the criticism, implying that the construction of a house consists in the designing of larders, is being endorsed by writers in the daily Press. A well-known provincial journal, at all events, commenting on these remarks, appears to think that in the great majority of the houses put up as the habitations of the lower middle class the needs of women receive strikingly inadequate consideration: "Houses rented at from twenty-four to thirty pounds a year have no cupboards worth talking about," implying, of course, that the male architect is at fault, whereas no architect has anything to do with the great majority of these buildings. It is true that the real author of these structures—the speculative builder—is mentioned later on, but the writer's confusion in facts is shown when he says: "Garden cities in various parts of the country are showing that conditions can be improved with no greater demands on space or funds. . . . Possibly our architects of Suburbia will follow the example. . . . The existing state of things might easily be improved by women architects, presuming that they had domestic knowledge and experience on which to base their designs." We need scarcely point out that conditions have improved in garden cities because of the increasing employment of architects, and we doubt whether women architects, even with domestic knowledge and experience, would be able to improve on the existing state of things, though we might welcome the substitution of the woman architect for our old friend the jerry-builder.

* See "Civic Review" this week, p. 283.



S. Maria in Campitelli, Rome.

BAROQUE ARCHITECTURE: II. ROMAN POPES AND CHURCHES.

"In the year 1443, when Eugenius IV. returned to Rome, the city was become a mere dwelling of herdsmen; her inhabitants were in no way distinguished from the peasants and shepherds of the surrounding country. The hills had been long abandoned, and the dwellings were gathered together in the levels along the windings of the Tiber; no pavements were found in the narrow streets, and these were darkened by projecting balconies and by the buttresses that served to prop one house against another. Cattle wandered about as in a village. From San Silvestro to the Porta del Popolo all was garden and marsh, the resort of wild ducks. The very memory of antiquity was fast sinking; the Capitol had become 'the hill of goats,' the Forum Romanum was 'the cows' field.' To the few monuments yet remaining the people attached the most absurd legends. The church of St. Peter was on the point of falling to pieces."

Such was the state of Rome in early Renaissance days, as described by the great German historian of the Popes, at the time when Florence, Genoa, Venice, and many other smaller States were in the highest prosperity.

And when we remember that eighty years after this date Rome was sacked by a ruthless mercenary army we may place the beginnings of modern Rome in the XVIth century.

It would be idle to pretend that the Baroque period found Rome in quite so sad a condition as the lines quoted above imply, for the fifty years that intervened between the sack of 1527 and the end of the Renaissance proper were busy years for architects. Peruzzi, Sangallo, and Michelangelo were hard at work paving the way for the extraordinary period of building activity which was to follow. The population, which was no more than 50,000 in 1555, doubled in the ensuing twenty years.

The Papal power, fiercely assailed, as we have seen, by reformers both within and without its walls, awoke to defend itself

hotly against the movement which became its undoing, and with its success the new Rome, but renewed strength and waking life from sleep, rushed into all the bold colossal, and often vainglorious of Baroque architecture.

Without positively affirming that Rome was the only birthplace of Baroque architecture, some would say that it sprang in other places simultaneously varying causes—none could deny that Rome it first became of great importance to the world.

With even greater certainty it can be laid down that the period was the time of Papal supremacy, so that Rome of the time was no more and no less than Baroque.

It is true that a saying of Montaigne was in Rome, that he considered the three most beautiful things in the world were the Gesh church, and that and his daughter—the other two cannot be included in that category from that date onwards, at any rate, for the Popes built below doubt to the period in question churches and their palaces, their fountains, their villas and their gardens.

How much this style in Rome Papacy we may infer from a close study of history.

To Sixtus V. is usually assigned the remodelling of Rome. Another Pope, he had climbed to the top of St. Peter from a menial position as a herdboy. His object in life was to glorify God by the city where the head of his Church resided, and to keep the world well informed of his own share in the glory thereof. He poured into Rome of Christendom poured into Rome insufficient for the Papal need, and debt began to accumulate as the more magnificent every day.

The spirit in which Sixtus V. carried out his great projects is typical of the Baroque period. The stately days of Queen Elizabeth I. were marked in Rome by more than one triumph of the Church over the heresy of the present and the past.

Take, for instance, an event which cannot be regarded as epoch-making in consequences, the removal of the obelisk a short distance from its position to its present site in the Piazza di S. Pietro. It was a difficult matter, and there is no harm in the fact that the 900 men (a preposterous number, one thinks) by hearing Mass, confessing, and receiving the Sacrament. But let us read the story.

"When all was ready the signal was given by sound of trumpet."

And when the obelisk was hoisted on its base by windlasses:—

"A salute was fired from the guns of S. Angelo. All the bells of the city pealed forth."

Several months later, when the obelisk had settled in, the work was begun:—

"The day chosen by Sixtus V. for the undertaking was September 12, 1586 (which he had at first intended to be a fortunate day), immediately preceding the feast of the Elevation of the Cross, to which the obelisk was to be dedicated. The Pope again commenced their labour, and himself, mending themselves to God, and their knees as they entered the Piazza."

An hour before sunset the work was effected:—

"The exulting cries of the people filled the air, and the satisfaction of the Pope was complete. This work, which

decessors had desired to perform, so many writers had roomed he had not accomplished. He his diary that he has achieved difficult enterprise conceivable of man. He struck medals in ration of this event, received congratulation in every language, official announcements of his foreign powers.

from this extract, quoted here propose, how great a change had the world since the days of so short a time before. Then for art's sake rather than to God or man. Now architects blazing publicity and fawning exalt the Church and her wealthy

change, and that for the worse, ted. It had been an admirable Renaissance culture that much as paid to the relics of antiquity, edic especially are to be com- their efforts in this direction. Medici Pope, had venerated the cent Rome, and in their pagan age regarded as in some way instilled line inspiration.

another of the family, Pius IV., ted Michelangelo with that restoration of the Thermae of adapting them for the purposes isian convent.

colism of some of the succeeding ever, imbued with the spirit of Reformation, had no sympathy unity and few scruples about its

The image-breaking and ashing that marked the defeat of tholicism in England was con- with the destruction of many asures by the Catholics in Rome. that has never perhaps been on, it is both interesting and

ase of the Popes the object was among the Protestants here, to the supremacy of their faith. Sixtus V., it is to be feared that e damage he wrought was due to innate culture, for many of the *novus riches*, and it need not that all his fellows were of like

in it was perceived," said Cardinal everina, "that the Pope seemed t on the utter destruction of the antiquities, there came to me one mber of the Roman nobles, who d me to dissuade his Holiness y power from so extravagant

ely demolished the Septizonium of d intended to destroy the tomb Metella, but was prevented. He to destroy the Capitol itself e pagan statues which the citizens y placed there were removed.

succeeding century the Borghese remarkable privilege "of being on all punishment for whatever they might choose to commit." his of Constantine, at that time in preservation, were razed to the palace and gardens being erected tie. The Temple of Peace was and when travertine was required ountain of Trevi permission was iven to destroy the tomb of Cecilia which had already had a narrow d which now was only saved by sistance on the part of the people

the XVIIth century the Popes ormously rich, an important factor hitecultural history. It is impos- y exactly what the amount of their e from their office, but, as they employ a mercenary army, they ed their energies on founding a d a fortune for their families. evonnes were chiefly drawn from roses. The fertile and prosperous

territory in Italy, greatly increased in the XVIth century, which formed the patrimony of St. Peter, was taxed to its utmost capacity and beyond it. The contributions of the faithful throughout the world were augmented by persuasion and coercion long past the point of being voluntary. Lastly, as a final resource, vast quantities of sinecure offices were established in Rome, and whole "colleges" whose members paid subscriptions for nominal privileges and titles drawing a sort of life annuity.

Yet in spite of all these sources of wealth the income of the Popes, which was largely devoted to their buildings, was insufficient to meet the enormous demands made upon it, and so we see the beginnings laid of an immense debt. We must, therefore, bear in mind that, although the great achievements of the Baroque period are due to the XVIIIth-century Popes, we cannot credit them with having provided all the necessary funds. This was an unwelcome legacy to their successors.

The debt, which in 1587 may be computed at 1,900,000*l.* in our money, had risen in forty years to 4,500,000*l.*; and Sixtus V., among other economies, reduced his table expenses to 3*s.* a day to cope with it.

On the other hand, we find the Popes "putting by" vast sums of money for their families. The Borghese acquired eighty estates in the Campagna, and are said to have received in sixteen years the equivalent of 250,000*l.* in money and offices. The Aldobrandini were equally fortunate, but the Barberini far surpassed both. Their income from the Papacy is estimated at 166,000*l.* per annum, and we are told on good authority that the incredible sum of 26,000,000*l.* passed into their hands during their pontificate.

These figures make one realise easily the origin of these great palaces in the centre of Rome, and those luxurious villas on its outskirts which bear the names of the papal families. For to everyone who knows Rome what names are more familiar than those of the Aldobrandini, the Borghese, and the Ludovisi, the Barberini and the Chigi, the Odescalchi and the Albani—all of them families whose fortunes were made by the XVIIIth-century Popes?

Their official dwellings, too, the Vatican and Lateran palaces, much of the Quirinal also, owe almost all their splendour and

wealth to this period. Bernini's *Scala Regia* in the Vatican may have been built out of extortionate taxation, or its cost may have been added to the vast debt of the Popes, but it is all part and parcel of a time of magnificent display, the time when Modern Rome was made.

Their genuine zeal for the Church led them into many bold enterprises, and the XVIIIth-century churches of Rome may literally be reckoned by the hundred. They range from vast buildings, such as St. John Lateran and the Gesù, down to tiny chapels and oratories. Yet among the churches we may infer that the worst acts of vandalism were committed, for these modern champions of Christendom had small veneration for Christendom of the distant past.

Lastly must be mentioned those buildings of the Popes which represent their sense of public spirit and civic pride in the glory of Rome, buildings which ensured for them an almost constant popularity in the city despite their extravagance. For their mercenary habits in the Papal States were matched by their prodigality in Rome. From two and twenty miles away in the hills Sixtus V. brought a fine supply of water into the city, desiring to produce a work "whose magnificence might compete with the glories of Ancient Rome." Cost and difficulties alike were nothing to him; to think imperially was his aim.

Paul V., who emulated him in the splendour of his schemes, built an even more lengthy aqueduct, and the water which gushes forth from his bombastic Acqua Paolina is borne 35 miles. To fully realise the part which the Popes played in Rome at this time we must add such great works as the Piazza di S. Pietro, the Piazza del Popolo, the "Spanish Steps" in the Piazza di Spagna, most of the fountains, and many of the features which we should class as a part of their "town planning."

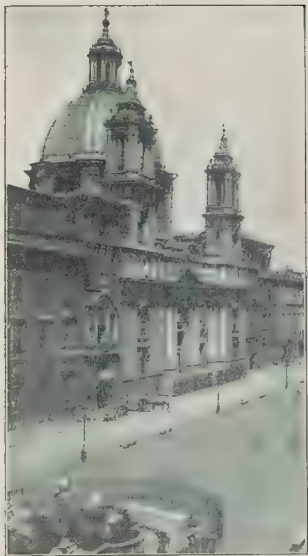
It is not altogether exaggeration to say that XVIIIth-century building in Rome was restricted to the Popes and the Papal families.

Meanwhile, the city was settling down, and the official class, at first largely bachelor in character, was giving place to a population of families. From the middle of the XVIth century, when the Popes began to beautify and establish the city, Rome has slowly and steadily developed, and has maintained its position as the capital of the world.

In reviewing the Baroque churches of Rome only a few examples can be even mentioned from the countless number. Gurlitt, in his volume on the period in Italy, describes about a hundred, but these form only a proportion of the total.

We may first consider how the work of the Baroque architects affected the three greatest historic churches of Rome—St. Peter's, S. Giovanni in Laterano, and S. Maria Maggiore.

St. Peter's both lost and gained at the hands of those who followed Michelangelo. Up to his day only Bramante had played a really prominent part in its design, and the church as we now see it is largely due to Michelangelo's adoption or adaptation of Bramante's original ideas, combined and infused with his own genius. The dome we may consider entirely Michelangelo's creation as Giacomo della Porta and Domenico Fontana worked from his model after his death. Vignola designed the cupolas surrounding the central dome. These may or may not have been inspired by Michelangelo, but are certainly worthy of him, though the criticism has been made with some justification that they are perhaps out of scale with the central dome. We now find ourselves in the Baroque period and have to consider what Maderna, Bernini, and Borromini left for posterity in St. Peter's. "Maderna's contemptible façade," as it is usually known, was the result of Paul V.'s decision to make the plan of the church a Latin instead of a Greek cross, and so to have the façade at the end of a long nave



[Photo. by Mascioni.]

S. Agnese, Rome, with the Piazza Navona.

instead of being close to the dome. This front is decidedly weak in design. The intercolumniation is defective and the disposition of openings particularly unfortunate. Possibly Maderna felt the difficulty of working on Michelangelo's scale, possibly the idea of lengthening the church originated with his employer and not with him, but, at any rate, the worst point about this façade is its existence at all, blocking up, as it does, what ought to be the best view of the magnificent dome. There are other Baroque features in St. Peter's, bad and good. There is Bernini's strange, florid, yet not altogether unsuitable baldacchino, the colossal dimensions of which are hard to realise. There is Maderna's golden Confessio, another witness to Paul V.'s lust for display. But the last great addition to the glory of St. Peter's, made more than sixty years after Michelangelo's death, is worthy of unqualified and enthusiastic praise—Bernini's colonnaded piazza. Of this perfect setting to a building which exhibits the continuous trend of Italian architecture for 120 years, of other schemes for placing this great church as it should be placed, more will be said in the following chapter.

S. Giovanni in Laterano is at least as noteworthy historically as St. Peter's, and is officially the Mother Church of all the world, but its architecture is not commensurate with its importance. Leaving out of the question the remarkably interesting buildings which surround the church proper, and the extraordinarily hideous and garish extension of the choir in modern times, most of what we see is due to three Baroque architects. In the days of Sixtus V. (1586) Domenico Fontana built the Loggia and façade of the south transept and most of

the adjoining palace, in a style which is Baroque in detail, but severe in its general lines. Sixty-four years later Borromini's over-ornate but magnificent nave (marred by the bizarre niches on the piers) showed the change in taste, and lastly, Galileo's colossal west front, dwarfing everything else in the neighbourhood, displayed some of the strength and much of the weakness of the Baroque period.

In Santa Maria Maggiore, on the other hand, with an equally long range of building activity, we find the architecture at a high level throughout. The church loses nothing by its fine and carefully planned situation, isolated in a huge piazza, and forming the vista at the end of several long streets. Here, by reason of its glorious traditions, was a suitable place for Sixtus V. to dazzle the world by a display of costly marbles and beautiful architecture. His Capella del Presepio fulfilled both his wishes, and in 1611 Paul V., whose object was to emulate the achievements of Sixtus, built a chapel corresponding to the Presepio, and surpassing it in magnificence, if not in elegance. Between 1670 and 1676 Clement X. remodelled the whole of the east end and succeeded admirably. His work shows nothing florid or out of place, and is in perfect harmony with the papal chapels and with its surroundings. It is an excellent example of the Baroque style at its best, and of its especial fitness for monumental subjects. As late as 1743 the architect Fuga erected the striking west front, deeply recessed, bold, and recalling rather the style of the XVIIIth than his own century. Few churches in Rome satisfy architects as does S. Maria Maggiore.

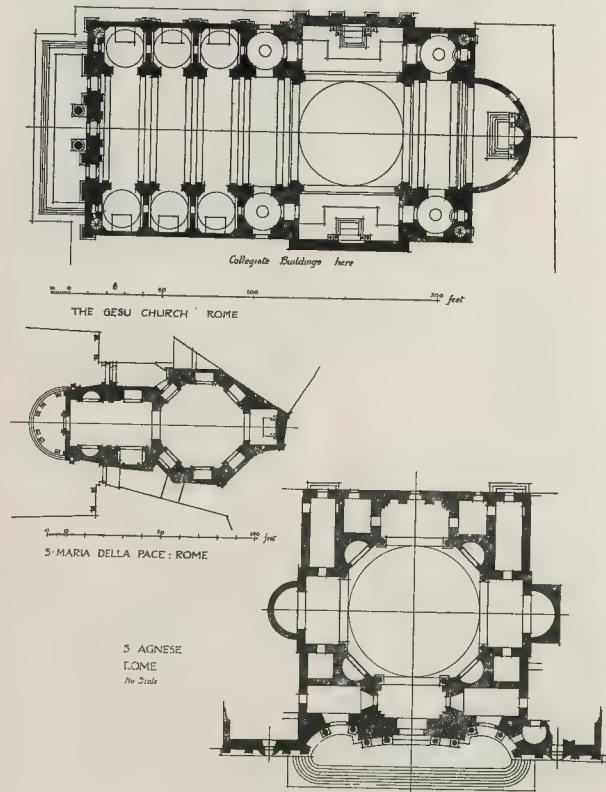
Of those which were erected before 1600,

it may in general be said that a less mature character than that which we find at St. Peter's, and where they are good they are good. We may take as three examples the Gesu, S. Luigi dei Francesi, and S. Maria della Pace. The first of these, the church of the Jesuits, begun by Vignola in 1568; the second, the church of the French, begun by S. Filippo Neri, who died in 1593, and was consecrated in 1600; the third, the national church of the French, begun by Giacomo della Porta, the last by Lunghi's best work. These buildings are typical of the architecture of the Baroque era in Rome. We should add to the group the large and beautiful church of S. Andrea della Valle by Pietro Paolo Olivieri (1651) begun in 1594. The façade, by several years later, and in a florid style, but the body of the church closely resembles the Gesu, and still more so.

It is interesting to compare these two great churches which each other in one of the busiest city. At first sight they appear identical, even the number of nave being the same; but on close inspection it will be found that the advantage is with S. Andrea, where the arcade is proportion to its order than at the Gesu, in this case more successful, which above the arcade at the Gesu, sculpture and ornament, comparable with S. Andrea. However, the dome is wider and more impressive in the neighbouring church. Both interiors are magnificent, and adapted for preaching to a large congregation. An ample range of chapels in Della Porta's two façades—the S. Luigi—show the advent of Baroque recessing, and it is fortunate that Vignola's inferior design for the west front was not carried out. Yet they are an admitted Baroque weakness, the appearance of isolation from the rest of the church, the façade tending to be more and more a great stone screen, designs were carved rather than carved part of a church.

The XVIIIth-century churches have perhaps been more abused than others, and though some examples merit it, others have so many in their favour that the scale is balanced. One or two built in the century display but little extra in their design. Thus S. Ignazio, the architects Zampieri and Grassano, the years 1626 and 1675, has a severe interior with the usual crossing, and Maderna's S. Suzanna (1595-1603) has an objectionable feature, a sloping pediment above the pediment. This might be a heinous fault, but against it may be set the otherwise excellent design of the portions of the façade, well suited to the church which it terminates, and the decoration (which in no case is excessive) and the admirable fenestration. The façade of S. Ignazio, it may be said, is the work of Algardi.

The architect for whom all the typical Baroque churches in Rome are reserved is Francesco Borromini (1584-1667), and indeed he has thoroughly deserved his reputation. Just as Bernini sometimes seemed to give place to fancy (which one thinks he never possessed him in designing the interior at St. Peter's), so Borromini is given to the wildest and most extravagant manner. It would appear that all through the Baroque period two tendencies were found—a legitimate developing of lines, such as in S. Maria della Pace, S. Agnese, or S. Maria della Pace.



Some Typical Plans of Baroque Churches in Rome.

er hand, a frantic striving after
y at any cost, regardless of archi-
cansons and traditions. To this
egory belong that absurd church of
is, S. Carlo alle Quattro Fontane,
mind seems to have run mad both
and elevation, his work at S. Ivo
enza, where the plan is said to have
ived from the shape of a bee (the
insect of the Barberini family),
extraordinary façade of S. Filippo

en Borromini was capable of doing
work, as we see in his church of
e in the Piazza Navona, the best
Rome for studying Baroque design.
see the other side of the shield,
architecture at its best, dignified,
ue, and grand. The proportion is
the general lines bold and strong,
t harmonious. The plan of this
a Greek cross. It was finished by
inaldi, who also designed S. Maria
ntelli, another church worthy of
admiration.

y of mention, too, alike for its
general and for its extraordinary
anning on a cramped site is S. Maria
pe, erected about the middle of the
century by Pietro da Cortona.
e same hand is the church of S. Luca
a, in the Forum, built on the Greek
n, in 1636.

io Lunghi the younger (d. 1657), son
io Lunghi, and grandson of Martino
—all of them celebrated architects—
two churches of note in Rome,
enzo ed Anastasio (1650) and
io de' Portoghesi (1652), the first
in the order of Cardinal Mazarin.
ades of these represent the great
class of Baroque architecture, and
its most familiar features, a certain
of conception and a certain luxury
ment.

third and last period, the XVIIIth
produced but few noteworthy
e. We have already alluded to the
of S. Giovanni in Laterano, and to
S. Maria Maggiore, showing respec-
pedantic or traditional and the
que or unrestrained tendencies. We
d to the latter class, perhaps, the
aining churches to be mentioned here
centric and over-decorated façade of
in Gerusalemme, by Gregorini (1744),
gorgeous interior of the SS. Apostoli
e, of which it must be remembered
ia towards the piazza dates from
500. Many more churches might be
ed—S. Andrea delle Frate, S. Carlo
b, S. Trinita Pellegrini are all familiar
ents—but enough has been said to
hat the main characteristics and the
endency of the Baroque period in
M. S. B.

PROPOSED ALTERATION TO ST. GEORGE'S HALL, LIVERPOOL.

HASTWELL GRAYSON, President, Liver-
pool Architectural Society, Incorporated, has
in Tuesday's issue of the *Times* in
reference to the proposed alteration to St.
George's Hall, Liverpool, in the course of which
the City Council will on Wednesday
the proposed alteration of the southern
of St. George's Hall. The Finance
tee, with a pertinacity which we cannot
imagine, have persisted in obtaining
es for combining a southern approach
the Memorial to King Edward. Archi-
tural opinion has with extraordinary
ity opposed each of the official schemes,
to now the general public have merely
the scheme with a benevolent neutrality.
combined efforts of Elmes and Cockerell,
probably the City Surveyor, who was
ge of the works between 1847, when
died, and 1851, the date of Cockerell's
ment, succeeded in creating, in spite
steep incline to St. John's-lane, a finish
south end of the hall which has called
universal praise. No other building in
ish Isles, except St. Paul's and the

Houses of Parliament, is so widely known and
appreciated. The Finance Committee must
admit that the proposed flight of steps, with
its irregular commencement, extending 29 ft.
into the road, may spoil the existing harmonious
composition of podium and pediment. They
appear willing to take this risk, but it is for
the citizens of Liverpool to give or withhold
permission. I am asked by the Liverpool
Architectural Society to make this last appeal
to leave St. George's Hall as it is and to give up
the idea of a flight of steps leading from nowhere
in particular to a small vestibule behind the
Judge's chair. Such a flight logically requires
a fine open space at the foot designed to receive
it, and a direct internal approach to the Great
Hall, neither of which, even at enormous
expense, is feasible.

There is no need to have the Memorial near
the hall, as there are several equally prominent
positions in Liverpool. But if, however, the
public will have it at the south end of the hall,
it need not be made an excuse for a useless
and disfiguring flight of steps. A sketch by
Elmes preserved in the library of the Royal
Institute of British Architects shows at each
end of the podium a massive pedestal of
masonry, surmounted by an equestrian statue.
The Liverpool Architectural Society suggest
to the City Council that the proposal of the
Finance Committee should be referred back
in order that a model be prepared based on
this sketch of Elmes, and the Society reiterates
the views already expressed by the architects
of Great Britain, America, and Europe, that
the City Council have no moral right to attempt
unwarranted experiments to the famous
building of which they are the trustees.

[The subject is referred to in our second
article, p. 274. The Council have decided by
fifty-two votes to forty in favour of the scheme
for altering the south front.]

GENERAL NEWS.

Professional Announcements.

The address of Mr. T. Elson Hardy, architect
and surveyor, has been altered by the postal
authorities to 19, Broadway, Westminster,
S.W. His telephone number is Victoria 4784.
Mr. Stanley Towse is moving his office from
8, New-square, Lincoln's Inn, to 9, Newcomen-
street, London Bridge, and his telephone
number will be 12965 Central.

Appointments.

Mr. L. S. Carr has been appointed con-
structional engineer for the erection of the
electric power station at Nechells, Birmingham.
Mr. Carr, who is thirty-eight years of age,
received his training at Rutherford College,
Newcastle-on-Tyne.

The Secretary of the Royal Institute of
British Architects is requested to invite ap-
plications for an appointment at Hong Kong.
Candidates should be Associates of the Royal
Institute between twenty-five and thirty
years of age, experienced in steel construction
and with some knowledge of quantities. A
good salary is offered.

The South Indian Railway Company is pre-
pared to receive applications for the position
of architect upon their engineering staff in
India. Particulars may be obtained from the
Company's Consulting Engineer, Mr. Robert
White, 3, Victoria-street, London, S.W.

Fire Appliances for St. Paul's.

The Dean and Chapter of St. Paul's Cathedral
have decided to have the building equipped
with an efficient fire protection plant. Some
months ago the London Fire Brigade made
experiments, and subsequently Messrs. Merry-
weather & Sons, the fire appliance engineers,
were asked to submit a scheme for the better
protection of the Cathedral from fire. Their
plans were approved, and work has been in
progress, under the direction of the Cathedral
architect, Mr. Mervyn Macartney, F.R.I.B.A.
Under the new system it will be possible to
pour water on any part of the building, from
the crypt to the dome.

Crane Collapse in the City.

By the collapse of a crane on Monday in
Great St. Helen's, Bishopsgate, one man was
killed and six injured. The crane, which stood
on a platform and weighed about 5 tons,
snapped, it is stated, at the base while a scoop

of rubbish was being lifted from the foundations
of new offices in course of erection on the site
of the old Synagogue. It fell on a number of
men, and also dragged with it the driver, who
was scalded by water from the boiler and
suffered from shock and bruises.

Well-Boring in Aldwych.

Messrs. Duke & Ockenden, Ltd., are boring
for a well on the site of the Australian Govern-
ment buildings in Aldwych. The boring
will descend to a depth of 450 ft. down to the
chalk, passing through the surface gravels
and London clay, Reading and Woolwich beds,
and Thanet sands. Nearly forty wells have
been sunk upon private premises in London
during the past seventy-five years, the yield
of water being very good in respect of organic
purity, with an even temperature of about
53 deg. all the year round.

The Royal Photographic Society.

The annual exhibition of the Royal Photo-
graphic Society is being held this year at the
Galleries of the Royal Society of British Artists
in Suffolk-street, Pall Mall, from September 2
till September 21. There are between 800
and 700 exhibits by home, foreign, and colonial
workers, and the exhibition as usual is divided
into two main sections, the pictorial and the
scientific. Colour photography moves slowly
to the long-wished-for goal of prints in
natural colours upon paper. Two steps
in this direction have been made quite
recently, and prints are shown upon the walls.
The first method is shown in the pictorial
section, and is an evolution of the transfer
oil process invented by M. Robert Demachy,
of Paris. Briefly stated, an oil print is made
by well-known means on gelatinised paper, and
is transferred from that by means of a copper-
plate press to any suitable drawing or printing
paper. The new method consists in substi-
tuting colour pigments for monochrome inks,
and the prints closely resemble water-colour
sketches. Another series of prints show what
has been done recently in advancing colour
photography. These prints have been produced
by what is known to the expert photographer
as the transfer oil process, colour pigment being
substituted for the photographic monochrome
image.

London County Council Chief Engineer.

The London County Council are inviting
applications for the appointment of Chief
Engineer of the Council and County Surveyor
for the Administrative County of London. The
applicant appointed will be required to take up
his duties on January 1, 1913, and will not be
allowed to take any private business or any
other paid employment. The salary attaching
to the appointment is 2,000*l.* a year.

Rural Main Roads in Kent.

From the annual report of the County
Surveyor (Mr. H. P. Maybury) we learn that the
total expenditure upon the rural main roads
in Kent last year was 112,361*l.*, or 18,117*l.*
more than in the previous year. Of the
total amount 36,205*l.* was spent upon tar-
coating, widening, kerbing, channelling, paving,
and drainage works. The cost of coating
roads with tar amounted to 28,665*l.*, and an
additional sum of 5,103*l.* paid to urban
authorities for similar work within their areas
raised the total cost to the county to 33,768*l.*

The L.C.C. Central School.

With Mr. F. V. Burridge, R.E., as Principal,
the Central School of Arts and Crafts, South-
ampton-row, will reopen on September 23.
Mr. S. B. K. Caulfield, F.R.I.B.A., and Mr.
S. Woods Hill, A.R.I.B.A., are the instructors
in Architectural Design and Drawing, Mr.
F. A. Mansford will take the Building Con-
struction course, and Mr. P. J. Waldram,
F.S.I., will teach Structural Mechanics. The
Prospectus and Time Table for all classes is
now ready.

The Selborne Society and Antiquities.

The Selborne Society have appointed a
special section with the purpose of protecting
places and objects of antiquarian interest
or natural beauty, including ancient buildings,
earthworks, and similar historical relics,
together with weapons, coins, utensils, etc.,
of all periods. The antiquities section will,
it is expected, give their attention to the
contemplated excavations on the site of
Verulamium, and the preservation of Whitgift
Hospital, Croydon.

ILLUSTRATIONS.

Cathedral Church of St. Paul, Namirembe, Kampala, Uganda.

THE view of the interior corresponds with the geometrical drawings published in the *Builder* last year. The architectural treatment is based upon the large and simple brickwork method of Northern Italy, and is entirely devoid of ornament except in the four capitals of the central columns, which it is proposed should be of marble. The drawing was exhibited in the Royal Academy Exhibition this year.

Baroque Architecture.

Two of our plates this week are given in connexion with the second article (p. 276) of our series on "Baroque Architecture," the first of which appeared in our issue for August 16. The plates consist of: S. Carlo alle Quattro Fontane; S. Maria Della Pace; West Front, Santa Maria Maggiore; and Interior of the Church of the Gesù—all at Rome.

MEETING.

MONDAY, SEPTEMBER 9.

The Incorporated Clerks of Works' Association (Carpenters' Hall, London-west).—Paper by Mr. John Church (of the Cubitt Construction Company) on "Medusa Waterproofing Compound and White Portland Cement," 8 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 291.

Scholarships in Art.

The Board of Education propose, if there are candidates of sufficient merit, to make the following awards in Art in 1913:—Ten Royal Exhibitions (60*l.* a year for three years and instruction in the Royal College of Art); six National Scholarships (60*l.* a year for three years and free admission to the Royal College of Art); not less than fifteen Free Scholarships, entitling each holder to tuition in the Schools of the Royal College of Art; and twenty-four Local Scholarships tenable at Schools of Art recognised by the Board, with allowances of 20*l.* a year each for three years. These awards will be made upon the results of the Board's examinations in Drawing, Painting, Modelling, Pictorial Design, and Industrial Design, or, in the case of candidates in Architecture, upon those of the Intermediate Examination of the Royal Institute of British Architects, to be held in June, 1913. The Regulations may be obtained from his Majesty's Stationery Office, price 1*d.*

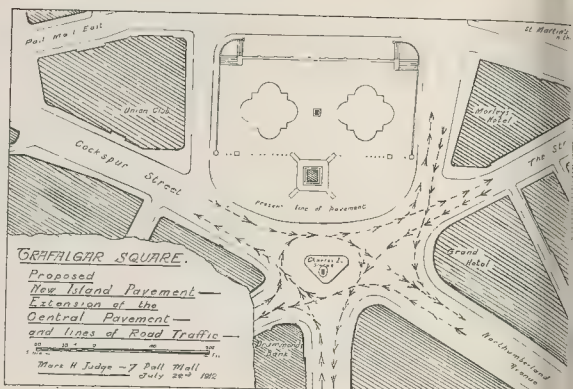
The Australian Federal Capital.

The July issue of the *Journal of Proceedings* of the Royal Victorian Institute of Architects contains a breezy review of the Federal Capital Site Competition, the winning design in which (by Mr. W. B. Griffin) was illustrated in our issue of August 2. "Only about one-third of the designs submitted are on exhibition," writes the critic, "the remainder being considered unworthy of being shown. None of the competitors whose names have been made public have the least claim to be considered among the town-planning specialists of the world. The first prize design is without doubt the best submitted. We cannot congratulate the Government upon receiving a high-class collection of designs, and they richly deserve the blame for the fiasco they deliberately set about to make."

CORRESPONDENCE.

Trafalgar-square.

SIR,—As at Hyde Park-corner, the excess of roadway in Trafalgar-square adds to the dangers of the traffic, and takes from space which is so much needed for the pedestrian, while the narrowness of the pavement to the south of the Nelson Column gives rise to the most disagreeable feeling of want of space for so massive a structure. By an extension of the central pavement, the construction of a triangular-island pavement, and the consequent alteration in the roadways, as shown on the plan I send herewith.



a considerable addition could be made to the pavement area of the square, making possible a regulation of the road traffic, which would add greatly to safety and save much of the time which is lost owing to the medley of the present planning of the roads.

MARK H. JUDGE.

FIFTY YEARS AGO

From the *Builder* of September 6, 1863.

Cirencester Church.

THE inhabitants of Cirencester, public meeting on the 15th ult., Earl Bathurst presided, to resolve on their magnificent parish church, a vast fabric of the XVth and earlier centuries, and of that ornate character and construction which place it beyond means of local resources to do without required after the lapse of years many odd things which have been various times to spoil the architectural ecclesiastical arrangements of these edifices. Cirencester was one of the abbeys, and the church was gorgeous, are remnants of glass indicative of the colour that distinguished its numerous large windows. But these cannot be in what the parishioners restore, and would not suffice for that item.

The Princess's Theatre, Oxford-street.

SIR,—Although regular subscribers to your journal, by reason of the holiday season our attention has only just been attracted to the paragraph in your issue of the 16th ult. in reference to the Princess's Theatre, Oxford-street (which we have disposed of, together with the other properties and the site embodied in the Princess's Hotel scheme), wherein you state that the ground is nearly 21,500 ft. super.

As there is no doubt that you intend this to apply to the theatre only and a misconception might arise in many minds as to how an hotel costing 600,000*l.* could be erected on that space, we beg to inform you that the area covered by the hotel will be 52,300 sq. ft., which may be subsequently increased, as the area of the land taken from Lord Howard de Walden is over 1½ acres.

The architects engaged are Messrs. Boehmer & Gibbs, of 11, Spring-gardens, S.W., and building operations will shortly be commenced.

DAVIS & CO.

INTERCOMMUNICATION COLUMN.

Customary Travelling Expenses.

SIR,—Having been appointed architect for a building to be erected 120 miles distant from my office on the understanding that all customary travelling expenses will be paid by the clients, in addition to the usual commission, I shall be obliged if you will kindly say what "customary travelling expenses" includes. As a visit to the work involves a whole day, should any charge be made for time, in addition to travelling expenses, and if so, at what rate? I presume it is usual to charge first-class travelling expenses. Should "customary travelling expenses" include other out-of-pocket expenses, apart from actual travelling expenses?

T-SQUARE.

HOT WATER SUPPLY.

In the last paragraph of the "Ed." note after Mr. W. B. Hopkins' letter, on page 253, last week, the word "top" should be "tap."

PARISH CHURCH OF CHRISTCHURCH, COLEFORD.

The Parish Church of Christchurch, Coleford, erected in 1812, the first church to be erected in the Forest of Dean, is undergoing restoration at the hands of Mr. Ernest Davies, architect, of Hereford. The work consists of the removal of the old gallery, reseating the nave and north aisle with modern seating (to take the place of the high, straight-back pews), the erection of an oak screen under the chancel arch, and the building of a new vestry adjoining the west tower with castellated top, flat roof, and wood-block floors. The contract has been let to Messrs. Jones Brothers, builders, Bridewell, Coleford.

** Since the above was written, Cirencester Church has passed through vicissitudes, but it is still one of the parish churches in England, as it is traditionally one of the most beautiful to the Reformation it must have passed a most gorgeous interior; enough of the frescoes, stained glass, embroidery, and inscriptions to tell William Morris to say of it that it was "romantic to a degree." In the time of Laud's time steps were taken to repair the dilapidated and neglected state in which the fabric had fallen, and repairs in the manner of the day were carried out time to time afterwards, but it was not until 1865 that the work was taken up thoroughly, as foreshadowed by the extract. Sir Gilbert Scott was called in with this delicate operation, and he laid out some 13,000*l.* upon a restoration which was quite as vigorous as was the structure. The gem of the whole is the Trinity Chapel, which was the principal Guild of the town, a two-storied south porch facing the place is a feature for which Cirencester is especially well known. Built in the reign of Henry VIII., and displaying all the of vertical line and beauty of rich detail which the masons of that period were remarkable, it seems originally to have served as the meeting-place of the Guilds, of which there were at least ten at that time. The wealthy woolstaplers of the district watched over the needs of the church, and here, as in many another church, the merchants and princes of the cloth lavished their wealth upon their church as a thank-offering for their prosperity.—Ed.

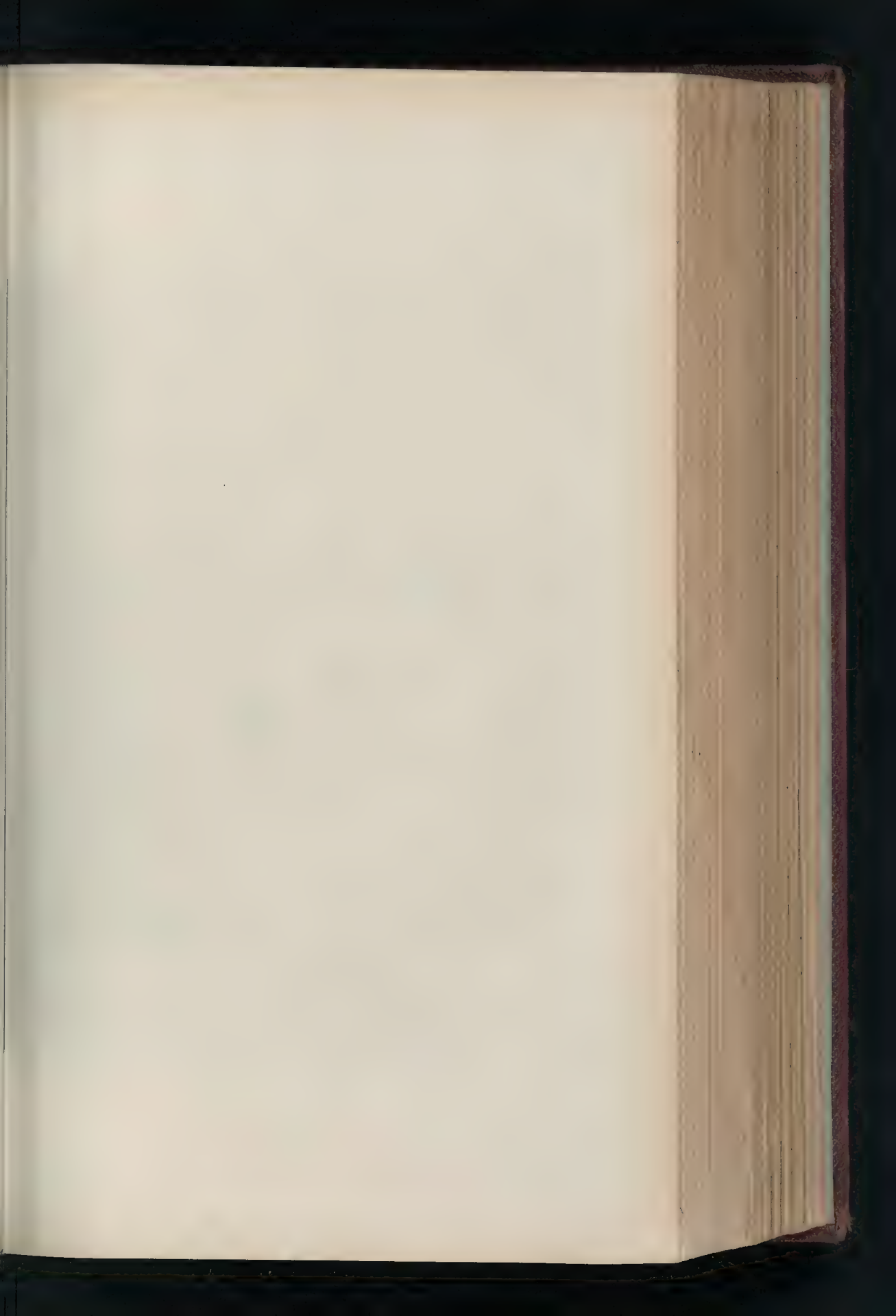


Photo by Mocioni.

Sprague & Co., Ltd., Printers 19 & 20, Dean St., Soho, W.

S CARLO ALLE QUATTRO FONTANE, ROME

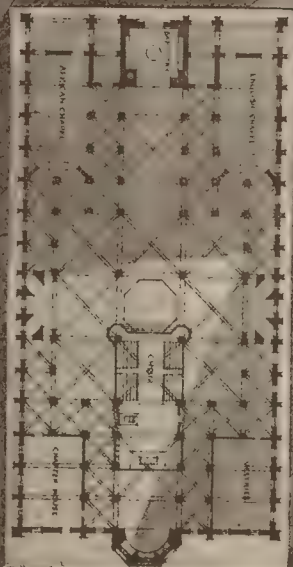
"BAROQUE ARCHITECTURE," II

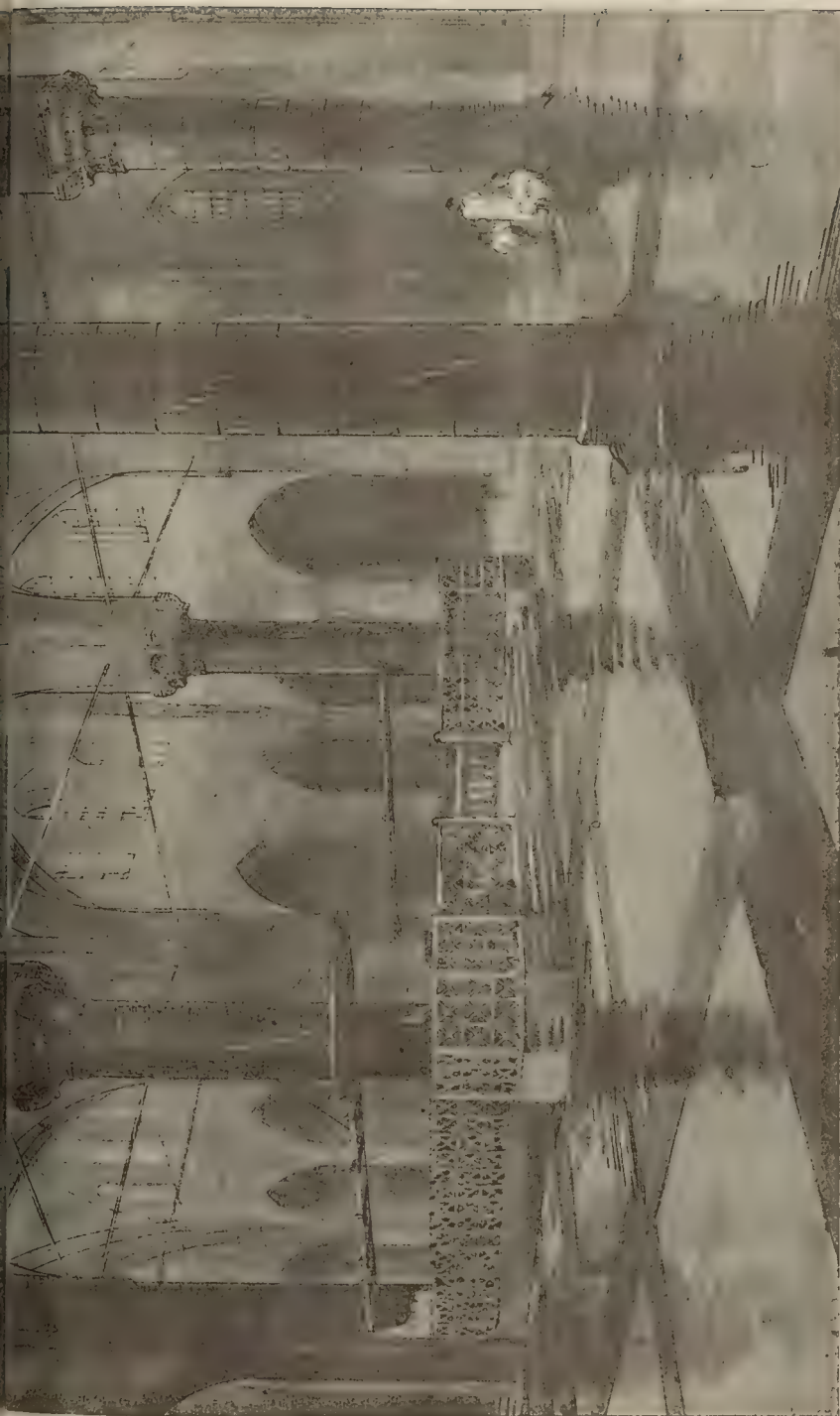


THE BUILDER, SEPTEMBER 6, 1912.



This is a detailed architectural drawing of a large, circular, domed structure, likely a dome or a large hall. The drawing is oriented vertically on the page. It features a central tower or dome with a smaller structure on top. The main body of the structure is circular with a series of smaller, semi-circular or polygonal sections along its perimeter. The drawing is highly detailed, showing structural elements like walls, windows, and internal divisions. The overall style is that of a technical or architectural sketch, with fine lines and shading to indicate depth and form.





THE CATHEDRAL CHURCH OF ST. PAUL, NAMIREMBE KAMPALA, UGANDA
PROFESSOR BERESFORD PITE, F.R.I.B.A., ARCHITECT



Photo. Rotographic Co.

Sprague & Co., Ltd., Printers, 58 & 70, Dean St., Soho, W.

INTERIOR OF THE CHURCH OF THE GESÙ, ROME.
ONE OF THE EARLIEST WORKS OF THE BAROQUE PERIOD AT ROME.
"BAROQUE ARCHITECTURE," II.



Sprague & Co., Ltd., Printers, 69 & 70, Dean St., Soho, W.

S MARIA DELLA PACE, ROME

"BAROQUE ARCHITECTURE," II

MONTHLY REVIEW *of* CIVIC DESIGN.



Canadian Bank of Commerce, Vancouver.

Messrs. Darling & Pearson, Architects.

CANADIAN BANK.

an article on Montreal reference to the prominent position in commercial life of the community has been expressed by buildings of character was illustrated by Montreal branch of the Canadian Commerce, designed by Messrs. Darling & Pearson.

ing, situated at the principal port on the Eastern Coast, is matched by the same architects, at the northern port, Vancouver, the terminus of the Canadian Pacific Railway, which practically came into existence with the coming of the rail- road 45,000 inhabitants in 1905, and no doubt, to be one of the great Western Continent. This fact has increased the size and style of the bank, which is worthy of a city. It sets a standard of scale of design which, if followed by the future of Vancouver, will make of the finest as well as one of the future in Canada.

led us much satisfaction to have published these admirable designs by Darling & Pearson. Mr. Frank is a long and honourable career, a pioneer work, and influenced us throughout the length and breadth during a critical stage of its

development. We wish to take this opportunity to express our regret that the name of his firm was inadvertently omitted from the illustration we published last month of the Convocation Hall of the University of Toronto. We regret this omission the more as Messrs. Darling & Pearson's work deserves wider recognition than it has yet obtained in this country.

A SUGGESTED WHITEHALL IMPROVEMENT.

In our issue of June 7 we drew attention to the proposed new Government building in Whitehall, and suggested that the architectural problem might be considerably simplified by the creation of a new street, as shown in our illustration.

We have reason to believe that this suggestion has been carefully considered by those responsible, and that the frontage line to the Embankment has been altered from that originally intended, and shown on the plan sent to us by Mr. Howley Sim—published on July 5—to a line more in conformity with our sketch.

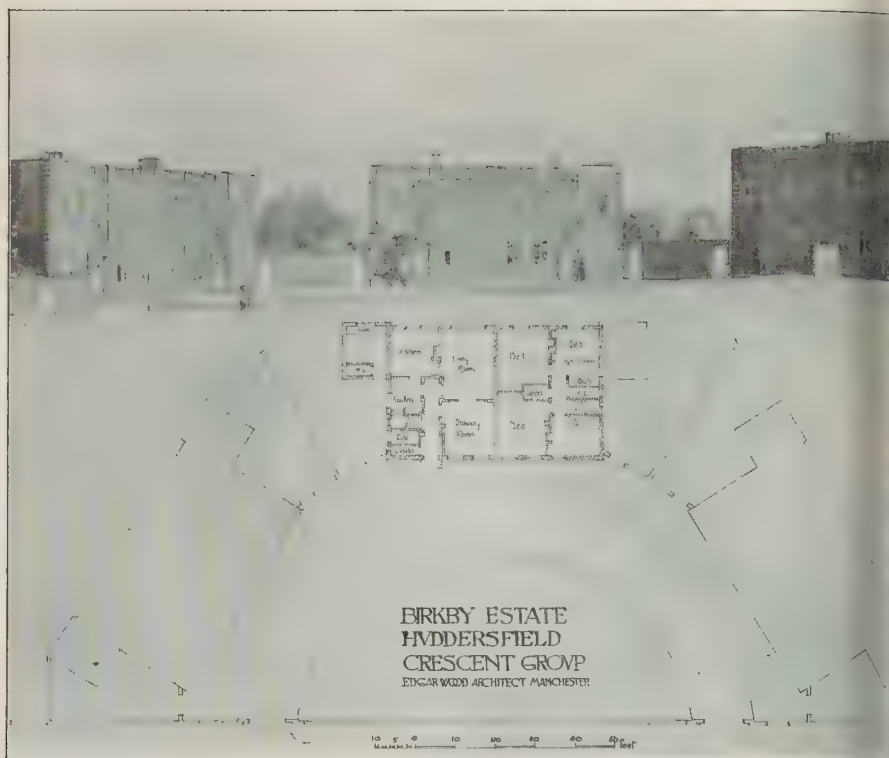
We understand, however, that there are supposed to be serious objections to the construction of any such new street as we suggested. It is thought that the light to the back of the United Service Institution and Gwydyr House would be interfered with, and that sufficient space would not be left between the new street and the Embankment to provide a site capable of accommodating the whole of the Board of Trade in one building.

We pointed out at the time that much of the space lost by the new street could be gained by projecting the building beyond the line of Whitehall Court on the Embankment side, as shown on our plan, in such a way as to suggest the continuation of the present frontage.

There may be, of course, more serious objections of which we are not aware, but we must say that those to which we have referred do not appear insuperable. The question of light to the present buildings is surely a matter of arrangement in detail—our plan was simply intended to explain the general idea—and the space necessary for the Board of Trade is largely a matter of compactness of plan and the skill with which the building is arranged.

But, after all, the idea for a street was only put forward as a suggestion for one way of dealing with the problem as a whole. There are other, and possibly better, ways. What concerns us most deeply is the necessity of treating the scheme as a whole, however it may be done; of considering the future development of the entire tract of land between Whitehall and the Embankment, and the futility of proceeding in the same piecemeal way that has been responsible for so many disasters in the past.

We may perhaps be permitted to express our surprise that a Government which has shown so much interest in the development of our cities as to pass the Town Planning Act should permit, or even perhaps constrain, one of its departments to deal with the sites for State buildings in such a manner as virtually appears



Proposed Estate Development, Huddersfield.

[The above illustration explains the nature of the Crescent Group designed by Mr. Edgar Wood, F.R.I.B.A., for the Birkey Estate, Huddersfield. The buildings would be carried out in local stone, cut face surface, with concrete and asphalt roofs. This group forms a portion of an estate in town-planning lines.]

to set the spirit, if not the letter, of the Act at defiance by proceeding as if it was not in existence.

Instead of being the first to set an example and to practise what it preaches, the Government seems to content itself with urging local authorities to deal with their improvements in a comprehensive manner, while all the time it is dealing with the improvements under its own control in the very heart of the capital city of the Empire in a piecemeal way that shows no regard for the amenities, for the needs of the future, or for the architectural possibilities of the situation.

We urge the advisability of preparing a scheme for the whole of this district which will provide sites for the additional Government buildings inevitably required in the future. We suggest that it will be to the advantage of the State if the most gifted of those who have been encouraged by the Town Planning Act to take up the study of this subject are given an opportunity to place their services at its disposal by means of a competition.

We can imagine nothing better calculated to excite public interest in the working of the Act than an announcement that the Government intend to carry out all State improvements in the same spirit, and we commend this point of view to the attention of the President of the Local Government Board.

CONTINENTAL TOWN-PLANNERS' VISIT TO ENGLAND.

A NUMBER of members of various Continental garden cities and town-planning associations have been visiting several garden cities in this country. The visitors were mainly from Germany, but the party included several Bohemians, Austrians, Danes, and Russians. Some are architects, some are lawyers, some are provincial mayors, some University professors, and in most cases they

are the official representatives of the towns or districts from which they come. In the course of their tour they visited Hull, York, Liverpool, Port Sunlight, Chester, Birmingham, Brentham (near Ealing), Hampstead, and Letchworth. At Ealing the president of the party, Dr. Bernhard Kampffmeyer, Herr Otto the secretary, Dr. Stahl, of Stuttgart, and other members gave a representative of the *Manchester Guardian* an outline of the present tour and some information as to the impressions they had received. They had noticed, on the whole, a great improvement in the general housing conditions, not only in the garden cities, but also in the old towns. England, they observed, had certainly awakened to the need of united action in the matter of housing.

"England has also made wonderful strides in town planning," said Herr Kampffmeyer. "We do not come to you to learn town planning; for that you come to us. Our town-planning laws are much older than yours, and our cities—even the old ones—have been built upon planned lines. Of course, some of our industrial cities and seaports are new, and they have grown so rapidly that in some cases they have formed slums. But we are overtaking them by degrees, and even in our worst industrial towns we have our slums well in hand. There will be no more, and we shall never have anything like the poorer quarters of Hull, York, or Liverpool. But we have still a good deal to learn from England in the matter of housing, especially as regards the garden cities. We, too, have garden cities. They are springing up in connexion with almost all our big towns on definitely planned lines. But they are mainly for the industrial population and are on the Bourneville or Port Sunlight model. Garden cities like Hampstead and Harborne, designed for all classes, we have not yet achieved."

Dr. Stahl, of Stuttgart, referred to the garden suburb adjoining that city, which

was begun by the workpeople on co-partnership lines. The Stuttgart dissatisfied with the housing of the city, formed an association and site before going to capitalists for aid to begin building, and the estate agreed, had thoroughly justified itself. "They were dissatisfied with the quality of the housing in the city," he said, "it was nothing like so bad as in towns I have seen. The reason was so bad with us is because our laws are much stricter. They are no longer, and they are not particularly obligatory. Even then the municipality go beyond them, and they do. It is a law that in semi-urban districts one-third of the land can be built over, may not be built higher than four floors. If a municipality likes to be built four floors high it may then only half the land may be built over. The rest must be used for roads, public open spaces."

"One result of these severe laws," said another member, "is that those depressing streets of hundred all exactly alike, which imply material for new slums. I saw in Baltimore and afterwards in the enormous block-dwellings, in which we are not well satisfied with the town districts, and we are the small-house system that is in England."

"At the same time," Herr Stahl said, "we in Stuttgart find we are especially under a co-partnership system people the kind of housing they do not want to live in, and we have no point in our building cottages do not want to tend gardens, and we try to force them. We find a number of persons of the type who prefer 'flat life,' and we have

The question of definite regulations will no doubt be considered by the Competitions Committee at their earliest opportunity, as the frequency of these competitions proves the question to be urgent.

Pending the evolution of the perfect town-planner who will combine in one personality every aspect of this many-sided subject, it appears to us imperative that an architect with special knowledge of the question should be concerned in the assessing of such competitions. Such an arrangement would perhaps lead to a general acceptance of the jury system which, as we have frequently pointed out, is, in our opinion, generally the most satisfactory one for competitions of every description.

THE "TOWN PLANNING REVIEW."

The *Town Planning Review* for July is a valuable number which has a special interest for us, as, in addition to a notice of our recent competition for the Regent's Quadrant, in which the award of our Assessors is upheld, it contains an historical article on the origin and growth of Regent-street, profusely illustrated by photographs showing the salient features still remaining, such as Waterloo-place and other parts before the present demolition was begun. Reproductions appear of old views, showing the colonnades in the Quadrant, St. George's and St. Philip's Chapels, and parts of both the east and west sides of the street as originally designed; also four views of recent buildings showing the street under process of modernisation. The plan by Nash, dated 1814, differs in some respects from that actually carried out.

The article touches upon the condition of London at this period and upon the scheme for the lay-out of Marylebone Park—now Regent's Park—which is really part of the same general scheme for the development of this district; it throws an interesting light on the methods of the speculators of the period and on the general financial arrangements involved. It also gives information as to the other architects engaged on original designs for buildings in Regent-street, such as Soane, Smirke, Burton, and Cockerell, and finally deals with the alterations made since 1828, from Pennethorne's destruction of the colonnade and the rebuilding of the Harmonic Institute down to the erection of the Piccadilly Hotel and the new Polytechnic. This article will, we imagine, have permanent value as placing on record the salient facts in a most interesting episode in the later development of London.

In a short Editorial note on the present situation the opinion is expressed that, although it may be too late to consider the question of widening, it is not too late to limit the height of future buildings, and we certainly agree that this should be done. A suggestion is also made that, if painted stucco cannot be permitted, the use of Pentelicon marble, instead of Portland stone, might ensure those qualities of cleanliness, lightness, and durability which are desirable in a street of this character.

A short article by Professor Adshead on Burton's arch at Hyde Park-corner presents the opportunity to make a most interesting comparison between Burton's original idea—as illustrated by the drawing he presented to the Institute—and the work as now finally completed by the addition of the quadriga recently erected. Whatever the merits of this quadriga may be, it is to be regretted that the scale and proportions of the original design could not be maintained.

The Editor, Mr. Patrick Abercrombie, contributes the first part of what promises to be a complete study of the development of Brussels, illustrated by maps and by numerous views. The article is wide in its scope, and treats of the political and social development of the Belgian peoples, and refers to the European events which influenced the history of Flanders and Brabant, so throwing a light on the history of Brussels. The Napoleonic régime is particularly interesting, and the account of the manner in which the organic growth of the city has been retarded for political reasons points a moral which should be continually borne in mind. We shall look forward to the second part of this article with much interest.

The series of articles by Professor Adshead on "The Decoration and Furnishing of the City" is continued by a further article on "Fountains." This like the previous articles, is very well illustrated by some charming examples. It is a pity, however, that so many of the views do not show more of the

surroundings—some of them do not even permit us to realise the complete design of the fountains themselves—whereas it is surely the placing of the fountains and their relation to their environment which is even more important than their features and detail. The series of "Features of English Towns" is continued by No. 3, "The Porter Brook and Valley, Sheffield," by Mr. A. H. Holland; No. 4, "The Market Place, St. Albans," by Mr. A. E. Richardson; and No. 5, "Church Row, Hampstead," by Mr. T. Alwyn Lloyd.

"Sheffield under the Town Planning Act, prefaced by an Historical Note," is another careful and comprehensive study by Mr. Abercrombie which should be invaluable to all those who have to deal with problems of a similar character.

"The Many-Tentacled Town" deals with the work of Emile Verhaeren, the poet of modern Flanders, who, says Mr. Abercrombie, "might be called the poet of town planning; the same state of affairs which drove Mr. Booth and Mr. Rowntree to write their *Surveys of Poverty*, which suggested to Mr. Howard's mind the ideal of a garden city, and produced our Housing and Town Planning Act of 1909, inspired him to sing." "The power of great ideas, fearlessly advocated in order to lead the energies of the city into the right channel; this is Verhaeren's contention, and it explains the fascination which the modern city has for him, for he realises that all the energy is there—it only lacks direction."

Reviews of New Books and Magazines and a Chronicle of Passing Events complete a number which adds to the high reputation of the *Town Planning Review*.

CIVIC DESIGN NOTES.

Cottage Famine Scandal.

ANOTHER example of the lack of cottage accommodation, and of the difficulty of building cottages in conformity with the by-laws at rents in proportion to a labourer's wages, is afforded by the compulsory closing of eight cottages at Sheffield, in Bedfordshire. Four of the five families have been obliged to remove to Bedford, 10 miles away, and Arlesay, 4 miles away, although their work is in Sheffield, while one infirm woman has been taken to the workhouse infirmary, none of them being able to obtain suitable cottages.

A Disputed Case.

At Reigate, where the District Council has been requested to give further attention to an unfavourable report submitted by the Inspector of the Local Government Board at a meeting of the Council has been held, and the report severely criticised. It was decided to point out to the Local Government Board that in no case had it been found necessary to call the attention of the Council to the deficiency in the housing accommodation, that the figures given by the inspector appeared to be the minimum as regards wages and the maximum as regards rent, that, though rents might be higher than in some parts of the county, wages were higher also, and that after full consideration of all the circumstances they did not think it would be prudent to undertake the provision of accommodation for the working-classes.

Improvement Scheme, City of Indore.

MR. H. V. LANCASTER, F.R.I.B.A., has been commissioned to prepare an improvement scheme for the city of Indore, for the Maharajah of Indore, for the difficulty at Indore, as in many other towns in India, is that in the growth of the city very congested and insanitary areas have been produced, and the population is from time to time decimated by plague. It is hoped that by the carrying out of extensive improvements these defects will be remedied and obviated in the future.

The East Birmingham Scheme.

THE Town Planning Committee of the Birmingham City Council has now completed their town-planning scheme for East Birmingham. They have adopted the principle of dividing the area into zones, with different building densities. The lowest limit was twelve houses to the acre, and the highest limit was eighteen houses to the acre. There was also an intermediate zone, which would give fifteen houses to the acre. In all cases the maximum number

of houses which could be built on a site was twenty. They have inserted a clause in the bye-laws to keep advertising under the control of the Corporation, and another clause of the Corporation to make railway sidings areas, and to give the use of them to manufacturers on such terms as may be thought desirable. The Committee obtained the sanction of the Council for application to the Local Government for permission to prepare a scheme for the area of the Corporation. Yardley, and now proposed to ask to sanction an application to prepare a scheme for Stechford.

Proposed Garden City, Southport.

FOLLOWING the announcement of Southport with effect recently, for a town-planning scheme, has been sanctioned by the Local Government Board. The scheme will be about 3,000 acres in extent, embracing the village of Alsedale, and the present has in other directions where the land is well situated on the coast, the railway facilities exist already, the borough will prove attractive, and proposed to invite designs.

A Limit to the Size of Buildings.

THE announcement of the Earl's Court authorities, considering the enormous size of the largest hall in the world, a roof span of over 100 feet, raises the question as to whether it is a practical necessity for limiting the size of buildings in a city. The area of the building can occupy seems to be determined by the necessities of the traffic and for free intercommunication between parts of the town. No building should be so much ground as to cut off direct communication unless, like a palace, it is of great importance, or, like a public building, it has other advantages which make an adequate compensation for the inconvenience. The new London County Council Offices, with a length of over 800 feet, inconveniently large from the point of view were they not placed on a river, where no question of intercommunication arises, but, even so, they appear to be a point in size at which the convenience of building ceases, even from its own view. The bank of a river, where communication from side to side is already rather difficult, seems the natural position for such a building as require great length, but when the building is in districts where the traffic cannot be taken with the treatment adopted at the taking the traffic through the ground, the building appears to be the most expedient. We seem to need some pronouncement as to the distance of streets with reference both to the convenience of traffic and to the development of the district between them.

Reconstruction of Our Streets.

IN spite of the efforts of the public interest in the reconstruction of our streets, with the help of the daily Press the public can be influenced, and he is to be thankful that the design of our cities really is that it vitally affects their health and that they say nothing of their comfort or their interests. We are glad therefore to see the *Westminster Gazette*, in commenting on the piecemeal way in which our streets are pieced, points out that:—

"It seems a pity that in undertakings of this kind we have not the public supervision which is taken of course on the Continent. The street will be as great a medley of styles and disproportionate buildings, with most of the more prominent hidden behind huge advertisements, and deal with our streets as a whole, are in danger of destroying the enlightenment of the past."

This destruction of such schemes as the design for Regent-street, the saddest part of the kind we have not cannot yet rise to the height of the streets as a whole, let us at least work of those who could. If it is still to establish general regulations for the London, at any rate it should be to make special regulations for the piecemeal pieces of comprehensive design remain to us and to ensure that they shall be dealt with as a whole.

Dealing with their proposal that a national site rate, say, of 3d. in the pound on site values

should be levied and distributed according to the needs of rural districts, he says that any sum over 1s.6d. in the pound would cause a greater burden on agriculture. After quoting evidence given by members of the group, Mr. Eve remarks: "The question of necessary technical knowledge and departure from town life to village life never seems to bother these enthusiasts." He had made a valuation of the parish of Pavenham, omitting the Midland Railway main line running through it, to show the effect of the proposed tax of 3d. in the pound on site values, and found that the occupiers or owners there would be called upon to make a new and additional contribution of over 3000. per annum to the Treasury. The rates at 4s. in the pound on buildings and 2s. in the pound on land produced approximately an equal sum, so that the burden of the parish would be doubled. Such a tax was estimated by its advocates to yield 30,000,000, and as the Treasury already made grants, etc., to the amount of 25,000,000, Pavenham would receive in theory some part of the 5,000,000, but he did not anticipate that the parish would be credited with larger sums than at present. Why, remarks Mr. Eve, the general taxpayer should benefit at the expense of Pavenham seemed a reversal of common sense and justice.

THE TRADES' TRAINING SCHOOLS, GREAT TITCHFIELD-STREET, W.

We have received the report of the judges on the work done at the Trades' Training Schools of the Worshipful Companies of Carpenters, Joiners, Painter Stainers, Plasterers, Tylers, and Bricklayers, and Wheelwrights, at No. 153, Great Titchfield-street, W., and we have pleasure in calling attention to the good work of the Associated City Companies in their endeavour to improve the technique of each craft by instructing the men who actually earn their living by their labours therein. According to the report of the Chairman of the Schools' Committee (Mr. John Willson, J.P.), no student is admitted unless actually engaged in the trade in which he seeks to perfect himself; only *bona-fide* craftsmen are received, and then carefully trained. Many of the men who have availed themselves of the instruction are now occupying important and well-paid posts, and the number of students is still increasing. The judges have expressed general satisfaction with the work of the School, for the exhibition of which a room has been set apart at the Carpenters' Hall.

Mr. H. Phillips Fletcher, F.R.I.B.A., the Director of the Schools, in reporting on the work done, mentions that the Schools were established nearly twenty years ago. The aim throughout has been to raise the general standard of technique in the various crafts by educating the younger generation in the most practical methods of workmanship, and also to assist the craftsman out of the groove or mere mechanism and fit him to do his work with intelligence and skill.

Particulars relating to all the classes for Session 1912-13 can be obtained at the Schools, 153, Great Titchfield-street, W.

PROPOSED GLASGOW BUILDING TRADES EXHIBITION.

A meeting of the Glasgow and West of Scotland Building Trades Employers' Council was held on Monday last week in the Secretary's Office, 204, St. Vincent-street. Mr. William H. Baxter, Chairman, presided. A report was submitted regarding the negotiations which had passed with the International Building Trades Exhibition Company in connexion with the proposal to hold a building trades exhibition in Glasgow in September, 1913. The Chairman expressed the opinion that the exhibition would stimulate the building trade in Glasgow and neighbourhood, and being the first of the kind held in Glasgow, would be most interesting and instructive.

The Secretary reported having communicated with the Secretaries of the Associations affiliated with the Council regarding the arrangements contemplated by Sect. 99 of the National Insurance Act, under which the Board of Trade undertake on behalf of employers the custody, stamping, distribution, and exchange of contribution cards and unemployment books. He also reported that he had

written to the Town Clerk regarding the contracts for the extension of Glasgow Municipal Buildings, stating that they hoped the various contracts would be given out to separate contractors for each branch of work.

GENERAL BUILDING NEWS.

RENOVATION OF WEST PARISH CHURCH, GREENOCK.
The renovation of the West Parish Church, Greenock, has now been completed. It comprises generally the addition of a choir chancel and vestries, the reseating and redecoration of the old building, and the installation of a new pipe organ. The work has been carried out from the designs and under the supervision of Mr. John Keppie, F.R.I.B.A., of Messrs. Honeyman, Keppie, & Mackintosh, architects, Glasgow.

HOLY TRINITY CHURCH, SOUTHPORT.
This church, originally erected in 1837, is being rebuilt from the designs, published in the *Builder*, December 24, 1904, of Mr. Huon A. Maiter, F.R.I.B.A. Services are held regularly in the new building, and it is expected that the tower will be completed early next year. Messrs. John C. & Frank Woods, of Bolton, are the contractors.

LANCING COLLEGE, SHOREHAM.
A new wing has been added to Lancing College, near Shoreham, and will be formally opened on September 19. The architects are Messrs. Simpson & Ayton, of London, and the contractors are Messrs. Trollope & Colls, also of London. Further extensions are to be carried out at the college, including a 70-ft. tower, dormitories, and studies.

SHREWSBURY BRIDGE IMPROVEMENT.
Mr. H. Shelford Bidwell, M.Inst.C.E., held an inquiry at Shrewsbury on the 28th ult. on behalf of the Local Government Board concerning an application of the Shrewsbury Corporation for sanction to a loan of 12,000. to defray the cost of a scheme for widening the English Bridge. The scheme provides for an additional width of 15 ft. 7 in. and slightly reducing the present gradient, which is one in sixteen. It is proposed to retain the main architectural feature of the bridge.

SEWAGE FARM, COVENTRY.
It is proposed to carry out an extension scheme at the Coventry Sewage Farm at an estimated cost of 35,880. The Council have decided to adopt the scheme and to make application to borrow the sum required for the purpose.

SEWAGE WORKS, BENTLEY.
A Local Government Board inquiry was held recently with reference to the application of the local Council of Bentley for sanction to borrow 12,225. for the construction of sewerage and sewage disposal works. The scheme has been prepared by Messrs. Balfour & Co., of Newcastle, and the inquiry was conducted by Mr. A. G. Drury, M.Inst.C.E., the Local Government Board Inspector.

A NEW INFIRMARY IN LANCASHIRE.
The Alder Hey Chronic Hospital, to contain 1,000 beds, is in active progress, the cost, without equipment, being estimated at about 100,000. Mr. Charles H. Lancaster, F.S.I., Surveyor and Valuer to the West Derby Guardians, is the architect, and the general contractors are Messrs. Horace Kelly & Brother, of Walton, Liverpool.

EXTENSION OF GASWORKS, TIPTON.
At a meeting of the Tipton District Council the following tenders were accepted for extensions to the gasworks:—Mr. J. E. Proberts, of Bilston, 489s. for the boiler-house; Messrs. R. J. Dempster, of Manchester, 440s. for the scrubber, and 235s. for the engine and exhausters; West's Gas Improvements Company, of Manchester, 9,700s. for the vertical retorts. The Council also accepted the tender of Messrs. Thompson & Farley, of Kidderminster, of 5,686s. for a sewage disposal scheme.

INSTITUTE, KIRBYMOORSIDE.
The foundation-stone has just been laid of a new church institute at Kirbymoorside. The cost of the new institute is 1,600.; the plans have been prepared by Mr. Temple Moore, of London, and the construction of the building has been let by contract to Messrs. Rickaby & Sons, of Kirbymoorside. The building is to be a two-story one, and the ground floor will comprise a billiard-room, cloakrooms, a kitchen, and caretaker's apartments, while the first floor will be devoted to the purposes of one spacious hall for meetings, etc.

MEASLES PAVILION, DUNDEE.
A measles pavilion with an administrative block for further extensions at King's Cross Hospital is to be erected, the total outlay being over 12,000. At a meeting of the Public Health Committee, the City Engineer (Mr.

James Thomson) reported that on the basis the lowest tenders opened at the previous meeting, the cost of the respective blocks a buildings was as follows:—Measles pavilion for forty beds, 5,250.; discharge block, 2,250.; administrative block, 4,047.; kitchen block, 952.; corridor, 922.; and tunnels for pipe, 380.—a total of 11,855. If the measles pavilion were constructed with timber work covered with corrugated iron, the cost would be reduced by 1,500., while the cheaper form of construction would result in modifications of the method of construction.

WORKPEOPLE'S DINING HALL, WILLINGTON QUAY.
A dining-hall, capable of seating 400 persons has been erected by Messrs. R. Hood, Hagg & Son for the benefit of the workers in the rope factory at Willington Quay. The contractor is Mr. J. McHarg, and the architect Mr. Edward Cratney, of Wallsend.

TRADE NEWS.

Under the direction of Mr. A. J. Lacey, architect, Norwich, the "Boyle" system ventilation (natural), embracing Boyle's late patent "air-pump" ventilators and air-inlets has been applied to Holy Trinity Church, Norwich.

Messrs. O'Brien, Thomas, & Co., of 17 and 18, Upper Thames-street, E.C., and Excel Works, Hatcham, S.E., have recently supplied one of their D. O. Boyd's hygienic grates to the New Malden East Special Subjects School for the Surrey Education Committee. They are also supplying three of their D. O. Boyd's hygienic independent stoves to St. Mark's School, Reigate, for the same Committee.

Messrs. Brown & Backhouse are installing passenger lift in the Town Hall, Liverpool. The St. Paul's Schools and Institute, Newport, are being ventilated by means of Shorland's patent exhaust roof ventilators, supplied by Messrs. H. H. Shorland & Brother, Ltd., of Failswoy, Manchester.

NATIONAL INSTITUTION OF APPRENTICESHIP.
The Council's Report for 1911 sets forth that during the twelve months 193 boys and thirty-two girls were bound in apprenticeship and indentures, and that the numbers would have been much larger if the Institution had funds wherewith to make grants in payment of premiums, or by way of supplementing wages when they are low. In 1911 117 apprentices completed their indentures, and nearly 100 remained in the employment of the masters, whom they had been apprenticed. In the interval, May, 1905–December 31 last, 12 apprentices were bound to masters in various trades.

NEW PAVING IN HOLBORN.
Norwegian granite blocks are being laid in High Holborn in place of the asphalt road surface. This return to the older material has been brought about partly by the general use of rubber tyres on vehicles.

PROJECTED NEW BUILDING IN THE PROVINCES.*

ALDERSHOT.—Theatre, Station-road, for the Aldershot Picture Palace Company, Ltd. Ashton-on-Ribble.—Erection of St. Andrew Church; Messrs. T. Croft & Sons, builders, Ashton-on-Ribble.

Barnmouth.—Alterations to school; Architect Merioneth County Council, Portmadoc.

Barry (Glam.).—Drill hall; Messrs. Feather Wilson, architects, Queen-street, Cardiff.

Belfast.—Prudential offices, Wellington Square; Mr. P. Waterhouse, architect, Staple-in-buildings, High Holborn, W.C.

Bingley.—Alterations to school; Mr. I. Bottomley, Surveyor, Urban District Council Offices, Bingley.

Birmingham.—Premises for Mr. J. Wright, gas-stove manufacturer; Mr. W. J. Gibbs, builder, King's Heath, Birmingham Theatre, King's Heath; Mr. F. Reynolds, architect, 7, Waterloo-street, Birmingham Theatre, Small Heath; Messrs. Hipkiss Stephens, architects, Martineau-street, Birmingham. Premises for Messrs. Lambourn & Co., jewellery manufacturers; Messrs. Barnsley & Son, builders, Ryland-street, Birmingham Theatre Royal, Aston; Messrs. Garfield & Sons, builders, 39, Chain-walk, Loddles, Birmingham Shops, Solihull; Mr. P. G. Co. builder, Grove-lane, Handsworth, Warehouse Messrs. J. Dallow & Son, builders, Blackheath Birmingham. Extensions to All Saint Church, King's Heath; Messrs. A. Harrison Cox, architects, Birmingham.

Broadway.—School; Mr. A. W. Priestley, County Council Offices, Worcester.

* See also our list of Competitions, Contract etc., on another page.

Leethorpes.—School on site opposite St. Peter's-road. Mr. S. M. Grant, Lindsey County Council Offices, Lincoln.

Rich.—Alterations, etc., to St. Mary's church, for the Vicar.

St. Albans.—Buildings in connexion with the railway's Explosive Works; Messrs. R. Cur & Son, builders, 28, Greenside-place, St. Albans.

Waverley.—Additions to isolation hospital (1000); Mr. J. B. Williams, Surveyor, Town Hall.

Weymouth.—Additions to infirmary; Messrs. Hamcock & Son, architects, Branch 4, Batley. Enlargement of Wheelwrights' tools (3,500), for the Endowed School, Weymouth.

Widcombe.—The following plans have been passed: Three houses, Vine-mews, for Mr. J. A. Oakden, architect. Four houses, Ringwood-road; Mr. W. R. Box, architect. Mr. W. Llewellyn, builder. Five houses, St. Andrew's-road; Mr. William Hookham, builder. Addition to the Hydro Hotel, Mount St. Andrew, for the Eastbourne Hydro Hotel Company; Mr. J. W. Woolnough, architect.

Widcombe.—Additions to bakery, Dalderstone (2,000), for the Bainsford and Graham Co-operative Baking Society.

Widcombe.—Additions to Holme Mills for Messrs. Lockwood & Son, woollen manufacturers.

Great Harwood.—Church and presbytery; Messrs. St. Wulston's, Rishton street, Great Harwood.

Great Yarmouth.—Plans have been passed as follows:—Rebuilding premises, St. Peter's-row, for Mr. De Haaf; warehouse, etc., Row for Messrs. Palmers and three houses, Canville and Century-roads, for Mr. C. Church.

Guardsbridge.—Extensions to mills for the Guardsbridge Paper Company, Ltd.

Huish (near Yeovil).—Additions to St. Andrew's Church (160 extra places) for the church.

Kearsley.—Extensions to mills for Messrs. Fletcher & Sons.

Kennmare.—Carnegie library (1,377); Mr. J. J. J. builder, Castlelea.

Kilbirnie.—School between Kilbirnie and Glasgow (400 places); Messrs. H. & D. Murray, architects, 245, St. Vincent-street, Glasgow.

Kilgarvan.—Residence for Medical Officer (500); Messrs. Duggan Brothers, builders, Newcastle, Cork.

Macclesfield.—Alterations to St. George's school (3,000); Mr. F. R. Oldfield, Town Hall, Macclesfield.

Mundessley.—Restoration of All Saints' church; Messrs. Lacey & Upcher, Upper Marlborough, Kent.

Nechells.—Electricity station; Mr. R. A. Lattock, City Electrical Engineer, Town Hall, Birmingham.

New Delaval.—Alterations and additions to school for the Delaval Coal Company, Newcastle-buildings, Newcastle.

New Kyo.—Swimming-baths; Mr. Thomas Welch, care of the Trustees of the Miners' all, New Kyo.

Nuneaton.—Additions at Abbey Mills, Nuneaton; Messrs. Hall & Phillips, industrial manufacturers.

Pennyboy.—School; Mr. V. Morgan, architect, Spilman-street, Carmarthen.

Pirvin (Pershore).—Houses; Messrs. Dicks & Aldon, Evesham, Worcestershire.

Parleigh (Essex).—School; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Redditch.—Cookery school (1,700); Mr. V. Lowe, architect, Foregate-street, Worcester.

Rowtenhall.—Eleven houses; Mr. W. Ashforth, builder, Burnley-road, Waterfoot.

Ryhope.—Council offices (1,420); Mr. J. Lunley, builder, care of the Town Clerk, Ryhope Council Offices, Ryhope.

Salford.—Erection of wall to embankment to canal, and pit for coal conveyor at Electricity Works, Frederick-road (1,157); Messrs. J. Terratt & Sons, Ltd., builders, Swinton. Plans have been passed for alterations and extensions to the Bay Horse Inn, 119, Ordsall-avenue, and to works, Leigh-street.

Sharrow.—Extensions, etc., to St. Andrew's church (1,200), for the Vicar.

Southampton.—School, King Edward-avenue; Mr. J. A. Crowther, Engineer, Town Hall.

Staffs.—Drill hall at Handsworth and Lichfield; Mr. C. Cowlishaw, architect, Stafford.

Swansea.—Extensions to works (100,000). For the Cwmfelin Steel and Tin Plate Company, Ltd., Carmarthen-road, Swansea.

Thomastown.—Forty-four houses (9,945); Mr. R. Lloyd, builder, Cefn, Glam.

Tunstall.—Fire-station; Mr. T. Young, Surveyor, Rural District Offices, Sunderland.

Whitefield.—School; Mr. R. Littler, architect, Ribblesdale-place, Preston.

Wilts.—Schools, Idmiston and Rodbourne

Cheney; Mr. J. G. Powell, County Hall, Trowbridge.

Wolverhampton.—Metropolitan Bank premises, Lichfield-street; Messrs. Cossins, Peacock, & Bewlay, architects, Colmore-row, Birmingham; Mr. T. Elvins, builder, Naden-road, School, Birmingham. Nursing home; Messrs. T. & S. Ham, builders, 31 and 32, Mander-street. Rebuilding and enlargement of bank for the National Provincial Bank, Ltd.

Yateley (Hants).—School; Mr. W. J. Taylor, The Castle, Winchester.

LONDON COUNCILS.

Tottenham.—The following plans have been passed:—Mr. J. W. S. Appleton, additions to No. 141, Northumberland Park; Messrs. Goodall & Son, alterations to White Hart public-house, High-road; the Cedex Electric Traction Company, conversion of the Stamford Hill Skating Rink, High-road, into motor assembly; Mr. T. Stevens, two houses and shops, High-road; the Metropolitan Electric Tramways, garage at High Cross.

Watford.—Plans submitted by Messrs. Dickinson & Co. have been passed for extensions at their Croxley Mills.

FOREIGN AND COLONIAL.

Building Materials, Brazil.

The *Diario Official* of July 23 publishes decree No. 9,693, opening in favour of the Ministry of Posts and Telegraphs a credit of 404,272 milreis (about 27,000*l.*) for the purpose of completing the erection of a building intended for a postal-telegraph office in Porto Alegre, State of Rio Grande do Sul.

Building, etc., Russia (Poland).

The following information is from the report by H.M. Consul at Warsaw (Mr. C. Olive Bayley) on the trade of Poland and Grodno in 1911, which will shortly be issued:—Though the number of houses built or repaired in Warsaw itself declined from 1,645 in 1910 to 1,425 in 1911, there was a considerable increase in building activity in provincial towns and in the country. High rents and the increased cost of living are gradually driving the less well-to-do classes to live in small country places in the neighbourhood of Warsaw, especially such as are served by the principal lines of railways, and in consequence there has been an abnormal development of such villages into small towns. This change has, to a great extent, been assisted by the fact that no extension of Warsaw beyond its limited boundaries has been possible in consequence of the refusal of the military authorities to allow any substantial buildings in the neighbourhood of the fortifications. In August, 1911, this prohibition was, to a great extent, withdrawn, and the near future should open up possibilities for the sale of British building material in the new areas of construction, which will have now been made available. Much will depend on the extension of the present system of tramways to these new suburbs, and the improvement of the service of the light railways which exist on both sides of the Vistula. Here again British capital might be used with every prospect of satisfactory returns. The improved building standard is still making great headway; iron construction has made considerable advance and so-called fireproof buildings are the only type now sanctioned. This naturally creates a demand for fireproofing materials, which is worthy of attention from British manufacturers.

PATENTS.

APPLICANTS PUBLISHED.*

17,742 of 1911.—Albert David Le Croissette: Draught-excluding doors.

17,757 of 1911.—John Henry Faulkner: Door fasteners and the like.

17,802 of 1911.—Clara Hedwig Martini: Apparatus for regulating the temperature of rooms heated by central heating plants.

18,394 of 1911.—William Calway (Director of the Building and States Development Company, Ltd.): Building of concrete, cement, and like walls.

19,996 of 1911.—James Henderson: Ball-cocks for cisterns and water-taps.

23,537 of 1911.—John Thomas Johnson: Tile asphards, curbs, or fenders for fireplaces.

24,099 of 1911.—Arthur Richard Abrey: Water taps and valves.

27,001 of 1911.—George Eagle: Theodolites.

2,667 of 1912.—William Burrow Shorland: Handles and their fittings for doors or the like.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

3,841 of 1912.—Thomas Ashby: Apparatus for cleansing sewers, drains, and the like.

4,072 of 1912.—Alfred Ernest Wheeler and Charles Hawkes Ridley: Systems of hot-water circulation.

5,405 of 1912.—Roland Krämer and Carl Krämer: Means for securing brackets for curtain poles and the like to walls.

8,055 of 1912.—William Clark and John Paterson Andrew (Andrew Clark & Co.): Platform ladders.

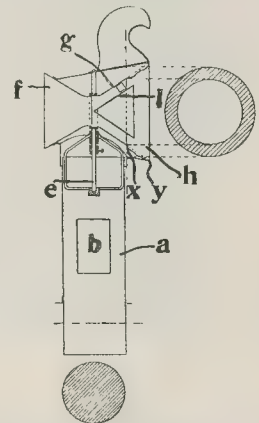
9,542 of 1912.—William Henry Lloyd: Mounting of water closet bowls.

11,950 of 1912.—August Straub: Flushing device.

SELECTED PATENTS.

9,835 of 1911.—George Naklik: Cows.

This relates to chimney and ventilating shaft cowl having conical wind-catching and wind outlet pipes, in the latter of which a cone is fixed, which are arranged so that a reinforced current of air is conducted over the smoke outlet, in a direction parallel to its mouth. The rotary head *h* contains the conical wind inlet and outlet pipes *f*, *g* respectively, their narrow ends being held in the ring-like portion of the spindle *e* on which the head turns. The



9,835 of 1911.

wind-outlet pipe *g* projects beyond the mouth of the shaft *a*, and its walls are so inclined that, if prolonged, they would encounter the edge of the head *h*. These supposed prolongations *x*, *y* form the surface of the smoke-escape opening, over which, by the aid of the cone *l*, a current of air passes in a direction parallel to that of the surface, so exerting a suction action. The cone *l* is adjustable in the pipe *g* to vary the suction action. A cleaning door *b* is provided in the shaft *a*.

OBITUARY.

Mr. R. C. Jones.

Mr. Richard Cornwell Jones, who died on August 25 at the advanced age of seventy-six, at 113, Selsdon-road, Croxford, was for many years a resident of Ryde, where Swanmore Church and a house in West-street, close to the Parish Church, were erected from his designs. He superintended the construction of the spire of the Parish Church at Ryde, said to be a copy of the one at Oxford. A fine peal of eight bells is in that steeple.

Mr. J. Baker.

Mr. John Baker, ecclesiastical carver, who was well known in Beverley because of the work he carried out at the Minster during the past twenty years, passed away at his home in London recently. Among Mr. Baker's chief works were the carvings in the Lady Chapel, St. Albans Abbey; the west front of Hereford Cathedral, Selby Abbey restoration, and the new south transept, Selby; Sledmere Church and Sledmere Cross, Dublin Cathedral restoration, Armagh Cathedral, St. Peter's Church, Belfast; Twickenbury Abbey, Southwark Cathedral, St. John's Gate, London; and Ripon Cathedral and Macclesfield Parish Church, Wrexham Parish Church, and at Beverley Minster, where his work included the restoration of the grotesques on the arching in the interior at the north side, and a great deal of other carving, both interior and exterior. He was sixty-five years of age.

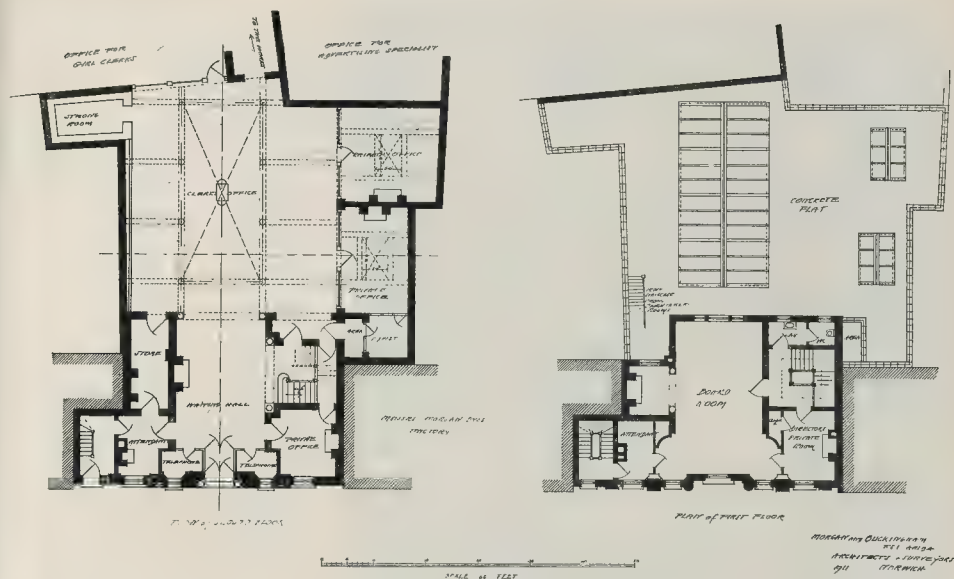


Business Premises, Norwich.



Business Premises, Norwich.

Messrs. Morgan & Buckingham, Architects.



Business Premises, Norwich.

Messrs. Morgan & Buckingham, Architects.

BUSINESS PREMISES AT NORWICH.

THESE premises have been erected recently in Norwich for Messrs. Coleman & Co., Ltd., manufacturers of Wincarnis, and for Messrs. Morgan Bros., boot and shoe manufacturers.

The new offices for Wincarnis include, on the ground floor, a large waiting hall, general office with accommodation for forty clerks, and three private offices for the management, and also accommodation for an attendant, strong-room, cloak-room, etc. The first floor is entirely taken up by the board-room and directors' rooms, and on the second floor are the attendants' living-rooms.

The original offices on the ground floor at the back of the new building have been adapted to accommodate twenty girl clerks.

The general contractors were Messrs. Anderson & Son, of Norwich, and the reinforced concrete flats with supporting beams were carried out by Messrs. Bradford & Co., of Homerton, London, and are covered with Limer's asphalt.

The heating of the whole of the offices was carried out by the Brightside Engineering Company, and is by hot water from a calorifier supplied with steam from the works boilers.

Open fireplaces are also provided in all the rooms, and in the general offices is fixed a Shoreland's green faience double central stove.

The main staircase and the screens in the entrance-hall are a combination of white enamel woodwork and oak polished with beeswax, the front counter and desks being in mahogany polished to a dark rosewood colour.

The walls throughout the building are decorated in a cream colour with ivory-white ceilings and fibrous plaster enrichment, and the board-room walls are panelled with Carton Fibre enrichment, this work being carried out by Messrs. W. G. Crotch & Son, of Norwich.

The masonry on the street elevation is of Ancaster stone, and is the work of Mr. Edward Potter, and the carving is by Mr. Hubert Miller, both of Norwich.

The adjoining building of Messrs. Morgan Bros. has an entirely new frontage to the street, with a depth of about 20 ft., which was erected at the same time as the Wincarnis offices by Messrs. T. Gill & Son, of Norwich.

Adjoining this factory to the north is a further addition to Wincarnis works, which comprises a loading dock for two vans and a packing floor of reinforced concrete with a north-lighted roof of timber and Simplex glazing. The cost of the buildings without their equipment was about 12,000*l.*

VILLAGE HALL, TOYS HILL.

TOYS HILL is a small hamlet between Westerham and Sevenoaks. There being no church, the back portion of the platform is separated from the rest by a movable screen, the part behind the screen being consecrated so that the hall can be used for religious services. When the screen is pulled across the chancel portion the hall is available for all the usual secular purposes of a village hall. It is quite simply built of local brick covered with rough plaster, the roof covered with Dutch pantiles, the lower portion with Westerham plain tiles. The roof is constructed of pitch-pine left from the tool. The panelling is of oak left from tool, and was presented by Mr. Owen Fleming as a memorial to his late wife. The clock was presented by the villagers, also in memory of the late Mrs. Fleming. The cast lead panel round the clock and the clock face were designed by the architect, Mr. J. Algernon Hallam. The model for the panel was made by Mr. Gelleck, sculptor.

The builder was Mr. John Capel, of Toys Hill who, together with his foreman, Mr. Horace Bunhell, took great interest in the work. The flight of external steps are in dull red local bricks. The heating is by Messrs. Strode & Co.

BOOKS.

Memorials of Old Nottinghamshire. Edited by EVERARD L. GUILFORD, M.A. Illustrated. (London: George Allen & Co., Ltd., Rathbone-place, W. Demy 8vo. 15s. net.)

This volume consists of a collection of fifteen essays, all of interest and some of special architectural value. The Editor's two contributions, an opening chapter on "Historical Nottinghamshire," and "The Civil War in Nottinghamshire," and other essays in the book give point to the following paragraph from the Preface:—"The present Editor has tried to choose his subjects from a field as varied as possible, and he



[Photo. by W. H. Drake.]

Village Hall, Toys Hill, Kent.

Mr. J. Algernon Hallam, Architect.



Village Hall, Toys Hill, Kent.

Mr. J. Algernon Hallam, Architect.

Photo. by W. H. Drake.

ventures to think that papers will be found here which will be welcome both on account of the matter to be found in them and because of the novelty of the subject." Those who read the articles already mentioned, and others on "Nottinghamshire Poets," "The Forest of Sherwood," "The Ancient and Modern Trent," "Nottingham," "Southwell," "The Nottingham Mint," "The Clockmakers of Newark-on-Trent," will, we believe, endorse this remark; but architectural readers will be more directly interested in the following chapters:—"The Mediaeval Church Architecture of Nottinghamshire," by Mr. A. Hamilton Thompson, M.A., F.S.A.; "Newstead Priory and the Religious Houses of Nottinghamshire," by the Rev. J. Charles Cox, LL.D., F.S.A.; "Wollaton Hall," by Mr. J. A. Gotch, F.S.A.; "Roods, Screens, and Lofts in Nottinghamshire," by Mr. Aymer Vallance, F.S.A.; "Nottinghamshire Spires," by Mr. H. Gill; and "Low Side Windows of Nottinghamshire," by the same writer, in which some suggestive conclusions are arrived at. "A systematic survey of all the low side windows in the county has led me," says the author, "to the conclusion that they were not all made for one and the same purpose." As to the openings which were originally fitted with an oak shutter as distinct from those that were rebated for glass, the author is of opinion that they were made for the purpose of ringing the sacring bell, while the glazed openings were intended simply to give light. Both Mr. Gill's chapters are well illustrated, a remark which applies to the able articles by Mr. Vallance on "Roods, Screens, and Lofts," and "Mediaeval Church Architecture," by Mr. Hamilton Thompson. The whole volume is of considerable interest, and it should find many readers.

The Country Gentleman's Estate Book, 1912.

Edited and compiled by WILLIAM BROOMHALL, (London: The County Gentlemen's Association, Ltd., 24 and 25, St. James's-street, W.C.)

THE Estate Book, to give this work its short title, has this year reached its decennial issue,

and we believe the present volume will prove of equal interest and usefulness to any that have preceded it. It contains much useful information on estate law, forestry, farming, gardening, and especially, from our point of view, on estate management and work. Included in the volume are articles or notes on: "Bungalows," by Mr. W. J. Chambers, F.R.I.B.A.; "Defects in Buildings and their Effect on Valuation," by Mr. H. Griffiths, A.R.I.B.A.; "Garden Cities at Home and Abroad," by Mr. Georges Benoit-Levy; and notes, reports, etc., of considerable interest. The volume is well arranged and edited.

PHASES OF ARCHITECTURAL EDUCATION.

THE following is a paper by Mr. Lloyd Warren, read on the occasion of the Forty-fifth Annual Convention of the American Institute of Architects at Washington, and taken from the *Proceedings* of the Convention published by the Board of Directors of the Institute (Mr. Glenn Brown, editor):—"How interesting it would be could we follow the phases of architectural training through the Middle Ages! How inspiring it would be to us, who seek to perfect this training at the present day, if we knew the influences which raise the art from the crude barrel-vault and block capital of the early Romanesque to the tenuous stone construction and the florid carving of Troyes and Notre Dame de Brion!"

Nothing, however, is left to give us a hint as to how the science of the builders was transmitted from generation to generation in those days. The mediaeval master-builder has passed away and has taken his secret with him; scarcely a document has remained, and nothing to inform us of his educational system. The builders before the Renaissance were a vast secret association, living and working apart from the rest of the world; migrating in companies when one cathedral was finished to the site of another which was

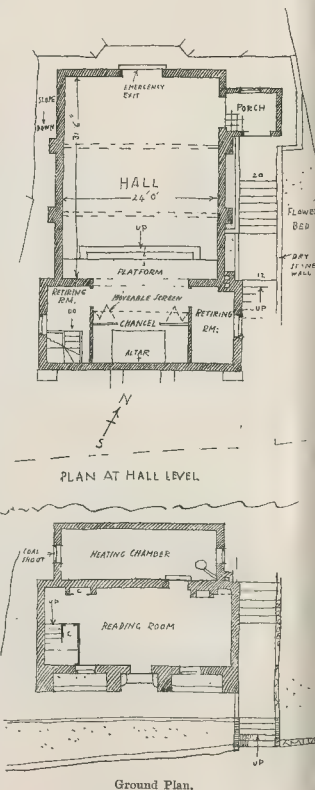
beginning, guarding their secrets jealously, mystic and tenebrous as was the age wherein they lived, and with that age they melted away before the brilliant rays of the Reformation and the Renaissance.

Then came the age of the despots, the litterati, and the precious, the pagan worship of the purely beautiful, which thrust aside the expression of construction as a thing inelegant and barbarous, and summoned the artist of pure form to build its temple. *Aenea Sylvius* and *Filippo Strozzi* thus called for the services of the sculptors *Rossellino* and *Benedetto da Majano*, and for nearly a century after only sculptors and painters occupy themselves with the design of monumental edifices, then *Palladio* and *Serlio* codify the science of building design in such a way as to put its technique within reach even of the inartistic constructor; unfold, as it were, by machinery the secrets of the artists' magic of form and proportion, and create that phase of architectural education which with little change has come down to the present day.

Thus we may describe these phases from the time of the downfall of Rome, traditional through the Middle Ages, purely artistic through the Renaissance, and codified or systematised thereafter.

That this last phase still exists in Europe I believe, but in this country we are rapidly developing a new one, which we cannot but recognise, and that is, that of intensive specialisation. The elements which now enter into the profession of architecture are so vastly complex that it is virtually impossible for one man to master them all—think of them for a moment. Is it only necessary that one be a man of general culture, a man of affairs, and a gentleman for the public to hasten automatically to one's office? If we would not have important work slip through our fingers we must be so eminently men of affairs that affairs must

(Continued on page 292.)



Village Hall, Toys Hill, Kent.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Public Appointments, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

SEPTEMBER 9.—**Chorley**.—SCHOOL.—The Chorley Education Committee invite designs for Council school for about 500 children. See advertisement in issue of July 12. Premiums 50l., 20l., and 10l. Deposit, 2l. 2s.

SEPTEMBER 30.—**Dublin**.—UNIVERSITY COLLEGE: NEW BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Haro, F.R.I.B.A. SEPTEMBER 3.—**Llanelli**.—SCHOOL, ETC.—The Llanelly Education Committee invite competitive designs and estimates for school buildings and domestic buildings at Staboneth Terrace. Assessor, Mr. G. E. Halliday, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.

OCTOBER 14.—**Balham**.—SWIMMING BATH.—The Wandsworth B.C. invite designs for a Public Swimming Bath. See advertisement in issue of August 16 for further particulars.

OCTOBER 29.—**Glasgow**.—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit, 1l. 1s.

OCTOBER 31.—**Huddersfield**.—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100gs., 50gs. and 25gs. Deposit of 2l. 2s. See advertisement in issue of August 2 for further particulars.

* OCTOBER 31.—**Llandudno**.—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in this issue for further particulars.

NOVEMBER 1.—**Ottawa**.—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

DECEMBER 1.—**Bulgaria**.—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9).

DECEMBER 2.—**Carlisle**.—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

FEBRUARY 1, 1913.—**Rangoon**.—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

NO DATE.—**Doncaster**.—SWIMMING BATH, ETC. FOR YORKSHIRE INSTITUTION FOR THE DEAF.—Premiums, 50l. Information from Mr. B. D. Crouch, 6, Hall-gate, Doncaster.

NO DATE.—**Jordanhill, Glasgow**.—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE.—**Motherwell**.—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 7.—**Gilcrux**.—ALTERATIONS.—Alterations to farm buildings at Gilcrux. Plans and specifications with Mr. J. Horney, architect, surveyor, and civil engineer, Maryport.

SEPTEMBER 7.—**Keighley**.—BUILDINGS.—For the construction of eight workmen's dwellings in the site of the new Lower Laithes reservoir works, Stanbury, near Haworth. Plans seen, and specification, form of tender, and schedule for completion, from Mr. J. Horney, architect, surveyor, and civil engineer, Maryport.

SEPTEMBER 7.—**Lyme Regis**.—DWELLINGS.—For the construction of eight workmen's dwellings in blocks of four. Plans and specifications at the Borough Surveyor's Office. Deposit of 1l. 1s.

SEPTEMBER 7.—**Lynton**.—SHED, ETC.—Erection of a gun and wagon shed and quarters at Lynton for a section of No. 1 Heavy Battery Devonshire Royal Garrison Artillery. Plans and specifications seen, and quantities, from Messrs. Ellis, Son, & Bowden, F.S.I., architects and surveyors, Bedford-chambers, Exeter.

SEPTEMBER 9.—**Bargoed**.—PREMISES.—For erection of shop premises in High-street. Plans and specification seen, and particulars from Mr. G. Kershaw, M.S.A., Station-road, Bargoed.

SEPTEMBER 9.—**Kenilworth**.—LONGER, ETC.—For the erection of lodge, chapel, etc., in connection with proposed new cemetery. Plans and specifications seen, and quantities, on deposit of 3l. 3s., from Mr. Sholto Douglas, C.E., Architect and Surveyor to the Council, Council Offices, Kenilworth.

SEPTEMBER 9.—**Maryport**.—ALTERATIONS.—For alterations to branch shop, Grassiet, for the Maryport Co-operative Industrial Society, Ltd. Plans and specifications with Messrs. W. G. Scott & Co., architects and surveyors, Workington.

SEPTEMBER 10.—**Elland**.—MILL.—Erection of a four-storied fireproof mill, 187 ft. long by 70 ft. wide, and chimney 50 yds. high, at Wellington Mills. Elland, Mr. Thos. Kershaw, A.R.I.B.A., architect, 26, George-street, Halifax.

* SEPTEMBER 10.—**Tilbury**.—MIXED SCHOOL.—The Essex Education Committee invite tenders for erection of a mixed school. See advertisement in this issue for further particulars.

SEPTEMBER 11.—**Wigg**.—32A WALLS.—For the reconstruction in reinforced concrete of two sections of the sea walls at Nigg, Ross-shire. Plans and specification with, and quantities from Messrs. George Gordon & Co., civil engineers, Inverness.

SEPTEMBER 11.—**Skelton Dale**.—SCHOOL.—For erection of a school. Plans seen, and specification, quantities, and forms of tender from Mr. F. B. Lewis, City Architect, Guildhall, Nottingham, on deposit of 2l. 2s.

SEPTEMBER 12.—**Hackney**.—UNDERGROUND CONVENIENCE.—The Hackney B.C. invite tenders for public underground convenience on eastern side of Kingsland-road. See advertisement in this issue for further particulars.

SEPTEMBER 13.—**Brighouse**.—SHED.—Erection of a shed, 132 ft. by 62 ft., at Brookfield Mills, Brighouse, for Messrs. Turner & Wainwright. Plans seen, and quantities from Messrs. Sharp & Waller, architects, 32, Bradford-road, Brighouse.

SEPTEMBER 13.—**Cork**.—THEATRE.—For building a cinematograph theatre in King-street, Cork. Quantities and particulars from the architect, Messrs. Arthur & W. H. Hill, 22, George-street, Cork.

SEPTEMBER 14.—**Inverness**.—PREMISES.—For works of new dairy premises, stabling, and covered yards, etc., to be erected at Waterloo-place, Inverness, for the Farmers' Dairy Company. Plans and specifications and quantities with Mr. Thos. Munro, architect, 62, Academy-street, Inverness.

* SEPTEMBER 14.—**Reckford**.—ALTERATIONS, ETC.—The Reckford Guardians invite tenders for alterations and additions to female wards at Union Workhouse Infirmary. See advertisement in this issue for further particulars.

SEPTEMBER 16.—**Eskevals**.—ALTERATIONS, ETC.—For extensions and alterations to the Range-house, Eskevals, Cumberland. Quantities: on deposit of 1l. 1s., from Vickers, Ltd., the Naval Construction Works, Barrow-in-Furness.

SEPTEMBER 16.—**Pomeroy**.—CHURCH.—For building a new church at Pomeroy, Co. Tyrone. Plans and specification with Messrs. William H. Byrne & Son, architects, 20, Suffolk-street, Dublin. Quantities by Mr. A. B. Brunk, of 5, Leinster-street, Dublin, on deposit of 2l. 2s.

SEPTEMBER 17.—**Birmingham**.—SCHOOL.—Erection of a new special Council school in Bristol-street. Forms of tender and quantities at the Finance Office at the Education Department, Council House, Margaret-street, Birmingham. Deposit of 2l.

SEPTEMBER 17.—**Edinburgh**.—LABOUR EXCHANGE.—The erection of a Labour Exchange at Lauriston-place, Edinburgh. Drawings, specification, and a copy of the conditions and form of contract at H.M. Office of Works, 3, Parliament-square, Edinburgh. Quantities and forms of tender on deposit of 1l. 1s.

SEPTEMBER 17.—**York**.—SHED.—The North-Eastern Railway invite tenders for the erection of an engine-shed at York. Plans and specifications seen, and quantities from Mr. William Bell, the Company's Architect, at York.

SEPTEMBER 18.—**Dublin**.—OFFICES.—For the new Government offices to be erected in Upper Merrion-street. Dublin. Quantities from the Secretary, Office of Public Works, at Upper Merrion-street, Dublin, on deposit of 5l. 5s. Drawings and specification at the Office of the Commissioners.

SEPTEMBER 18.—**Hull**.—SUB-STATION.—For the construction of electricity sub-station at St. Andrew's Dock. Forms of tender and particulars from Mr. A. E. White, M.Inst.C.E., City Engineer, Guildhall, Hull.

SEPTEMBER 19.—**Axbridge**.—BUILDING.—For constructing new latrine building on the men's quarters of the Axbridge Workhouse. Plans and specification seen, and form of tender at the Board-room, Union Workhouse, Axbridge.

SEPTEMBER 19.—**Hull**.—SCHOOL.—Erection of a fishermen's School in Boulevard. Drawings and specification seen, and quantities, on deposit of 2l. 2s., from Mr. Joseph H. Hirst, City Architect, Guildhall, Hull.

* SEPTEMBER 20.—**London**.—S.E.—DOMESTIC ECONOMY CENTRE.—The Governors of the Newcomen Foundation invite tenders for conversion of schools in Newcomen-street, Borough, into a domestic economy centre. See advertisement in this issue for further particulars.

* SEPTEMBER 24.—**Michelmersh**.—IRON COOKERY-ROOM.—Southampton C.C. invite tenders for corrugated-iron cookery-room at Michelmersh Council School. See advertisement in this issue for further particulars.

SEPTEMBER 24.—**Rhondda**.—RECONSTRUCTION.—For the pulling down and reconstruction of the Star Hotel, Ystrad, Rhondda. Quantities, on deposit of 2l. 2s., from Mr. T. B. Richards, A.R.I.B.A., architect and surveyor, Pontypool and Cardiff.

SEPTEMBER 25.—**Derrinkehir**.—SCHOOL.—For the erection of National School Building at Derrinkehir, Ballinamore, Co. Leitrim. Plans and specification seen at Ballinamore Royal Irish Constabulary Barrack.

* SEPTEMBER 25.—**Dover**.—POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for new post-office at Dover. See advertisement in this issue for further particulars.

* SEPTEMBER 26.—**Burley**.—CLASSROOMS, ETC.—The Southampton C.C. invite tenders for additional classroom and storeroom, alterations to cloakroom, and regrading, graveling, and tarpaving playground at Burley Council School. See advertisement in this issue for further particulars.

OCTOBER 2.—**Cwmrhylidceirw**.—HOUSES.—The Great Western Railway invite tenders for the erection of four houses at Cwmrhylidceirw, near Morriston, Glamorganshire. Plans and specification seen, and forms of tender from the Engineer at Nash Station.

OCTOBER 7.—**Leeds**.—BUILDING.—Erection of a steel and corrugated iron building, and the necessary surface-water drainage of the same, at the permanent way depot, Sovereign-street, Leeds. Form of specification, tender, and quantities from Mr. J. B. Hamilton, General Manager, Standard-buildings, City-square, Leeds.

* OCTOBER 11.—**Cold Norton**.—SCHOOL.—The Essex Education Committee (Maldon District Sub-Committee) invite tenders for public elementary school at Cold Norton. See advertisement in this issue for further particulars.

NO DATE.—**Daventry**.—SCHOOL.—For the erection of a new public elementary school at Daventry. Architects, Messrs. Talbot, Brown, & Fisher, Wellingborough.

NO DATE.—**Denbigh**.—ADDITIONS.—For additions to a house and shop in Love-lane, Denbigh. Plans and specifications with Mr. J. D. Lewis, architect and surveyor, Denbigh.

NO DATE.—**Rotherham**.—EXTENSIONS.—Alterations and extensions of the St. Ann's-road Council Schools. Mr. Jas. A. Mair, Secretary to the Education Committee, Education Office, Rotherham. Deposit of 1l. 1s.

NO DATE.—**Scunthorpe**.—HOUSES.—Erection of four houses in Cole-street, Scunthorpe. Plans with Mr. H. S. Stalker, architect, 150, High-street, Scunthorpe.

NO DATE.—**West Hartlepool**.—DAIRY, ETC.—For dairy and boot repairing workshop for the Hartlepool Co-operative Society, Ltd. Architect, Mr. L. G. Ekins, Co-operative Wholesale Society, Ltd., West Blandford-street, Newcastle-on-Tyne.

ENGINEERING, IRON, AND STEEL.

SEPTEMBER 15.—**Monmouth**.—CONCRETE.—For concreting the floors of two buildings, the latter part belonging to the Royal Monmouthshire Royal Engineers (Special Reserve), situate in a field about a mile and a half from Troy Station Monmouth. Tender forms from the Officer Commanding, Royal Monmouthshire Royal Engineers (S.R.), The Castle, Monmouth.

* SEPTEMBER 15.—**Tooting**.—REPAIRING RAILINGS.—The Lambeth B.C. invite tenders for repairing the wrought-iron boundary railings of allotments adjoining Lambeth Cemetery, Black-Troy-road. See advertisement in this issue for further particulars.

ENGINEERING, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 21. — **Andover.** — PURIFICATION WORKS.—For the construction of screen chamber, engine-house, suction tank, 9-in. rising main, settling tank, holding-up tank, four circular bacteria beds, alterations and additions to existing storm-water tank, erection of cottage, and other works. Specification and drawings by Messrs. J. Taylor, Sons, and Santo Crimp, civil engineers, Caxton House, Westminster, S.W. Deposit of 5l.

SEPTEMBER 23. — **Broadstairs.** — WATER-SOFTENING-HOUSE.—For water-softening-house and ferro-concrete tank (Hennepin system) at Rumsfelds pumping-station, cast-iron pipes and specials, sluice valves, etc. Plans and specifications seen, and forms of tender from the Engineer, Mr. H. Hurd, C.E., Council Offices, Broadstairs.

SEPTEMBER 24. — **Whitefield.** — SEWAGE.—For extensions at sewage-disposal works, and for new sewerage works, comprising about 600 yds. of new sewers from 9 in. to 18 in. diameter, with necessary manholes, lamp-holes, etc. General conditions, specifications, quantities, and form of tender at the office of Mr. George M. Denton, Engineer and Surveyor to the Council, Council Offices, Elms-street, Whitefield. Deposit of 2l. 2s.

* SEPTEMBER 25. **Woolwich.** VERANDAH.—The Metropolitan Asylums Board invite tenders for constructing verandah, etc., at Brook Fever Hospital, Shooter's-hill, S.E. See advertisement in this issue for further particulars.

OCTOBER 1. **Melbourne.** — DREDGE.—For the construction and delivery at Melbourne of a twin-screw sand suction hopper dredge of 1,200 tons capacity. Deposit, 200l. Plans, specifications, and conditions at the office of the Agent-General for Victoria, Melbourne-place, Strand, London.

NO DATE. **Rotherham.** HEATING.—For the heating of the St. Andrew's Council Schools. Mr. Jas. A. Muir, Secretary to the Education Committee, Education Office, Rotherham.

FURNITURE, PAINTING, MATERIALS, etc.

SEPTEMBER 7. — **Backbarrow.** — PAINTING.—For the painting of business premises and the three cottages and the hall adjoining, for the Backbarrow Co-operative Society.

SEPTEMBER 9. — **Halifax.** — PAINTING.—For painting the Natural History Museum at Belle Vue, Halifax. Specifications seen, and forms of tender from Mr. James Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax. Deposit of 1l.

SEPTEMBER 11. — **Sundridge.** — PAINTING.—For painting four wards at Workhouse Infirmary at Sundridge. Specifications with Mr. Pawley, architect, 1, Suffolk-place, High-street, Sevenoaks.

SEPTEMBER 13. — **Preston.** — PAINTING.—For painting, etc., done at Avenham, Miller, Moor, and Haslam Parks, and Deepdale Enclosure. Specifications seen, and form of tender from the Borough Surveyor, Town Hall, Preston.

SEPTEMBER 17. — **Canterbury.** — PAINTING.—For internal and external painting at the Corn Market. Particulars from Mr. A. C. Turley, A.M.Inst.C.E., City Surveyor, Canterbury.

SEPTEMBER 19. **Cardiff.** — PAINTING.—For the painting of the power-station buildings, car sheds, etc. Specification and particulars from Mr. Arthur Ellis, Central Offices, The Hayes, on deposit of 2l. 2s.

* SEPTEMBER 19. — **Croydon.** — PAINTING, ETC.—The Guardians of Croydon invite tenders for cleaning, repainting, and painting works at schools, Wickham-road, Shirley, near Croydon. See advertisement in this issue for further particulars.

* SEPTEMBER 19. — **London, S.E.** — PAINTING, ETC.—The Lambeth B.C. invite tenders for general repairs, painting, and lead roof works at Public Baths, Kennington-road, S.E. See advertisement in this issue for further particulars.

* SEPTEMBER 25. **Edmonton.** — PAINTING.—The Edmonton Union invite tenders for painting at

the Workhouse. See advertisement in this issue for further particulars.

* NO DATE. — **London.** — OAK FENCE.—Tenders are invited for repairing about 480 ft. of oak fencing. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

SEPTEMBER 10. — **Belfast.** — PIPES, ETC.—For laying and jointing of about 110 lin. yds. of 30-in. and 1,100 lin. yds. of 18-in. steel pipes and specials, and other works. Specifications seen, quantities and form of tender at the office of the City Surveyor. Deposit of 1l. 1s.

SEPTEMBER 10. — **Faringdon.** — SEWAGE.—For laying about 220 yds. of 9-in. sewer in Coxwell-street. Specifications from Mr. H. Glynn Warne, Surveyor, London-street, Faringdon.

SEPTEMBER 11. — **Birkenhead.** — STREETS.—For the sewerage, making, and completing of Seabrook-road, and the making and completing of Marlborough-grove. Plans and specifications seen, and form of tender, with quantities, from Mr. C. Brownridge, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Birkenhead, on deposit of 10s.

SEPTEMBER 13. — **Saltash.** — IMPROVEMENTS.—For improvements in Alexandra-square, Saltash. Plans and specifications at the Borough Surveyor's Office.

* SEPTEMBER 23. — **Stanwell.** — DRAINAGE WORKS, ETC.—The Staines Union and Staines Joint Hospital Committee invite tenders for drainage works and outfall sewer to ejector, etc., at Stanwell, Middlesex. See advertisement in this issue for further particulars.

* SEPTEMBER 24. — **Bromley.** — ROAD-MAKING.—The Bromley B.C. invite tenders for sewerage levelling, paving, metalling, flagging, channeling, and making good various roads. See advertisement in this issue for further particulars.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*CLERK OF WORKS	Northwich U.D.C.	3l. 10s. per week	Sept. 16
*COMMERCIAL ENGINEER G.P.O.	Civil Service Commission	Not stated	Oct. 3
*LECTURER IN SANITATION AND VENTILATION	Northern Polytechnic	See advertisement in this issue	No date.
*LECTURER IN ROAD-MAKING AND DRAINAGE	Northern Polytechnic	See advertisement in this issue	No date.
*ARCHITECT	South Indian Railway Co.	See advertisement in this issue	No date.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*DEALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall, Winchester House, E.C.	Churchill & Sim	Sept. 11
*ASSISTANT ENGINEER G.P.O.	Stuart A. Curzon	Sept. 11
*BUILDING SITES, PARKSTONE, DORSET—Canford Cliffs Hotel	Winkley, Kitchin & Bamford	Sept. 20
*FREEHOLD BUILDS PLOTS, NORTH FINCHLEY—"Orange Tree," New Southgate.	British Land Company, Ltd.	Sept. 25

PHASES OF ARCHITECTURAL EDUCATION—
continued from page 290.

occupy the larger part of our time, to the neglect of many other things, and those chiefly artistic. I think you will not cavil if someone insists that we must also be scientific; and you know how absorbing is the science of modern construction. Then what place in all this is left for art? Shall architectural design never be anything but Palladian colonnades? Shall decoration and ornament be ever at the mercy of some clay-puddler in a modeller's shop?

In short, what part is art playing in our profession? Is it merely one of those confounded things after another of which it is said the American's life is composed? Is it for ever to consist of different copies of the splendid motives which Letorouilly has put within our reach, or in touched-up reproductions of the rather mediocre designs of modern European publications? Do you suppose that this great land of ours, which has produced eminent statesmen, writers, orators, and soldiers, cannot also bring forth its Albertis and its Sansovinos? And if they come along, what are we going to do with them; give them their pay by the week, and, as Mr. Cram said yesterday, "force them to sketch themselves into a grave of watery deliquescence"? What part shall the artist play—shall it be a chief and honourable part, or shall it be that of the salaried and, therefore, not independent draughtsman?

There can be but one answer to this: the place of the artist in the practice of

architecture should be second to no other, and to this artist should be opened an education which will enable him to assume that place.

Our architectural schools up to the present have refused to accept this phase of intensive specialisation; twenty years ago they differentiated themselves very little from the schools of civil engineering; to-day they will decline not differentiate the scientific from the artistic in the profession itself; and, though in the scientific branch the instruction is excellent, in the artistic it still leaves much to be desired, and students are not encouraged to choose one or the other on which to concentrate.

The realisation that we had unavoidably passed into this educational phase of intensive specialisation came to me only very recently. It had been my fond notion that all draughtsmen had the ambition to become all-round architects, and ten years ago I had urged Columbia University to open a night school with that end in view. Being unable to pass this measure through at that time, it was with great interest that I saw Columbia last year, at the instigation of our Commission on Education, establish extension courses, which, taken in conjunction with the problems in design of the Society of Beaux-Arts Architects, would give a complete course in architecture. Imagine my surprise, then, when I found that, though the extension courses were well filled, only two of this Society's students were enrolled in them. All these boys were studying to

specialise, each one, in some one branch of architectural practice.

And, after all, is not this quite right? Do we not need in our offices men highly trained in each of the widely-differentiated branches? The sanitary and ventilating experts each up to date with the ever-improving apparatus; the writer of specifications, keenly alive to every new advice for good and economical construction; the landscape gardener, with a minute knowledge of plants and trees to protect the client from the florists' extravagances.

All this we are producing, but what is horrible is that we are rapidly producing, too, an artisan designer, who, in knowledge of plan and of composition, excels the architect, his employer! Just stop a moment to realise what this means. The architect—that is, the man of culture, of affairs, and the gentleman in training to be the artistic inspiration of the architect's office will be the mill, run by a business man, where art occupies a nameless and salaried position. The result of such a condition may have the quality of opportunism, but surely, where the artist is not in authority, his work can never rise to genius.

To my mind there can be but one escape from this condition, and that is to give the man who bears the promise and has the chance of being an architect advantages of artistic training which the night-school man does not get.

At present his training in this is vastly inferior.

We cannot manufacture geniuses, but we can give them opportunity to develop. We cannot develop the genius simply by the T-square and triangle; his every aesthetic instinct must be aroused and given play. Rossetti and Benvenuto did not produce the marvels in Pienza and Florence because they had technique in architectural drawing; but because they were artists, primarily sculptors, and who knows whether they were either gentlemen or men of affairs?

An so I speak to you earnestly to-day at this Convention, where much interest in educational matters has been shown. I speak to you earnestly to urge that everywhere where the higher education of the architect is aimed that it be not restricted to that of the draughtsman, but that he be trained in the practice and observation of the beautiful through every medium.

The technique of architectural drawing is all very well, the principles of planning and the composition of façade are essential, but what is of overwhelming importance is to offer to the genius who may arise the possibilities of developing himself by practice in the three allied arts. Our Universities must admit plastic art in their curricula; they must realise that the artistic side of our profession can only be developed in an art school, or America to the end of time will be unfeelingly and without understanding reproduce Palladian colonnades and XVIIIth-century ornament ad nauseam.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.		
August 19.—By RENDEL & SAWYER.		
Ungeington, Devon.—Fishwick and 22 a. 0 r.		
11 p., f.	£2,350	
Wigmore, Devon.—Pasture, 4 a. 3 r. 22 p., f.	200	
By ERECT & BARNELL.		
Hillnighy, Lancs.—Two farms, 245 acres, f.	5,700	
August 21.—By FRANCIS PITTIS & SON.		
Cambridge, I.O.W.—Swain's land, two plots, f.	628	
Foreland, two plots, 2 a. 0 r. 19 p., f.	109	
August 22.—By EDWIN J. GILBERT & CO.		
Thorpe-le-Soken, Essex.—Enclosure, 12 a. 2 r.		
10 p., f.	190	
Little Chanton, Essex.—Two enclosures, a.	390	
0 r. 12 p., f.	273	
Orchard Lea and 11 a. 0 r., f.	360	
By BALLE & BALLE.		
Indrook, Etc., Essex.—Agricultural estate, 445 acres, f.	10,975	
August 26.—JOHN PALMER & SON.		
Longhills-Skerne, Durham.—Red Burns and West Red Hall Farms, 223 acres, f.	7,630	
By F. J. HARRISON.		
Overston, Lancs.—Swathmoor Hall and 102 acres, f.	5,250	

Contractions used in these lists.—E.g., for freehold ground-rent; i.g., for leasehold ground-rent; r., for rent; for freehold; c., for leasehold; l., for leasehold; p., for purchase; e.r., for estimated rental; w.r., for weekly rental; q., for quarterly rental; y.r., for yearly rental; u., for unexpired term; p.a., for per annum; y.s., for years; l., for lease; st., for street; rd., for road; sq., for square; pl., for place; ter., for terrace; cr., for crescent; v., for avenue; g., for garden; p.b., for public-house; o. for office; b.h., for beerhouse; p.b., for public-house; o. for office; s., for shops; c., for court.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor. All communications must be authenticated by the name and address of the sender, and be sent by post or not. No notice can be taken of anonymous communications. The responsibility of signed articles, letters, and reports read at meetings rests, of course, with the authors. We cannot undertake to return rejected communications, and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them. All drawings sent to or left at this office for consideration should bear the owner's name and address written on the face or back of the drawing. Delay and inconvenience may result from intention to this. Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the Editor, who retains the right to reject or of an article, in type does not necessarily imply its acceptance. N.B.—Illustrations of the First Promoted Design in important competition will always be forwarded for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

*. Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.		
Per 1000 Alongside, in River.		
Best Stocks	£ s. d.	
Picked Stocks for Facings	1 14 0	
Per 1000, Delivered at Railway Depot.		
Flettons	£ s. d.	
Best Flettons	1 13 0	
Red	3 12 0	
Best Red Fretted	5 0 0	
Russon Facing	5 0 0	
GLAZED BRICKS—		
Best White, Double Headers 14 17 6		
Ivory, and Salt, One Side and two Ends	18 17 6	
Glazed Strutchers 12 7 6		
Quoins, Bulbous, 11 17 6		
and 44 in. Flats 15 17 6		
D'ble Strutchers 17 17 6		
Second Quality £1 10s. per 1000 less than best.		
Thames and Pitt Sand	s. d.	
Thames Ballast	5 6	per yard, delivered.
Best Portland Cement	5 0	per ton, "
Best Ground Blue Lias Lime 19 0		"

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. Grey Stone Lime

STONE.		
Per Ft. Cube.		
BATH STONE—delivered on road wagons, s. d.		
Paddington Depot	1 7 4	
Do. do. delivered on road wagons, Nine Elms Depot	1 9 4	

PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Finchley Wharf		
White Hasbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Finchley Wharf	2 4 4	
Per Ft. Cube, delivered at Railway Depot.		
Ancestor in blocks, 1 10		Closeburn Red
Bees in blocks, 1 6		Red Mansfield
Greenhill in blocks, 1 10		Red Mansfield
Durley Dale in blocks, 2 4		Freestone
Red Corshill in blocks, 2 3		Talsar & Gwespyr Stone

YORK STONE—Robin Hood Quality.		
Per Ft. Cube, Delivered at Railway Depot, s. d.		
Scrapped random blocks	2 10	
Per Ft. Super, Delivered at Railway Depot.		
6 in. sawn two sides landings to sizes (under 40 ft. super)	2 3	
6 in. rubbed two sides ditto, ditto	2 6	
6 in. sawn two sides slabs (random sizes)	0 11 4	
2 in. to 2 1/2 in. sawn one side slabs (random sizes)	0 7	
1 1/2 in. to 2 in. ditto, ditto	0 6	
HARD YORE—		
Per Ft. Cube, Delivered at Railway Depot.		
Scrapped random blocks	3 0	
Per Ft. Super, Delivered at Railway Depot.		
6 in. sawn two sides landings to sizes (under 40 ft. super)	2 8	
6 in. rubbed two sides ditto	3 0	
6 in. sawn two sides slabs (random sizes)	1 2	
2 in. self-faced random flags	0 5	

SLATES.		
Per 1000 of 1200 at Railway Depot.		
In. In. £ s. d.		
20x10 best blue	15 17 6	
Bangor	18 7 6	
20x12 ditto	18 5 0	
20x10 1st quality	10 8 0	
ditto	11 12 6	
20x12 ditto	9 12 6	
22x10 best blue	6 12 6	
Portmadoc		
16x8 ditto		

TILES.		
At Railway Depot.		
Best plain red roofing (per 1000)	42 0	
Hip and Valley (per doz.)	3 7	
Best Browley (per 1000)	42 6	
Do. Ornamental (per 1000)	47 6	
Hip (per doz.)	3 6	
Best Russon red, brown, or brindled (Edwards) (per 1000)	42 6	
Do. Ornamental (per 1000)	60 0	
Hip (per doz.)	4 0	
Valley (per doz.)	3 0	

WOOD.		
BUILDING WOOD. At per standard.		
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 0 0	15 10 0
Doals: best 3 by 9	13 10 0	14 10 0

WOOD (Continued).

BUILDING WOOD (Continued)—At per standard.		
Battens: best 2 1/2 in. by 7 in. and 3 in. by 7 in. and 3 in.	11 10 0	12 10 0
Battens: best 2 1/2 by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.

Deals: seconds	1 0	0 less than 7 in.
Battens: seconds	0 10 0	" "
2 in. by 11 in. and 3 in. by 11 in.	9 10 0	10 10 0
2 in. by 4 1/2 in. and 3 in. by 5 in.	9 0 0	10 0 0
Foreign Sawed Boards—		
1 in. and 1 1/4 in. by 7 in.	0 10 0	more than battens.
1 in.	1 0 0	" "
Fir timber: best middling Danish or Mamel (average specification)	5 0 0	5 10 0
Seconds	4 10 0	5 0 0
Small timber (8 in. to 10 in.)	3 17 6	4 0 0
Small timber (6 in. to 8 in.)	3 5 0	3 10 0
Swedish balks	2 12 6	3 0 0
Pitch-pine timber (30 ft. average)	5 5 0	6 0 0

JOINERS' WOOD.		
At per standard.		
White Sea: first yellow deals, 3 in. by 11 in., per ft. super	24 10 0	25 10 0
3 in. by 9 in.	23 10 0	24 10 0
Battens, 2 1/2 in. and 3 in. by 7 in.	12 0 0	13 0 0
Second yellow deals, 3 in. by 11 in.	13 0 0	14 0 0
3 in. by 9 in.	12 0 0	13 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	14 0 0	15 0 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	22 10 0
Do. 3 in. by 9 in.	18 10 0	19 10 0
Battens	14 0 0	15 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0	17 10 0
Do. 3 in. by 9 in.	15 0 0	16 0 0
Battens	11 10 0	12 10 0
Third yellow deals, 3 in. by 11 in.	13 0 0	14 0 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	10 10 0	11 0 0

White Sea and Petersburg—		
First white deals, 3 in. by 11 in.	15 0 0	16 0 0
3 in. by 9 in.	14 0 0	15 0 0
Battens	11 10 0	12 10 0
Second white deals, 3 in. by 11 in.	14 0 0	15 0 0
3 in. by 9 in.	13 0 0	14 0 0
Battens	10 10 0	11 0 0
Pitch-pine deals	19 0 0	20 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	42 0 0	upwards.
Oddments	38 0 0	" "
Seconds, regular sizes	38 0 0	" "
Oddments	38 0 0	" "
Kauri Pine—Flanks per ft. cube	0 4 6	0 6 0

Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 3 0	0 3 9
Small	0 2 6	0 2 6
Waincoat Oak Logs, per ft. cube	0 6 6	0 6 6
Dry Waincoat Oak, per ft. super, as inch	0 0 10	0 1 0
1 in. do. do	0 0 8 1/2	" "
Dry Mahogany—Honduras, Talsar, per ft. super, as inch	0 0 10	0 1 1
Selected, Firgy, per ft. super, as inch	0 1 6	0 2 6
Dry Walnut, American, per ft. super, as inch	0 0 10	0 1 0
Teak, per load	18 0 0	22 0 0
American Whitewood planks, per ft. cube	0 5 0	0 6 0
Prepared Floorings, &c.—		
Per square.		
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1 1/2 in. by 7 in. yellow, planed and matched	0 16 0	0 20 0
1 in. by 7 in. white, planed and shot	0 12 0	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	0 15 0
1 1/2 in. by 7 in. white, planed and matched	0 15 0	0 16 6
2 in. by 7 in. yellow, matched and beaded or V-jointed ords	0 11 0	0 13 6
1 in. by 7 in.	0 14 0	0 16 6
3 in. by 7 in. white	0 10 0	0 11 0
1 in. by 7 in.	0 12 9	0 15 0
8 in. at 6 d. to 9 d. per square less than 7 in.		

JOISTS, GIRDERS, &c.		
In London, or delivered at Railway Yards, per ton.		
Rolled Steel Joists, ordinary sections	7 10 0	8 0 0
Compound Girders, ordinary sections	9 10 0	10 0 0
Steel Compound Stanchions	11 0 0	12 0 0
Angles, Tees, and Channels, ordinary sections	9 10 0	10 0 0
Flitch Plates	9 10 0	10 0 0
Cast Iron Columns & Stanchions, including ordinary patterns	7 10 0	8 10 0

METALS.		
Per ton, in London.		
Iron—	£ s. d.	£ s. d.
Common Bars	9 0 0	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	9 15 0
Staffordshire "Marked Bars"	11 0 0	" "
Mild Steel Bars	9 5 0	9 15 0
Hoop Iron, basis price	10 0 0	" "
" Galvanised	17 10 0	" "
(*And upwards, according to size and gauge.)		
Sheet Iron, Black—		
Ordinary sizes to 20 g.	10 5 0	" "
" " 24 g.	11 5 0	" "
" " 28 g.	12 15 0	" "
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes, 6 ft. by 2 1/2 ft. to 3 ft. to 20 g.	15 10 0	" "
Ordinary sizes to 22 g. and 24 g.	16 0 0	" "
" 26 g.	17 0 0	" "

METALS (Continued).

IRON (Continued)—	Per ton, in London.	£ s. d.
Sheet Iron, Galvanized, flat, best quality—		
Ordinary sizes to 20 g.	18 10 0	—
“ “ “ 22 g. and 24 g.	19 0 0	—
“ “ “ 26 g.	20 10 0	—
Galvanized Corrugated Sheets—		
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0	—
“ “ “ 22 g. and 24 g.	15 5 0	—
“ “ “ 26 g.	16 5 0	—
Best Soft Steel Sheets, 5ft. by 2ft. to 3 ft. to 20 g. and thicker.	12 10 0	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	—
“ “ “ 22 g. and 24 g.	15 0 0	—
“ “ “ 26 g.	16 0 0	—
C ^W Nails, 3 in. to 6 in.	11 0 0	11 10 0

(Under 3 in., usual trade extras.)

LEAD, &c.

LEAD—Sheet, English, 4lb. and up	£ s. d.
Pipe in coils	25 7 6
Soil pipe	23 7 6
Compo pipe	23 7 6
Zinc Sheet—In casks of 10 cwt.	33 15 0
Ville Montagne	33 15 0
Silesian	33 10 0
Zinc, in bundles, 16, per cwt. extra.	
COPPER—	
Strong Sheet—per lb.	0 1 0
Thin	0 1 1
Copper nails	0 10 0
Copper wire	0 10 0
BRASS—	
Strong Sheet	0 11 1
Thin	0 10 0
Tin—English Ingots	0 10 0
Solders—Fluxed	0 10 0
Timmen's	0 1 1
Blowpipe	0 1 3

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per Ft. Delivered.	£ s. d.
15 oz. thirds	34d.
“ fourths	34d.
21 oz. thirds	34d.
“ fourths	34d.
26 oz. thirds	34d.
“ fourths	34d.
Flint Sheet, 15 oz. 3d.	
“ 21 oz. 4d.	

ENGLISH BOILED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.	£ s. d.
1 Rolled plate, 24d.	34d.
2 Rolled plate, 24d.	34d.
3 Rolled plate, 24d.	34d.
4 Rolled plate, 24d.	34d.
5 Rolled plate, 24d.	34d.
6 Rolled plate, 24d.	34d.
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46 Rolled plate, 24d.	34d.
47 Rolled plate, 24d.	34d.
48 Rolled plate, 24d.	34d.
49 Rolled plate, 24d.	34d.
50 Rolled plate, 24d.	34d.

* Not less than two crates.

OILS, &c.

Raw Linseed Oil in pipes	per gallon	£ s. d.
“ “ “ in barrels	“	0 3 0
“ “ “ in drums	“	0 3 2
Boiled “ “ in barrels	“	0 3 2
“ “ “ in drums	“	0 3 2
Turpentine in barrels	“	0 2 7
“ “ “ in drums	“	0 2 9
Genuine Ground English White Lead, per ton	25 10 0	
Red Lead, Dry	30 0 0	
Best Linseed Oil Putty	per cwt. 0 10 6	
Stockholm Tar	per barrel 1 12 0	

VARNISHES, &c.

Per gallon.	£ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 6
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Extra Pale Durable Copal	0 18 0
Fine Pale French Oil	1 1 0
Eggshell Flating Varnish	0 15 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 8 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday, [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BOTUSFLEMING.—For re-roofing and general repairs to Halt House. Mr. H. A. Hosking, architect, Landrake, St. Germans. F. J. Stanley £297 W. H. Rothery, Tremaunna & Sons 290 W. Boudry, Trematon, Saltash 185 J. Paynter 219

KINGSKERSWELL.—For bungalow and cottage at Whilborough, Kingskerswell. Mr. F. G. Moore, Assoc. M. Inst. M. E., 9-10, Fleet-street, Torquay. R. E. Narracott £510 L. J. Wilshe £495

KNOWLE.—For works at Knowle, Braunton. Mr. Eric G. Kingwell, architect, Red House, Barnstaple. Quantities by architect — J. Dennis £359 16 s. R. J. May & Co. 2862 1 4 F. & E. Small 649 11 2 Fortnigh & Bros. 531 0 7 W. Slee & Son 501 11 3 D. G. Souner W. Slee & Son, H. Slee & Son, G. Lester & Co. 822 3 3 Braunton 554 16 s. G. Pollard & Co. 723 0 0

LONDON.—For the erection of a picture theatre on the site of 140, Maidale Vale, for the Maidale Vale Palace, Ltd. Messrs. Norfolk & Prior, architects. Quantities by Mr. A. O. Breeds, of Portland-buildings, Lincoln's Inn-fields.

Dodson & Sons £13,742 Bovis, Ltd. £11,897 G. Allen & Son 12,969 W. Lawrence & Sons 11,872 Rice & Son 12,620 R. N. Marable 11,870 W. Downes 5,273 Lole & Co. 4,816 Perry & Co. 12,426 F. G. Minter 11,750 Spiers & Son 12,193 J. Easton 11,882 G. Neal 11,239 Kirk & Kirk 11,289

LONDON.—For the construction of new cells at King's Cross-road Police-station. Mr. J. Dixon Butler, F.R.I.B.A., Surveyor to the Metropolitan Police, New Scotland-yard, S.W. Quantities by Messrs. Thurgood, Son, & Childers, 8, Adelphi-terrace, Strand, W.C. — Newby & Bros. £5,326 F. J. Cothran £4,821 W. Downes 5,273 Lole & Co. 4,816 J. Jarvis & Sons 5,195 J. Grover & Son 4,683 F. Smith & Co. 4,828 Higgs & Hill 4,554 Kilby & Gayford 4,991 W. Eyre 4,540 Holland & Haenen 4,881

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MILL HILL (Hamdon, Middlesex).—For the erection of seven shops. Messrs. Thomas Dinwiddie & Sons, architects, 54, Parliament-street, S.W., and Greenwold S.E. — H. E. Percy £2,897 Gough & Co. £135 W. Tom 2,169 P. Parvin 1,79 C. W. Scott 2,040

TOLWORTH.—For painting and repairs at the hospital for the Tolworth Joint Hospital District Board. Mr. A. Jessup Hardwick, F.R.I.B.A., architect, Kingston-on-Thames: — H. J. Budd £387 0 0 Powley Bros. £39 9 G. F. Havell 385 18 0 R. Scose & Sons £21 15 E. Potterton 359 16 0 W. H. Gaze & W. H. Impson 318 13 0 Sons 313 6 Bull & Eadale 349 5 0 W. J. Nagus 303 0 E. Berfield 649 0 0 Offer & Sons 294 0 Ide & Son 346 15 0 S. T. Wright & J. Scofield & Sons 342 18 2 Co. 251 0

THORNER.—For erection of three dwelling-houses for Mr. Ellis Walker, Messrs. Richardson & Son, Bell, A.R.I.B.A., architects, Wakefield. Quantities by the architects —

Builder: G. S. Denson, Wakefield Slater: W. Hunt, Horbury Plumber and Glazier: H. Gillott, Wakefield Painter: A. Wilkinson, Ossett ES15 13

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3632.

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DESIGN FOR A TOWN CLUB. BY MR. E. MUSMANN, R.A.

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ARCHITECTURAL EDUCATION AND THE LONDON UNIVERSITY.

THE importance of the education of the young architect cannot be too strongly insisted on, the future welfare of architecture and the status of the architect to so great an extent depending upon knowledge. We make no apologies for returning to the subject from time to time, especially in view of the fact that it is to many members of our profession an alien subject, the real bearing of which they may never have thought out.

It has a twofold bearing on the object of an architect's life-work, which we take to be the production of beautiful and logical building; firstly, because, given the same initial ability, the best work must be produced by the man who has most systematically studied his subject, and, secondly, because, without cultivation we cannot hold our own with men of other callings who have the benefit of that culture which we have ourselves neglected. As a nation and as a profession we are proud of calling ourselves a practical people, often forgetting that the best practical results arise from the successful application of sound theories. In France and America this is better understood than in this

country, and the relative superiority of an architect's position in those countries is a direct result of the recognition of the fact that architecture—like all great ennobling and responsible callings—requires knowledge, preparation, and study.

No architect can expect to secure the confidence of a client if the latter ascertains from contact with him that he is devoid of that freemasonry which obtains among educated men. He is likely to be looked upon as a means whereby a certain result may be secured, as a necessary evil to be endured and then thrown aside. It is because their training is in many cases so incomplete that architects' complaints of their clients frequently arise—they are placed at a disadvantage by their ignorance of all but a section of their work.

The great architecture of the past was the outcome of the traditional spirit, in which generations of workers were trained. With the Renaissance came the necessity of study on systematic lines; the great pioneers were men of wide and general learning who were treated by the nobleman and the *savant* as their equals because of their attainments. Even in this country there was a

time when the architect was as familiar a figure at Court and at the meetings of the Royal Society as he now is at the Royal Academy and the societies which dabble in his art. It was left to the last century, that of shams and revivals, to degrade the calling of an architect by classing it with occupations which could be learnt by rule-of-thumb methods till George Eliot expresses, through Adam Bede, the characteristic opinion that a "carpenter with a bit of taste could be relied on where an architect failed." And the work of the few giants who have risen above the failures of their times may serve to emphasise to what low straits an art which is not seriously studied can fall.

It may be safely predicted, by all manner of reasoning, that if we are to leave a record for posterity in our executed work we must make wide and strong the foundation on which we build by thoroughly training those who enter our ranks.

The advantages of a University training for an architect are manifold, and may be briefly summarised. In the first place, it necessitates a good general education, without which the student cannot commence his special studies; it enables

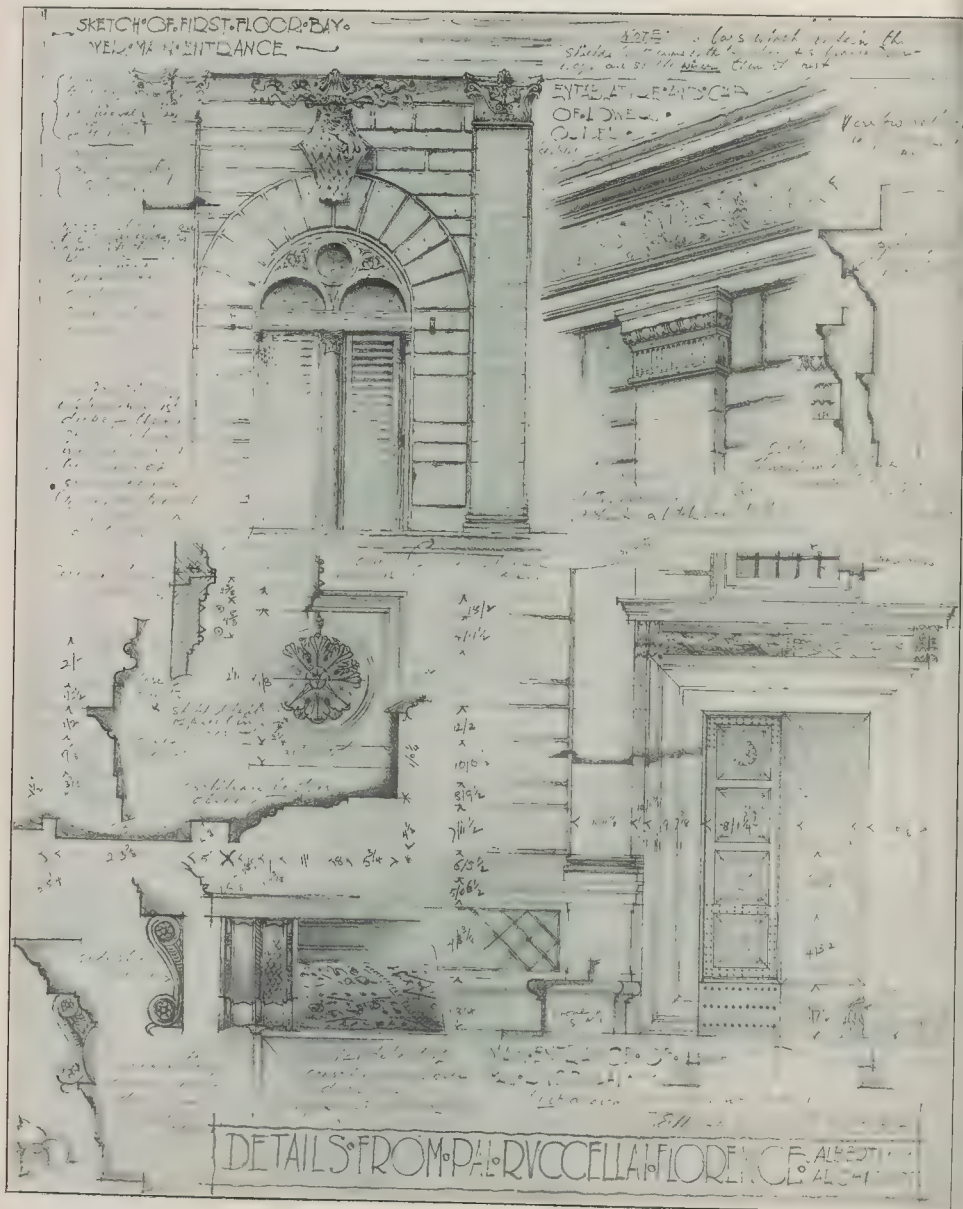
him to get—and from no mean height—a comprehensive idea of what architecture means, a general grasp which is supplemented afterwards by his specialised experience; and, thirdly, it causes him to mix with and hold his own with men destined not only to his own but other professions, and this enlarges his sympathies for and understanding of the great facts of life. Culture has somewhere been defined as the general recollection of what we have forgotten, and the most useful men to a community

are not at all necessarily those who are in possession of the greatest number of facts, but those who are trained in the habit of clear thinking.

These, in brief, are some of the advantages offered by the London University courses at King's College and University College, which at present cannot be obtained at any technical school or isolated department devoted solely to the pursuit of architecture.

The first degree in England for architectural students was instituted at

Liverpool in 1899, under Professor F. M. Simpson, when a B.A. degree (Honours in Architecture) was given. The University College at Liverpool was at that time one of the constituent colleges of the Victoria University, which also included Manchester and Leeds. Manchester followed, and still retains the B.A. degree course unaltered, but Liverpool (now an independent University) the course has been changed, and we hope to revert to the schemes followed there and elsewhere in other articles.



(University of London.)

Sketches by Mr. E. Musmann, B.A.

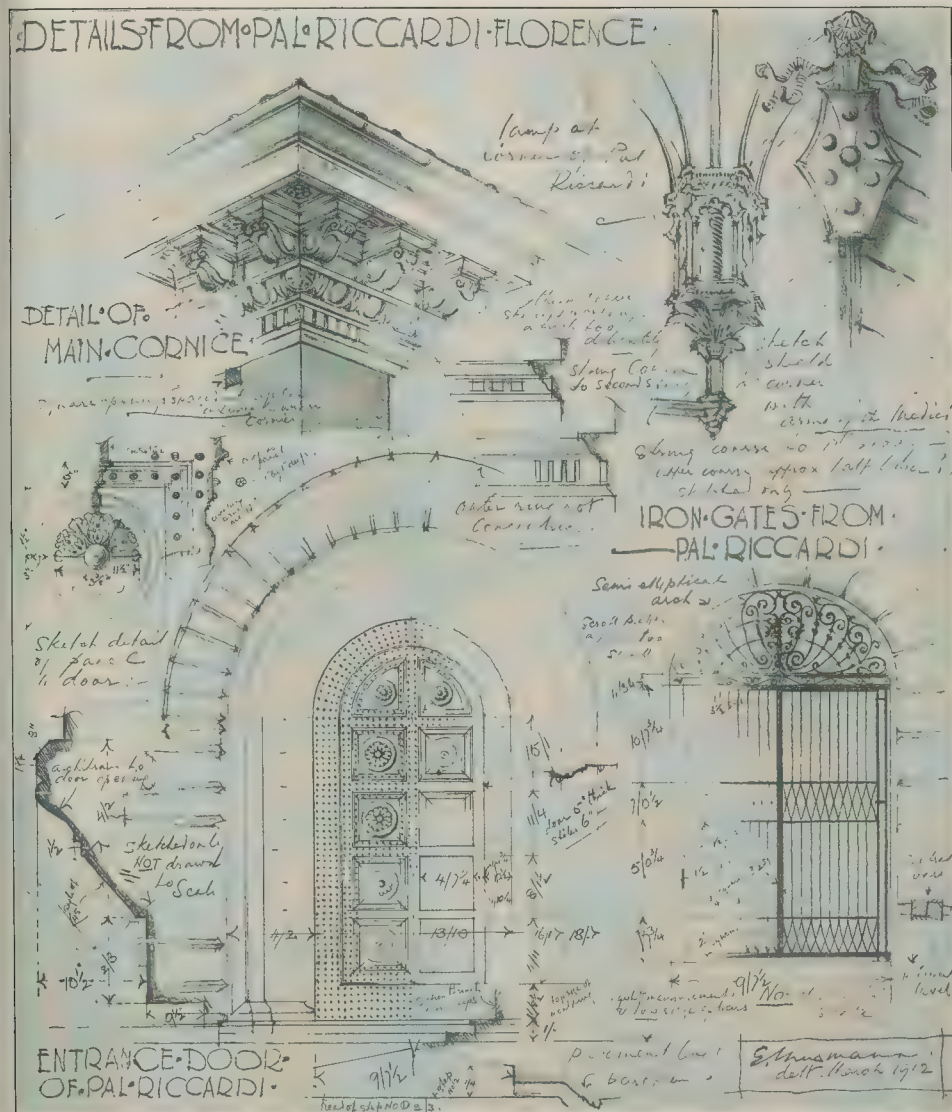
The Degree Course in London was desired many years ago by the late Mr. Arthur Cates, when he was Chairman of the Board of Studies in Architecture of the University, but he died before the scheme was carried through. The regulations of the University made both Greek and Latin compulsory subjects for the Intermediate examination, but some five years ago Greek was made optional, and the degree for Architectural students was instituted under the Chairmanship of Sir Aston Webb, R.A. The course—which is an Honours Course—is a preparation for a B.A. degree. The term "Honours Course" in this case means simply that students take their final examination in one

subject only, as distinguished from a Pass Degree in which several subjects must be taken; it is thus a misnomer, as it would seem to indicate the necessity for a superlative degree of excellence instead of a specialised type of training.

The length of the course is three years (officially described as "two years after passing the Intermediate Examination"). Students are required to pass the Matriculation Examination, but are allowed to enter in October and pass the Christmas following. During the first year students are required to attend lectures in four general subjects for the Intermediate examination which follows at the end of the Session.

A recent decision of the Senate enables students to take exercises in the Classic Orders and the History of Greek and Roman Architecture as one general subject, a great advantage to the architectural student, as part of the first year had previously to be spent in an architectural studio without thus helping the preparation for the Intermediate Examination, whereas under the new regulation the general subjects are reduced to three; the reduction was unavoidable, as the students' first year was otherwise too crowded.

As to the preliminary education essential to negotiating the several stages for such a course, a sixth-form boy at any of the public schools would have



little or no difficulty in passing both the Matriculation and Intermediate Examinations, but unfortunately comparatively few boys who take up architecture are kept long enough at school to reach the sixth forms. In such cases, the Matriculation Examination may need a little special preparation, with which it should be possible for any average boy to pass, as the standard demanded is a fair all-round test of a good education, and not an unreasonably or unnecessarily high one.

With regard to the special subject from which a student can choose for the Intermediate, a long list is given, but two languages are compulsory, of which one must be Latin or Greek. In the past the four subjects usually taken by students have been Latin, French, Mechanics, and Mathematics, but in the future the three first will probably be taken in conjunction with the Orders and the History of Greek and Roman Architecture, as Mathematics is compulsory for the Matriculation Examination, and the standard demanded in it is sufficient for the wants of an architectural student. Mechanics, on the other hand, is insufficiently taught at schools, and a good degree can be obtained at either Oxford or Cambridge by those who are absolutely ignorant of the subject.

To architectural students, however, who will probably have ferro-concrete and other constructional problems to deal with, a good knowledge of mechanics is becoming increasingly necessary.

After the Intermediate Examination the students remaining two years concentrate on professional work, and during these years the young architect's training cannot be based on too broad a basis. When he is in actual practice he will be immersed in detail; the University training should be such as will enable him to grasp the logical and historical basis on which architecture is founded. The development of style, the different way in which the principle of the buttress has been worked out in Northern and Southern France, the bearing and relation of the monastic Orders on the development of church planning and the origin and treatment of domical architecture as influenced by climatic and racial considerations, are instances or points which we can study with advantage, and time for which may never be obtained in after life. The interest which he will feel in such a course of training will largely indicate the fitness or otherwise of the avocation he wishes to adopt. A secondary, but still an important, reason why he should acquire a knowledge of such subjects is that in after life he may be brought into contact with some of the many amateurs or antiquarians possessing archaeological knowledge, and be able to meet them on a common platform.

The studio work during the last two years includes exercises in design increasing in difficulty and essays on different phases of architectural history. The practical side includes demonstrations in the methods of working and using materials, lectures and exercises in Building Construction, and lectures in the Engineering classrooms and workshops, specially arranged with regard

to the needs of the architectural students, and consequently ignoring machinery and purely engineering problems. These are supplemented by practical exercises and the strength and elasticity of materials in the Engineering Laboratories under the staff of that department. Courses on Sanitary Science are also given in the department of hygiene.

These courses obviously bring architectural students into direct contact with those who are taking up other professions. The advantages and broadening influence on both sides are no small factors in the acquisition of that liberal education which a University can alone confer.

There is some misunderstanding among architects as to the nature of the final qualifying examination. It is divided into two parts—practical and written, the former being considered by the examiners to be the more important. The practical examination—really an examination of the use a student has made of his training—includes selections



Sketch from Pont Alexandre, Paris.
By Mr. E. Musmann, B.A.

made from the work of the student for the first two years—constructional exercises, antique and life drawings, architectural exercises and designs, measured drawings, and also a design made from a subject set by the professor and external examiner. As a student he makes the sketch design unaided, and it is then initialled and retained, and he is given eight weeks to work it out and elaborate it. No student can enter for the second or written examination till he has satisfied the examiners in the first or practical section.

The second or written examination deals with the historical side of architecture, and the purely practical, such as Engineering and Sanitary Science. It would be in many cases an advantage if the student had the option of taking this after the first part of the examination, but at present the regulations do not admit of this being done.

Passing this examination does not entitle the student to call himself an architect, but merely to put B.A. after his name in the same way that a student

passing the engineering tripos at Cambridge has a similar right. It will, however, become more and more in the future a sign that a man has had what is almost a necessary grounding in the broad principles which must be thoroughly understood and mastered by those who aspire to do the best work.

We feel that it is particularly opportune that we should give these particulars of the London University course, for new buildings devoted to this important work are now being erected adjoining the Slad School in the grounds of University College, and the new studios for Modelling, Painting, Drawing, and Architecture will practically be under one roof on the completion of the scheme next year. The Engineering Laboratories are on the opposite side of the quadrangle, and here special classes for architectural students in Steel and Iron Construction and the Elasticity of Materials will be held, while lectures in Archaeology, Egyptology and Hygiene will be given in rooms entered from the same quadrangle. In the new buildings, which will afford accommodation for about 120 students, provision will be made for a department of Town Planning and other contemplated developments.

A course on Academic Design, under Dr. J. J. Burnet, has already been inaugurated, and will be thoroughly constituted when the new buildings are completed; and the foundation of Travelling Studentships is in contemplation. In order that some idea of the work already accomplished may be obtained, in connexion with this account of the teaching of the London University, we are reproducing in this issue some of the designs and sketches of Mr. E. Musmann, the first B.A. in Architecture of the University of London.

It will be seen from the foregoing that the organisation for imparting a sound architectural education has already been formed, and we hope will be taken full advantage of by those wishing to enter the profession. A very great advantage of such a course is that it provides a wide and liberal education while at the same time it forms a searching test of a student's suitability for the calling. If after going through it the student elected to enter another calling, he would be the gainer by having had a very thorough general training and a University degree, while if, as in most cases, it had brought out his latent talent he would have obtained a thorough general knowledge which it would be difficult in this country to acquire in any other way. So in either case his time would have been better spent than when, as under the old régime, he would have entered an architect's office direct on leaving school.

In conclusion we might reiterate our conviction that in nothing is the saying "a little learning is a dangerous thing" truer than in its application to the art and practice of architecture.

NOTTINGHAM CITY ARCHITECT.

The agenda for the meeting of the Nottingham City Council on Monday contained an intimation of the resignation of Mr. F. B. Lewis as City Architect. The resignation, it is stated, is brought about by reasons of health.

BRIDGES.

IN a well-written article in its issue of September 4 the *Morning Post* calls attention to the need for better-designed bridges across the Thames. The engineer can successfully deal with subways like that to be opened within a few weeks at Woolwich, but it needs the co-operation of the best architectural skill to secure a fine bridge, and, unfortunately, since Waterloo Bridge (which was built immediately after the battle), all our bridges have been failures in design. With the exception of Waterloo Bridge, there is scarcely a bridge of architectural merit within the confines of London.

And yet few problems admit of greater architectural expression, whether the material be stone or iron. No petty question of accommodation here fetters the designer, the necessary elements are simple—a roadway from bank to bank, supported by girders or arches resting on abutments of satisfactory design, its beauty is enhanced by running water catching every gleam of light at a thousand angles, with craft of all description constantly moving on the waters to add human and pictorial interest to its setting. Nor can a bridge be ever built in or have its beauty destroyed by inharmonious surroundings. It may rise from squalor on either bank, but it crosses the waters between them, eternal in their beauty and interest.

The great Renaissance builders seized their opportunities, and in Italy and elsewhere showed their skill and mastery of design.

Under the régime of Bernabò Visconti, in the latter years of the XIVth century, a bridge was built across the Adda in a single span, 251 ft. wide, while under Gian Galeazzo Visconti the Ticino was bridged at Pavia in the same century by a bridge composed of seven arches, each 70 ft. span and 64 ft. in height, with a roof over the roadway supported on 100 granite columns.

The fine bridge built by the Scaglieri at Verona, and many others, will occur to us, as well as the quaint and picturesque image of old London Bridge, lined with houses on either side, with a chapel dedicated to St. Thomas à Becket in the centre. In modern Paris we have an example of what an iron bridge may become under skilful hands in the Pont Alexandre II., while in this country it would be difficult to point to a single fine modern bridge except such a purely engineering marvel as that spanning the Forth.

There seems no adequate reason why with a new bridge across the Thames we should not have the convenience of covered footways, with their possibilities of architectural expression, and it will be a thousand pities if in St. Paul's Bridge we do not obtain a design of architectural merit.

In abandoning such a field to the engineer the architect loses one of the greatest chances he can ever have of proving that his profession has the power to create the "thing of beauty" which is a "joy for ever," and shows that he is unworthy to carry on the great traditions of the past.

NOTES.

St. George's Hall, Liverpool. WE are glad to hear that the Liverpool Architectural Society have decided to call a public meeting to organise opposition to the Corporation scheme to take down the podium of St. George's Hall for the purpose of constructing flights of steps and placing on the site a memorial statue of King Edward. We have already expressed our hearty agreement with the opinion that the alterations will injure the appearance of St. George's Hall, and we hope that in spite of the vote of the Council in favour of the scheme it is not too late to prevent the proposed work being carried out. It is stated that the opposition is being organised with a view to engaging counsel to represent the objectors at the forthcoming Local Government Board inquiry into the matter.

Architecture and Kingsway.

THE history of the development of the Strand to Holborn improvement, particularly with regard to its architectural character, is so clear an instance of the futility of our present methods in dealing with such works that we welcome any attempt on the part of the daily Press to call attention, as the *Standard* does on the 28th ult., to what should be a cause of regret, not only to architects, but to all who have any interest in London beyond the most selfish individualism or utilitarianism. Here was an opportunity such as seldom occurs, which, rightly seized, might have given us a first-class business street, worthy of English art and skill at the beginning of the XXth century, and an object-lesson in the practical advantage and value of an ordered architectural arrangement and amenity. The Council were at the outset alive to this when, twelve years ago, their Improvements Committee recommended that measures should be taken to secure an harmonious treatment of the buildings in Aldwych and Kingsway. But from various reasons these first steps led nowhere. These reasons may be summed up broadly as the want of sufficiently comprehensive powers for dealing with all sides of the problem, and the lack of the incentive and support afforded by well-informed public opinion. The Press can render good service with regard to arousing and educating this opinion, and when that is done the powers would not long be wanting. From the clearance of the Great Fire, and the failure to adopt Wren's plan for the rebuilding, until this present failure consistently to complete a fine improvement, London has been too much a city of lost opportunities. It is well to be reminded sometimes that she is still a city of splendid possibilities; that, though the old opportunities are beyond recall, new ones are constantly recurring, for London is being rebuilt every day.

Advantages of Architecture.

SO CAREFUL and jealous are we, as a people, of any encroachment upon individual rights and interests that we are apt to forget that an unregulated individualism tends always to defeat even its own ends. We pride ourselves upon being very practical, and yet are led by a very proper regard for sound

balance-sheets into valuing cash more than things that give the cash its value. We even ignore the fact that the architectural amenities of our streets are not only of direct practical effect for good, but may even be a very real commercial asset, whether they consist in the more formal and regular treatment as a whole, which a short, straight street like Kingsway and a crescent like Aldwych demand, or the more picturesque and irregular grouping and composition appropriate to many of the older streets. We have to break down the prevalent fallacy that art is an expensive luxury that does not pay, and we have to reinstate architecture in its true dignity as the great generalising and ordering art, whose true beauty is the final expression of perfected fitness, an efficiency to definite practical ends, both material and spiritual. The causes that make of one street and not of another a good business or shopping centre are in some cases clear enough. In others they are difficult to trace. Sometimes it is nothing more rational or secure than all-powerful fashion. We could not, for instance, calculate or design the causes that have made Bond-street one of the foremost shopping streets in the metropolis; yet we may very safely conclude that its greater neighbour—so much under discussion of late on account of imminent rebuilding—owes much of its popularity to its architectural amenities in being fairly spacious and its buildings designed in a style at least quietly refined and pleasing, and, until quite recent years, harmonious from end to end. We do not suggest that architectural order and beauty should clothe our streets for merely commercial ends, but only that such ends, which we do not pretend to despise, are as likely as those less material to be advantaged thereby.

The New Guildhall Art Gallery.

THE Guildhall Improvement scheme, which involves, among other things, new and spacious galleries for its collection of pictures, has at last materialised; a practicable and interesting solution has been adopted by the City Lands Committee, and it will no doubt receive the approval and sanction of the Common Council. We hope to be able to give in our next issue some illustrations of the plan and elevation which Mr. Sydney Perks, the City Surveyor, has designed; meanwhile it is interesting to note that some critics have suggested that he should have followed the main lines of Dance's "Gothic" façade for the Guildhall. We have ventured to emphasise the term Gothic in regard to its application in connexion with Dance's design, because it has been used in the same connexion by those who would wish to see the two sides of the approximately quadrangular site in question designed in the terms which Dance adopted. But we wonder if these critics have ever looked at the Guildhall front! It is one of the most unique bits of design that has ever been mistaken for Gothic. It is, in fact, composed of elements of a most curiously eclectic character, in which the essential features of Gothic art play the smallest part. The Guildhall front is picturesque; it has an air of civic dignity and antiquity; it is moreover the creation of one



(University of London.)

Design for a Country House. By Mr. Charles Voysey, jun.

of the greatest architects (we have only to recall his masterpiece, the Old Bailey, removed a few years ago) which the XVIIIth century produced. But his façade is not Gothic, any more than it is classic, or Renaissance, or Moresque, although it contains, after a fashion, suggestions of these various manners in architecture. In Dance's time next to nothing was known of Gothic art. The style was not appreciated, and it was still less understood. He was, as one says, "called in" to design the façade of a mediæval building, and he did his best according to his lights and the culture of the time, achieving a result which answered its purpose with a certain dignity and a certain charm, and which remains a testimony of artistic skill applied in an unaccustomed direction. But no modern architect with any knowledge of his art would attempt to place in juxtaposition with the Guildhall façade a building designed on Gothic lines. The scheme adopted by the City Lands Committee frankly departs from Dance's design; it supplies the quieter elements of a quadrangle leading up to the main feature, to the central building, which provides entrance and accommodation for the greatest civic authority which the world has known.

The Architectural Association Curriculum.

THE Architectural Association issue a pamphlet giving particulars of their curriculum for the School of Architecture which has been approved by the Board of Architectural Education, and is based on the

principle that an architectural student should have a preliminary school training before entering an office. The course suggested is one occupying three years at the Architectural Association Day School. The curriculum is framed with a view to students entering the Academy Schools for final training in design, proficient students being admitted at the discretion of the Royal Academy visitors directly into the Upper School. Special classes and lectures are also arranged for advanced students who are preparing for the Final Examination of the R.I.B.A. The course can be extended to a fourth year, in which lectures and classes dealing with professional practice are held, including the London Building Act, dilapidations, light and air, specifications, estimates, contracts and agreements. The first year's course includes studio work in freehand drawing, perspective, and the use of instruments and scales, the elements of the styles, and elementary construction, etc., the accompanying lectures on the history of architecture, construction, physics and geometry; that of the second year is mainly given up to working out simple problems in design, with visits to museums and historic buildings, sketching and measuring, and students must attend such lectures as the master advises. In the third year design studies will be under the direct supervision of Mr. Robert Atkinson. The third year's course is intended to carry the students' training in design and draughtsmanship to a stage considerably in advance of that required for the R.I.B.A. examination.

The fees for the above courses are moderate, and we have no doubt that the Association's work will, as heretofore, be of the greatest use to those entering the profession.

DESIGN FOR A COUNTRY HOUSE.

THIS house is designed on XVIIIth-century lines, the main reception-rooms being on the first floor. In the centre of the ground floor are an entrance vestibule and garden-room or loggia. The offices, kitchen, etc., are placed on the east wing, while billiard-rooms, lavatories, and strong-room are on the west, with communication to the gymnasium or ballroom and the fountain court. The entire south front is taken up by the reception-rooms, which communicate with each other. The north front is the library with access to the loggia on the high level. The bedrooms are arranged in suites on the second and third floors. As to the material, the orders are of stone and the infilling of Italian stucco, with the object of emphasising the architectural features. This design, by Mr. Charles Voysey, jun., was executed at University College.

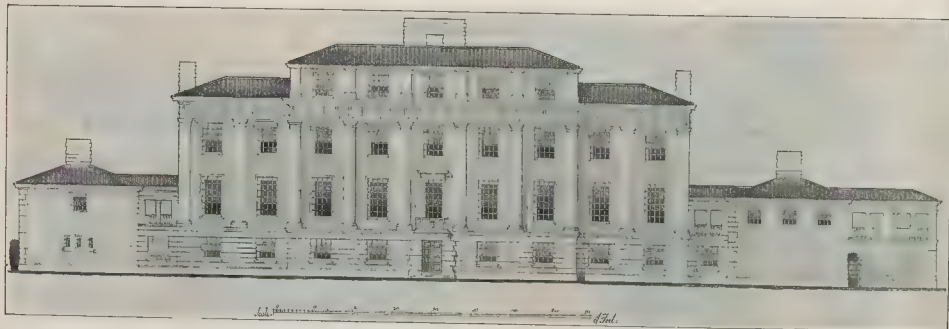
GENERAL NEWS.

Professional Announcement.

Having been appointed to the Professorship of Architecture at Manchester University, Mr. Archibald C. Dickie has arranged a partnership with Mr. J. Buyers Scott, who has formerly carried on the practice at 23, Old Buildings, Lincoln's Inn, W.C. Both practices will be amalgamated and will in future be conducted under the title of Dickie & Scott, at the above address, and at the University, Manchester.

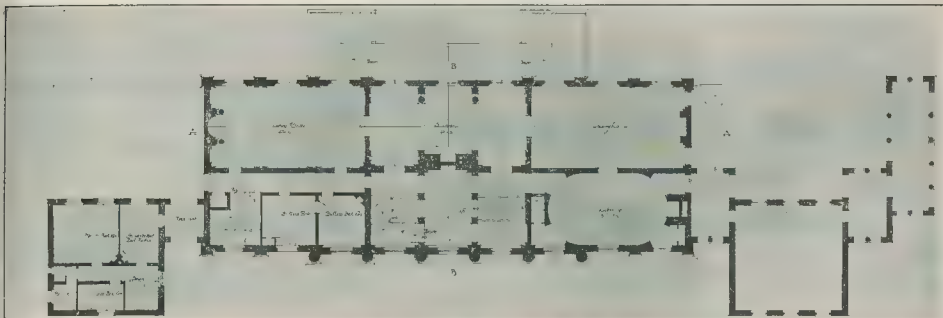
The Ghent Exhibition, 1913.

For the International Exhibition of next year the authorities will erect a Palais de l'Horticulture et des Fêtes, which will be one-



(University of London.)

Design for a Country House: Entrance Front. By Mr. Charles Voysey, jun.



Design for a Country House. By Mr. Charles Voysey, jun.

(University of London.)

third larger than the Crystal Palace. Special pavilions will be built by France and Germany. The principal British exhibits will consist largely of machinery, tools, and pottery.

Holborn Viaduct.

The City Engineer (Mr. Frank Sumner) has begun another detailed examination of the bridge and its supports, which will be continued from day to day until it is completed. His report will be placed before the next meeting of the Streets Committee, which will be held in about two weeks' time. The City Engineer, it is stated, is unaware of any fresh development or extension of the cracks which were first observed forty-four years ago, but should there be any necessity for strengthening the supports remedial steps will be taken at once.

St. George's Hall, Liverpool.

Mr. Hastwell Grayson, President, Liverpool Architectural Society, has sent a letter to the Liverpool Press, in the course of which he says: The suggestion that a model should be prepared on the basis of Elmes' sketch, showing great pedestals at each end of the podium, surmounted by equestrian statues, was made because of the futility of opposing the official scheme without an alternative. The sketch

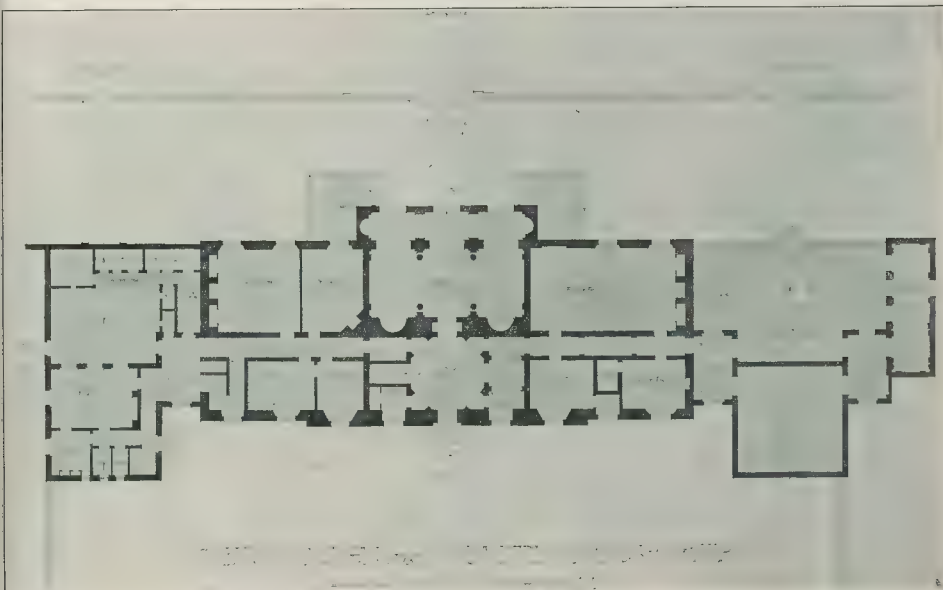
is one of many that have been preserved. Obviously from the very commencement the extreme difficulty of a satisfactory finish to the hall from St. John's-lane was realised. The podium was an inspiration which came after much scholarly and careful thought. It is pure art, but because it is not a hotchpotch of art and utilitarianism the public are prone to lose sight of the art. It requires imagination to see that an entrance must be judged by the multitude of those who pass by as well as by the few who enter, and that to form a new approach does not necessarily add dignity. A great building requires a great base. The more majestic the building the greater is the need for massive simplicity in the base.

School of Art Wood-Carving.

The School of Art Wood-Carving, Thurloe-place, South Kensington, has been reopened after the usual summer vacation, and we are asked to state that some of the free studentships in the evening classes maintained by means of funds granted to the school by the London County Council are vacant. Forms of application for the free studentships and any further particulars relating to the school may be obtained from the manager.

Town Planning.

At the meeting of the British Association in Dundee Professor Geddes, University College, Dundee, spoke on the needed co-operation of the sciences towards the town-planning movement. He said that a survey was necessary before the preparation of any town-planning scheme could be satisfactorily undertaken. It was to be feared that schemes were in incubation which, whatever their particular merits, were not based upon any sufficient surveys of the past development and present condition of the towns or upon adequate knowledge of good and bad town planning elsewhere. In such cases the natural order, that of town survey before town planning, was being reversed, and in this way individuals and public bodies were in danger of committing themselves to plans which would have been widely different with fuller knowledge, yet which, once they were produced, it would be too late to replace and even difficult to modify. Therefore before proceeding to the preparation of a town-planning scheme it was desirable to institute a preliminary local survey which should take into account the situation, historic development, communication, industry, and commerce, population, and town conditions and requirements.



Design for a Country House. By Mr. Charles Voysey, jun.

(University of London.)

Progress in Housing.

At a recent meeting at Wrexham of the Welsh Housing Association, the Secretary read a letter from Mr. John Burns, in the course of which the writer said: "The return recently issued as to rural housing shows that rural district councils have submitted to me during the past nineteen months housing schemes costing over a hundred thousand pounds, and, as regards urban areas, I observe that loans amounting to close on this sum have been sanctioned during the month ending August 16 last."

Mr. Herbert Lewis, M.P., said that for fifteen years after the passing of the Housing Act of 1890 loans amounting to only 10,500*l.* were sanctioned to authorities for the housing of the working-classes. During the next six and a half years 95,000*l.* was lent, and of that amount about 60,000*l.* related to applications made to the Local Government Board since the beginning of 1911. If to this was added the amount of applications received during 1912 and now under consideration, they got over 100,000*l.* as representing the estimated cost of housing schemes put forward during the last nineteen months. That was twice the amount of the loans sanctioned in the preceding twenty years. With this increased activity in rural housing there had been no falling off in urban schemes. A White Paper just issued by the Board showed that the loans sanctioned for housing schemes undertaken by urban district councils from January, 1910, to the end of October, 1911, amounted to 200,000*l.* Between that date and August 15 last 326,000*l.* had been sanctioned, and of this amount nearly one-third was sanctioned in the last month. The bringing of housing schemes into existence was a matter of great difficulty, but considerable progress was being made. Two schemes had been finally made by local authorities. Authority had been given to thirteen local authorities to prepare or adopt eighteen schemes, and nine applications for authority to prepare schemes were at present before the Board, and there were ten cases in which preliminary notices had been given by local authorities. In all 126 schemes were either well on the way towards completion or in contemplation.

The Selby Abbey Restoration.

The restoration of Selby Abbey Church, together with the rebuilding, through Mr. William Liversidge's munificence, of the south transept, which has been missing for two centuries, has necessitated revision of Mr. W. Herbert Scott's illustrated handbook, "The Story of Selby Abbey: From Rise to Restoration," and a new and enlarged edition—to be known as the William Liversidge Transept Edition—is being published by Mr. Rimmington (Selby) and Mr. David Nutt (London).

The Bristol Society of Architects.

The fourth Saturday afternoon tour of this Society was made to Bath, the members being conducted over the city by Mr. Mowbray A. Green, and a number of buildings were visited. After tea most of the party took the tram to Combe Down, walking down to Prior Park, John Wood's chief work, and thence through the grounds to the Palladian Bridge, and returning to the city by way of Old Widcombe Manor House, the reputed work of Thomas Greenway.

Prehistoric Monuments in Malta.

In the course of the proceedings of the Dundee meeting of the British Association Dr. Thomas Ashby, according to the *Times*, said the British School at Rome had had the advantage during three seasons of co-operation with the Government of Malta in the excavation of several megalithic monuments on the islands of Malta and Gozo. The results of the work showed that these monuments undoubtedly belonged to the neolithic period, or at latest to the very dawn of the age of metals. The pottery was characteristic, and had affinities with wares discovered in Western Mediterranean lands where the megalithic civilisation flourished (Sicily, Sardinia, Spain, the Balearic Islands, etc.), and in remains connected with it or related to it. Not a trace of metal was found in the whole course of these explorations. In Sardinia the School had confined itself to surface exploration. Dr. Duncan Mackenzie, in the course of three campaigns, had discovered a number of dolmens, some of which formed the transition to the "tombs of the giants"—

long tombs used for a number of inhumation burials like the barrows and cairns of our own islands.

Classes in Reinforced Concrete.

Classes for the instruction of engineers and architects in reinforced concrete, to be held at the Northern Polytechnic Institute, Holloway-road, N., start on the 20th inst. for the Session 1912-13. On the 27th inst. Mr. de Vesian, M.Inst.C.E. (Chief of the Hennebique Company), is to give an illustrated lecture, open to the public, on large works recently carried out.

St. Sophia, Constantinople.

It is reported that the glass and cement bands placed over cracks in the mosque of St. Sophia have broken. The tests were begun by Mr. T. G. Jackson, R.A., and Sir Francis Fox about two years ago, and the recent earthquake has developed the cause of the trouble. Unless the building is speedily strengthened collapse is feared.

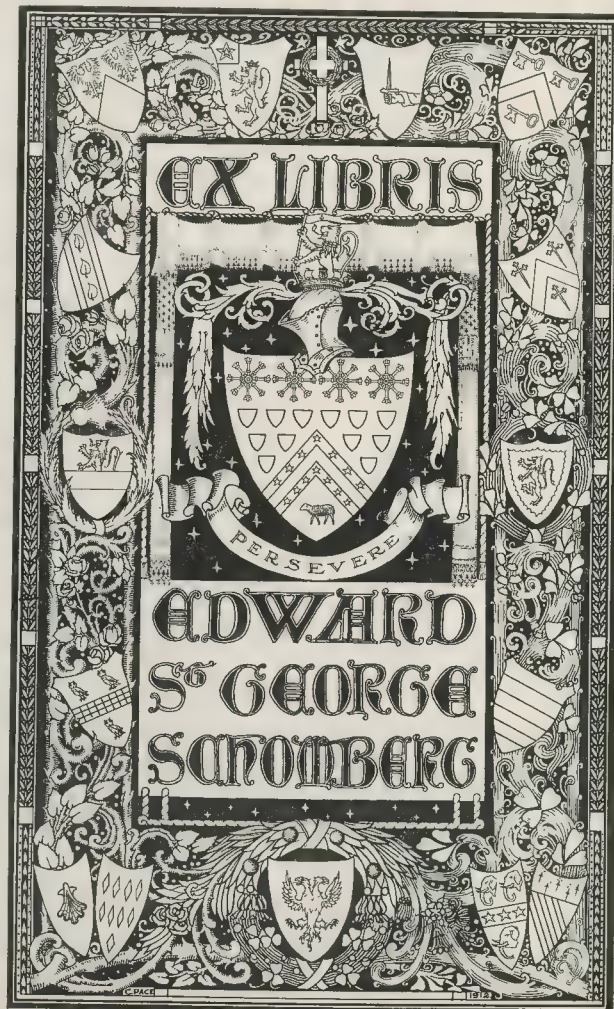
White Hart Lane Estate.

The Local Government Board in giving its consent to the sale of 49½ acres of this estate at Tottenham suggested that it might be suitable for preservation as an open space provided the local authorities would undertake to share the cost. This suggestion

was discussed between the London County Council and the Urban District Councils of Tottenham and Edmonton, but the local Councils were of opinion that there was no need for further open spaces in this district, and that it was unlikely that they would be willing to contribute towards the cost. The Parks Committee of the London County Council recommend, therefore, that no further steps be taken in the matter, and the land will probably be transferred to the control of the Improvements Committee for disposal as surplus land.

ARMORIAL BOOK-PLATE.

This armorial book-plate has been designed on genealogical lines. The central feature is the heraldic achievement of the owner, whilst the shield immediately below bears his maternal arms. Ranged up on each side in pedigree order are the coats-of-arms brought in by marriage. Those on the right belong to the paternal ancestors, and the shields are placed on a field treated with rose ornament to indicate their English origin. On the left side are the shields of the maternal ancestors who are Irish; the border has therefore been treated with the shamrock. The design is by Mr. Charles L. Pace.



Armorial Book-Plate. Designed by Mr. C. L. Pace.

ILLUSTRATIONS

Port of London Offices.

WITH the reproductions of Mr. Atkinson's design we complete our illustrations of the six schemes sent in for final selection in the competition for the new Head Offices of the Port of London Authority. In the article in our issue of July 19 we said: "Mr. Robert Atkinson submits a scheme having for its main idea an octagonal hall, round which the chief departments are planned, which is entered from Trinity-square and from two entrances in rear, which are diagonally placed. Like everything Mr. Atkinson does, the design is characterised by great care and refinement, but we do not feel that it represents him at his best, the design of the colonnade across the main entrance being especially unhappy."

Mr. Atkinson writes that a genuine effort was made to keep the ground floor as one large hall and to minimise corridors on the upper floors.

Design for a Town Club.

This design for a town club by Mr. E. Masmann was submitted as part one of the final examination of the B.A. degree of the University of London, Honours in Architecture. The conditions as to site, etc., are as follows:—Frontage 100 ft., depth 120 ft., lighting to be secured by means of a central court, side areas, or both. The entrance elevation to face the north and to look on to a main thoroughfare, while that to the south is to overlook a public square. There are adjoining buildings on east and west. Besides the ground and first floor plans, as shown in the illustrations, provision is also made on the second floor for a card-room and top-lighted billiard-room over the smoking-room, while a strangers' smoking-room, a top-lighted library, and a house dining-room face the south. A service-room, lifts, and members' lavatory are also provided on this floor. The third floor consists of bedrooms for members and a terrace over the billiard and card rooms; kitchen, heating arrangements, extra cloak-room, and members' lavatory, etc., are situated in the basement; while a small service mezzanine is provided between the ground and first floors.

MEETINGS.

SATURDAY, SEPTEMBER 14.

Northern Architectural Association.—Meeting in Sunderland.

MONDAY, SEPTEMBER 16.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. Charles Porter on "Sanitary Law: A." 7 p.m.

WEDNESDAY, SEPTEMBER 18.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. Charles Porter on "Sanitary Law: B." 7 p.m.

FRIDAY, SEPTEMBER 20.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. Charles Porter on "Sanitary Law: C." 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 315.

Royal National Eisteddfod, Wrexham.

As announced last week (p. 283), twenty-nine competitors entered for the premium of 50*l.* offered by the Committee of this festival in conjunction with the Welsh Housing Association. The object of the competition was to obtain designs for workmen's dwellings. The assessors, Mr. T. Taliesin Rees, F.R.I.B.A., and Mr. A. Williams, divided the premium between Mr. W. Eaton, A.R.I.B.A., of Cardiff ("Ivy"), and Messrs. Fair, Myer, & Jones, of London ("Betterment"), whose work was considered to be of equal merit. The names of the other competitors whose work received mention have not been disclosed.

Rangoon Municipal Buildings.

We understand that Messrs. Ogilvy, Gillanders, & Co., agents, Rangoon Municipality, 67, Cornhill, E.C., have been advised by cable from the Rangoon Municipality that the time stated in Clause 14 has been further extended to March 1, 1913. The latest date for posting letters to reach Rangoon by that date will be by the Indian mail closing in London on Friday, February 7, 1913.

School at Dundee.

The President of the Royal Institute of British Architects has nominated Mr. Alexander N. Paterson, of Glasgow, to be the assessor in the competition to be promoted by the Dundee School Board for a school to house physically and mentally defective children.

CORRESPONDENCE.

Architects' and Surveyors' Approved Society.

SIR.—Your readers will be interested to hear that this Society has been approved by the Commissioners, and on their advice applications have come in at a steady rate since the scheme was first put forward, and there is now no doubt that such a Society is wanted.

We append some further information, which it is helpful to give as a result of the large number of letters we have received, and we shall be glad if you will give it publicity in your columns.

Anyone who is in sympathy with the Society, but who does not come under the scope of the Act, may become an honorary member at a subscription of 10*s.* 6*d.* per annum or a donation of not less than 2*l.*, and such subscriptions will be devoted to defraying a portion of the necessary administrative expenses and thereby increasing the benefits available to the members. In this way it is hoped that a community of interest will be established between employers and employees, which is an object everybody will desire to promote.

It is not necessary now that the Society has been approved that the forms of application for ordinary membership should be sent in by September 16, but it is very important that as many applications as possible should be received before October.

Yours faithfully,

F. R. YENBURY (Sec., A.A.).

IAN MACALISTER (Sec., R.I.B.A.).

A. GODDARD (Sec., Surveyors' Institution).

C. MCARTHUR BUTLER (Sec., Society of Architects).

[We take the following from the information referred to:—

"This Society has now been approved and is open to everyone (draughtsmen, clerks, typists, etc.) employed in the offices of architects and surveyors, provided they are between the ages of sixteen and seventy and have not an income of more than 160*l.* per annum.

Pupils who pay a premium and receive a small weekly salary or any payment in return of premium from their employers must be insured. Unpaid pupils need not be insured.

Deposit contributors who do not belong to any approved society can only draw on the money in their account, while members of approved societies receive the following benefits under the Act in return for the same contribution as the deposit contributors:—

Doctor and medicine both free when needed, or a payment instead thereof.

Treatment for consumption.

Sick pay of 10*s.* per week for twenty-six weeks beginning on the fourth day, and disablement benefit of 5*s.* per week so long as necessary.

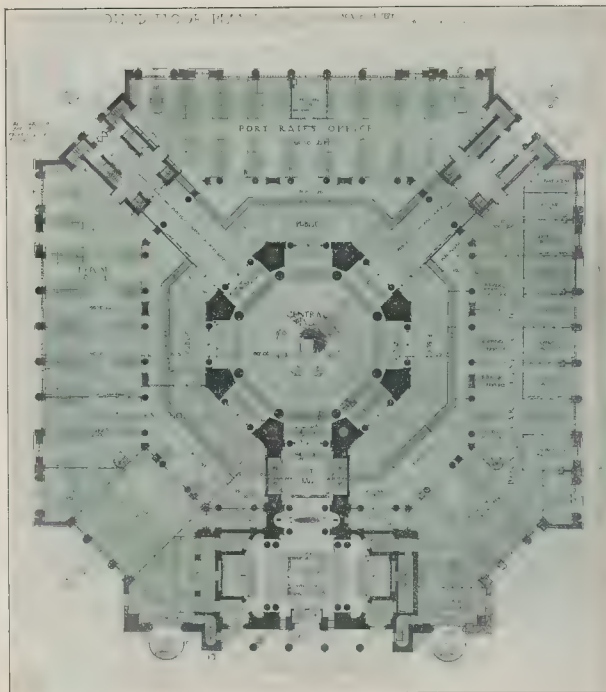
When the funds of the Society permit additional benefits will be offered, and in the case of those employed in offices where the usual pay is given during illness it is hoped to arrange for alternative benefits other than those provided if the members so desire.

Persons whose income rises above the 160*l.* per annum limit cannot continue insuring under the Act unless they have been a member of an approved society for five years under the Act, in which case they can continue as voluntary contributors, but must pay both the employer's and the employee's contributions.

The question of providing additional benefits in return for additional contributions has not yet been decided, but no doubt if sufficient numbers desire it arrangements will be made accordingly.

The Society reserves to itself the right to require a medical certificate in special cases.

There is no entrance fee and the preliminary expenses of circularising will not be borne by the Society, so that it will not be saddled with a heavy initial expenditure.



Port of London Offices: Ground Plan. Competitive Design by
M. Robert Atkinson, A.R.I.B.A.

It is apparent that a Society entirely confined to professional men and women in safe and healthy employments, with large numbers yearly passing beyond the insurance limit (whose previous contributions may remain in the funds of the Society), should be in a position to offer better benefits than societies of mixed membership.

It is for these reasons that such a society seems desirable in the interest of those employed in architects' and surveyors' offices.

Persons who are already insured in an approved society can before October 15 transfer by giving notice to the Society in writing that they wish to do so. After that date they will have to show a good reason for doing so. Probably the fact of wishing to join a "Professional Society" will be considered a sufficient one.

Those who sign the form already issued signifying their desire to transfer to the "Architects' and Surveyors' Approved Society" will be notified in due course what steps to take."

Hot Water Supply.

SIR,—With your permission I should like to offer a reply to Mr. W. B. Hopkins's letter which appears in your issue of August 30 last.

It is recognised that with what is called the "tank system" of apparatus for domestic hot water supply—the hot storage tank being above the taps, with the tap branches taken from the flow pipe—it is not possible to withdraw all the heated water without having, after about ten gallons has been drawn, some cold water come mixed with it. Notwithstanding this fact, however, the apparatus has done excellent service, and, although seldom erected at the present time, little fault has been found with it as regards the yield of heated water at the taps.

When a tap is opened water comes from every possible direction to issue from the tap, and with a tap on the flow pipe water comes both down from the tank and up from the boiler. Both directions yield the hottest water in the apparatus for a time, but so soon as the contents of the boiler are withdrawn the

water which follows from this direction is cool or cold. Previous to the cool water coming up to the open tap there would be about ten to twelve gallons of really hot water drawn, after which the water issuing from the tap would be mixed cold and hot, not wholly cold.

The foregoing is explained to give point to two important facts—firstly, that of really hot water it is seldom that as much as ten gallons is wanted at once, this water being for the sink, tub, pails, jugs, etc., so that the amount of hot water drawn at once seldom if ever admits of cool water coming up through the boiler. Secondly, with bath water, of which a larger bulk is always wanted at once, if ten or twelve gallons of water at 150 deg. is followed by a good quantity of water at 100 deg. (the mixed hot and cold), the result is quite satisfactory, as even then some additional cold water would be needed to make the whole of bathing temperature.

I am not wishing to defend the old tank system, but rather to explain how it has managed to give a nice degree of satisfaction for so long. As stated, it is seldom erected now, the "cylinder system" having superseded it, yet the most modern type of installation, one that is better than any preceding it, is called the "combined cylinder-tank system," having the advantages of both systems and the disadvantages of neither.

It is to be feared that the plan suggested by Mr. Hopkins, while possible on some occasions, cannot be considered practicable for general use. My house in the near London suburbs is not a large one, but, supposing the tank to be situated in the bathroom, it would, of course, be convenient to the bath and bathroom basin, but the dressing-room lavatory basin would be 40 ft. (run of single pipe) distant, the cloakroom basin 35 ft., scullery sink 40 ft., pantry sink 60 ft., and so on. There are houses in Mayfair and Kensington having the tank system of apparatus in which some of the kitchen offices are undoubtedly 150 ft. (run of pipe) distant from the tank. What might meet the case, halfway, so to speak, would be to adopt Mr. Hopkins's suggestion for all bath

taps (which are usually upstairs) and have ordinary flow pipe branches for other taps. This, however, is not found to be necessary in ordinary experience.

I am sorry it should be stated that "the advice given must frequently lead to failure" for it is quite incorrect to say so.

FREDK. W. DYER.

INTERCOMMUNICATION COLUMN.

Crumbling Brick Wall.

SIR,—I own a semi-detached house about thirty years old, and within the past two years the bricks of the end wall have shown a tendency to crumble. I should be glad to learn of any method whereby this could be checked by means of a coating or other process.

SUBURBAN.

BOOKS RECEIVED.

STRUCTURAL DESIGN. By H. R. Thayer. (London: Constable & Co. 6s. net.)

THE LIVING WAGE. By Philip Snowden M.P. (London: Hodder & Stoughton. 1s. net.)

MODERN SANITARY ENGINEERING. By Gilbert Thomson. (London: Constable & Co. 6s. net.)

FIFTY YEARS AGO.

From the *Builder* of September 13, 1862.

Bayswater.

BEYOND all others this suburb has grown and flourished within the last ten years; for a mile and a half westward of Victoria Gate, by nearly a mile in width, extending northward from Kensington Garden-road, a great and aristocratic town has been added to the metropolis. Six district churches, and more than that number of chapels, have been completed, and are thronged. The arrangement of the houses planted upon this new quarter is a vast improvement upon the old plan of construction; for the mode of utilising and adapting space, particularly in the basement story, gives improved light and air, and increases, at the same time, the convenience and healthfulness of each dwelling.

*** It is a pity that this "vast improvement" to the arrangement of the houses did not apply also to the planning of the streets. Compared with George Gutch's design for the adjacent Paddington Estate executed in 1838—illustrated in the February number of our "Monthly Review of Civic Design" (p. 127)—the general lay-out of this district shows a distinct retrogression. With the exception of Lancaster-gate and the planning of a few of the squares, there is little attempt at ordered arrangement to be found between Westbourne-terrace and Ladbroke-grove.—ED.

NATIONAL PORTRAIT GALLERY.

In the fifty-fifth annual report of the Trustees of the National Portrait Gallery, which was recently issued, a demand is made for the extension of the Gallery by the inclusion of the corner plot immediately to the west of the existing building. On April 3, 1909, the report states, the Trustees provisionally accepted from his Majesty's Office of Works the allocation of a plot of ground then occupied by St. George's Barracks. The rapid increase of the collections makes it imperative that the extension of the building on this site should be put in hand at once. Every possible economy of space has now been effected, but the existing building permits no adequate representation of English historical portraits after the end of the XVIIIth century, with the single exception of the room in the east wing devoted to literary celebrities. Expansion can take place in one direction only, namely, to the westward, towards St. Martin's-street, upon the site formerly occupied by St. George's Barracks. The portion of this ground already allotted to the Board is sufficient for the needs of the moment, but the needs of the future require that the land lying to the west of this plot, and in alignment with it and the present building, should be definitely assigned to the National Portrait Gallery.

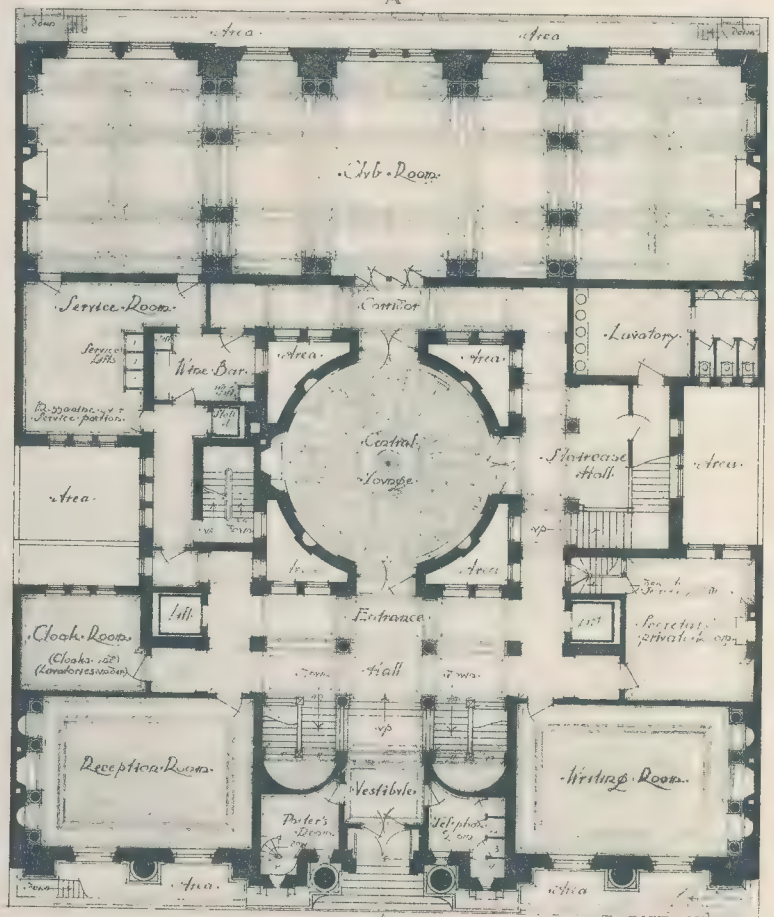


Port of London Offices: Block Plan. Competitive Design by Mr. Robert Atkinson, A.R.I.B.A.





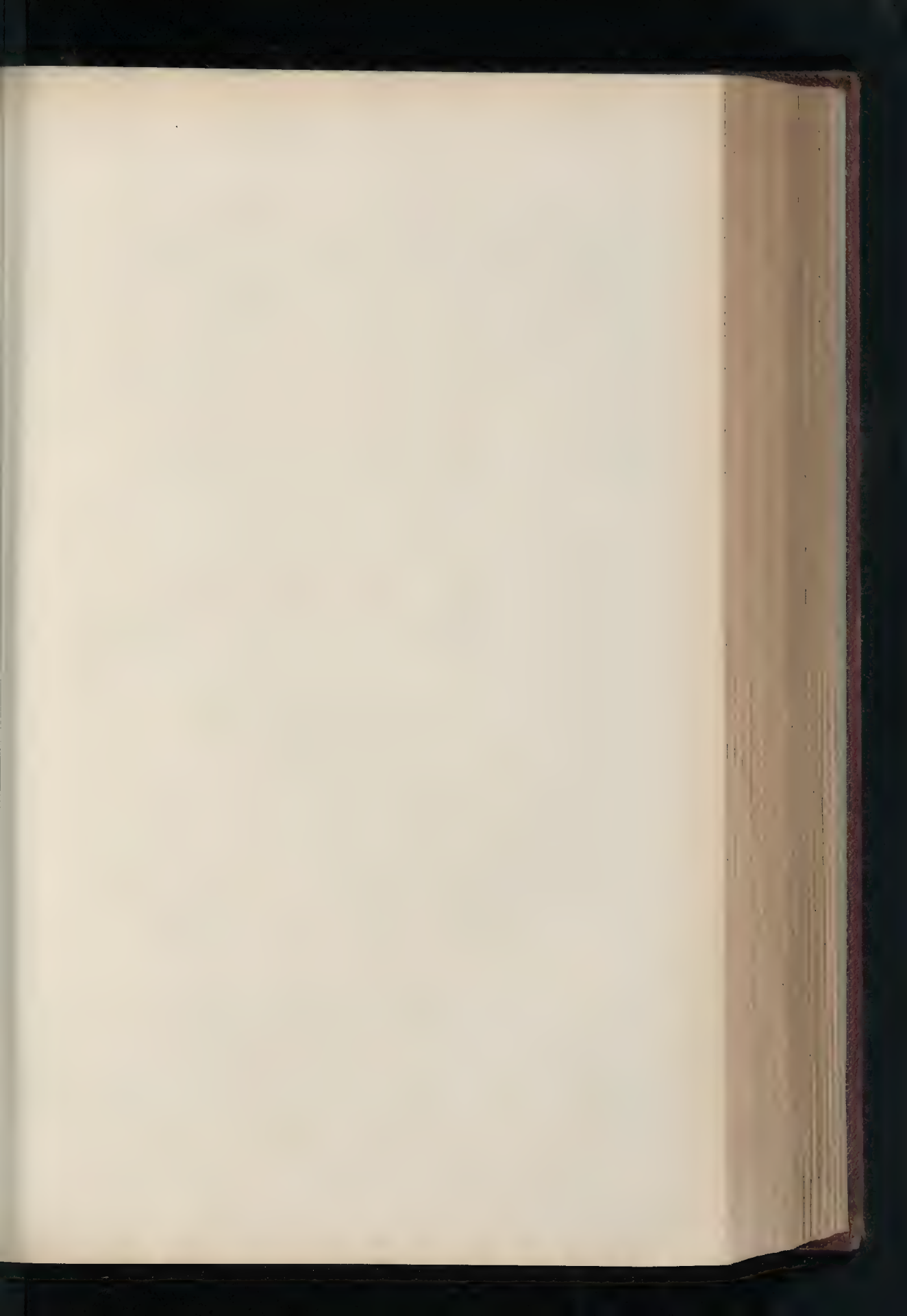
NORTH ELEVATION.



GROUND FLOOR PLAN.

PHOTO SPRAGUE & CO. LTD. 69 & 70, DEAN STREET, SOHO, W.

DESIGN FOR A TOWN CLUB.—BY MR E. MUSMANN, B.A.





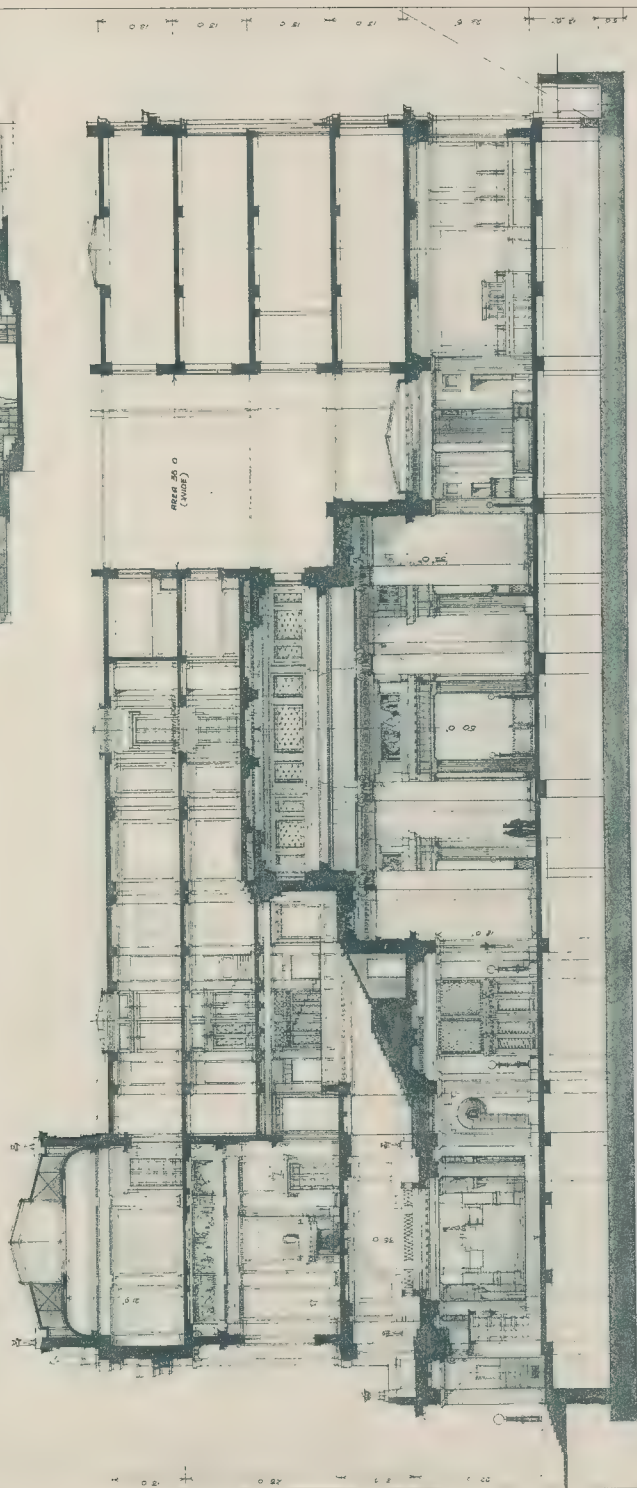
Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

DESIGN FOR A TOWN CLUB. DETAIL OF ENTRANCE FRONT—By MR. E. MUSMANN, B.A.

THE BUILDER SEPTEMBER 13, 1912



LOI 15714
SECTION
THROUGH
STAIRCASE



SECTION THRO' PUBLIC ROOMS

PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES
By MR. ROBERT ATKINSON, A.R.I.B.A.

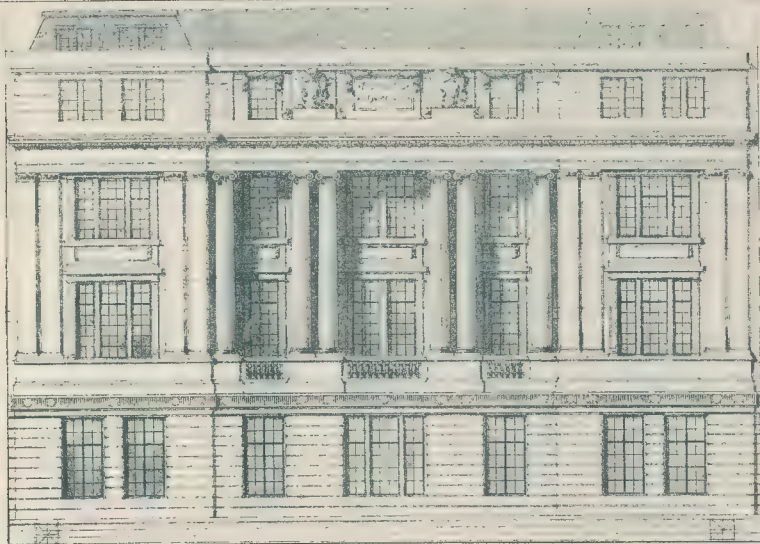
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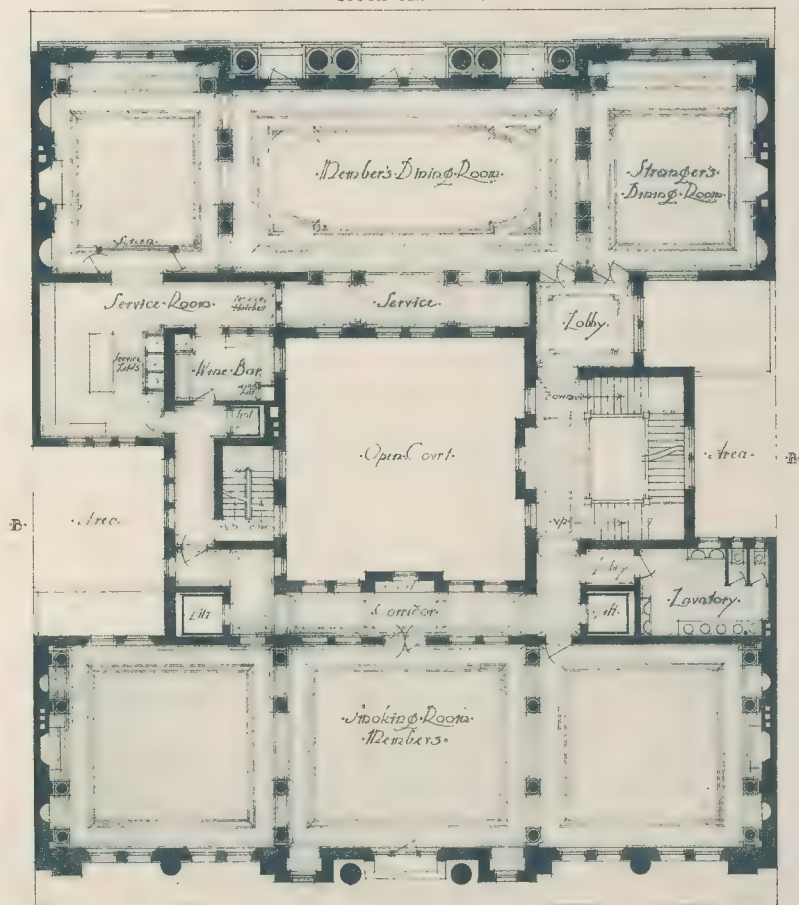
Sprague & Co., Ltd., Printers, 20 & 21, Dean St., London W.

PORT OF LONDON AUTHORITY. COMPETITIVE DESIGN FOR THE NEW HEAD OFFICES.

By MR ROBERT ATKINSON, A.R.I.B.A.



SOUTH ELEVATION.



FIRST FLOOR PLAN.

INK PHOTO SPRAGUE & CO. 116 678 TO DEAN STREET LONDON W

MONTHLY REVIEW . of . CONSTRUCTION.

THE MODERN SCHOOL GYMNASIUM: ITS EQUIPMENT AND PLANNING.

I.
THE rapidly-increasing use, in all grades of schools, of Ling's Swedish System of Educational Gymnastics since its adoption by the Board of Education calls for the provision, not only of the special apparatus necessary to the system, but also of suitable gymnasia. In the average school building, till now, no provision has been made for a gymnasium. In a few cases rooms have been provided for the purpose, and in others apparatus has been fitted in rooms primarily intended for other purposes. It is practically certain that the subject of instruction will be given greater prominence in the educational scheme of the future, and that the school gymnasium will come one of the most important features of the building, calling for special attention in planning, construction, and fitting.

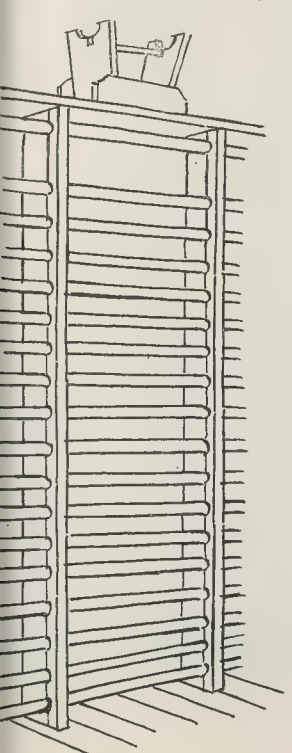


Fig. 1.

sams exercise together, thus economising time and avoiding the feeling of showing off which is so embarrassing to backward or sensitive pupils, and which is inseparable from the follow-on system at the horizontal bar. The wall-bars consist of elliptic-section bars, about 1½ in. by 1 in., spaced about 5 in. centre to centre in uprights 8 ft. high. The width of each stall is about 2 ft. 9 in. The uprights are fixed by nails driven into the floor and by holdfasts into the wall. As adjuncts to the use of the wall-bars are stools or benches, either being used according to the preference of the instructor. The stools are ordinary wooden stools, illustrated in Fig. 1, where one is shown placed upside down on a shelf



Fig. 2.

provided for their storage above the wall-bars. These have the advantage that they can be placed at a greater or less distance from the wall-bars in certain exercises to suit the differing lengths of limb in the pupils. They are also most convenient for removal, each pupil obtaining his or her own stool from the shelf and returning it there when done with. The benches are about the same height as the stools, 14 in., and of the length of four or five stalls of bars—11 ft. to 14 ft. When turned upside down they present a rail which does duty for the exercise known as balance-walking. They also have iron hooks on one end, which enable them to be attached to the wall-bars or beams for use in certain other exercises, so that they serve a greater variety of purposes than the stools, but are less adaptable to the individual pupil and are less easily stored.

The double-beam consists of two beams of section, as Fig. 2, about 6 in. by 2½ in., placed one above the other in upright guides, so that they can be adjusted for height, but are held secure against any lateral movement. They are placed across the room and generally reach from wall to wall. They are fitted in a great variety of ways to meet different conditions, but in their most convenient form they are fitted with a centre upright dividing them into two spans. The whole arrangement must be portable, so that the floor can be easily cleared for free-standing exercises. Many ingenious methods of removing the centre upright are in use, in most of which the counter-balance is a prominent feature. Sometimes it is lowered into a trench in the floor, sometimes swung up to the ceiling, sometimes suspended from an overhead rail and run along that to the wall. In the very simplest form of the apparatus, used in barracks, but not to be recommended for school use, the centre upright is carried to its place by hand and set up with stays to the floor.

In a gymnasium equipped for forty pupils there would be two sets of double-beams, which would divide the room approximately into three parts.

The climbing rope is generally the next most important piece of fixed apparatus. There would be ten or twelve ropes hung from a beam at sufficient distance from the end of the room to allow for a clear swing. Inclined climbing ropes, set up by block and tackle, are also used.

Other fixed apparatus, not so essential but extremely useful as soon as the pupils get beyond the elementary stage, are the vertical and horizontal "square" or "window" ladders. The former is a framework made up of squares of about 21 in. by 21 in., four, five, or six squares wide according to circumstances, and the full height of the room. When in use it must stand at least 3 ft. clear of the wall and be bolted firmly to the floor. Sometimes it is hung on overhead rails, which enable it to be run bodily backward to the wall; sometimes it is hinged at the head and merely swung back at the foot. The horizontal square

ladder is similar in construction, but is only three squares high—width according to convenience. It is also fixed in a variety of ways. The arm ladder is in two parts, one standing upright against the wall, the other made fast to it by sliding grips, so that it can be brought forward and rested on the beam in the position shown in Fig. 3.

II.

The planning of a gymnasium must necessarily be affected by many different considerations, as to expense, situation, combination with other parts of a school, etc., and possibly many things which would be looked upon by an enthusiastic instructor, as essential may have to be cut out by the "powers that be." But the time has passed when any space which did not happen to be otherwise utilised was looked upon as being good enough for a gymnasium and as requiring no special adaptation. It is safe to predict that in a few years' time the gymnasium will be looked upon as at least equal in importance to the chemical and physical laboratories on the planning and equipment of which so much money and thought is expended nowadays.

The main requirements of the ideal gymnasium are as follow:—A detached building is desirable, in order to obtain the maximum amount of light and ventilation. The room ought to be at least 40 ft. long by 20 ft. wide and 14 ft. high. The size which is most frequently recommended is 50 ft. by 25 ft. by 16 ft. The windows should be set high, above the tops of the wall-bars, and should run practically all round the room. Ample scope for ventilation should be afforded, not by means of a few little hoppers, but by casement frames, which will admit of all windows being thrown completely open on a summer day. Draughts are guarded against by the fact that the windows are so high. The floor should be boarded in the ordinary way and should lie on joists—not on concrete. A certain amount of spring is absolutely necessary. Hard wood and parquetry are unsuitable and concrete absolutely taboo. The boards should be laid across the room, their joints thus affording some safeguard against slipping in running and jumping exercises. This arrangement also ensures more equal wear than when the boards are laid lengthwise. The floor should be oiled by two or three coats of linseed oil to render it dust and waterproof. The oiled floor is wiped over with a wet swab between lessons to remove dust and dries in a few minutes. Many of the exercises are performed by the pupils in a sitting or prostrate position on the floor, and cleanliness is therefore imperative. Varnish

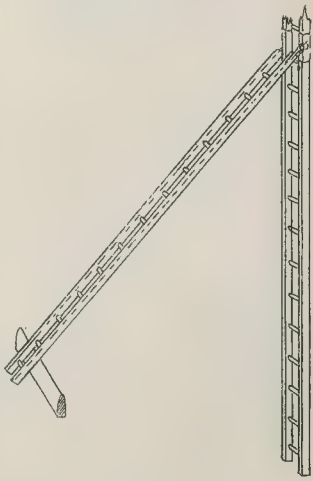


Fig. 3.

and the usual floor polishes are unsuitable as producing a slippery surface.

The wall-bars are arranged along the sides of the room, so that the teacher, standing at the end of the room, may see at a glance whether the pupils are performing the exercises correctly.

In some buildings the floor is so designed that a small trap-door in front of each stall of the wall-bars can be lifted and the stools put down below the floor in a position instantly accessible and quite out of the way.

The position of beams and climbing ropes has been already suggested. Where the double-beam is fitted to lower into a trench below the floor this trench has to be arranged for. It must be damp-proof, as any damp will warp the beams and prevent their working freely in the grooves of the uprights, may be lined with wood, concrete, or asphalt, and must be about 1 ft. wide. The depth varies according to the design of the apparatus.

The only entrance to the gymnasium should be through the dressing-rooms, so that all outdoor garments and boots or shoes and with them all wet or dust may be left there. Dressing-rooms are most conveniently placed at the ends of the building, so that the side walls, required for wall-bars, may not be broken up by doors, and should be fitted up with lockers and particularly with shower baths.

Provision will have to be made in the roof for the suspension of ropes and ladders, and possibly for the travelling uprights of beams. (Beams with suspended uprights and counter-balance weights are strongly to be recommended as most suitable for school use.)

By a little consultation between the architect and the maker of the apparatus a certain amount of ornamental feeling, sadly lacking at present, can easily be obtained in parts of the apparatus, removing much of its uncompromising nature and enabling it to appear more as part of the building and less as an ill-considered addition. The red pine of which the apparatus is made is, of course, capable of being stained a darker colour, removing the feeling of cheap, temporary construction, which is, to some people, inseparable from light-coloured wood.

REINFORCED CONCRETE SILO AT THORNABY-ON-TEES.

The site of this silo is at the Cleveland Flour Mills, Thornaby-on-Tees, near the River Tees. A concrete raft foundation carries the silo proper. The number and sizes of the bins are approximately as follows:—No. 12 bins, size 12 ft. by 12 ft. and 80 ft. high; No. 12 bins, size 6 ft. by 6 ft. and 80 ft. high. The total weight of grain in the silo bins is about 4,000 tons, which may be unequally distributed, one bin being full whilst all the surrounding bins are empty, or one outside row being full whilst the others are empty, so that each bin is practically self-contained and is reinforced to maintain throughout its full height perfect rigidity when full of grain irrespective of all adjoining bins.

The thickness of the reinforced concrete wall is 5½ in. for the large bins and 4 in. for the sub-divisions forming small bins. Outer walls 8 in. in thickness, with additional thickness at pilasters, parapets, etc. Over the tops of the bins a floor 4½ in. in thickness is constructed, with all necessary openings for shoots, man-holes, etc., being formed in the same.

The architects were Messrs. Gelder & Kitchen, F.F.R.I.B.A., of Hull, and Mr. E. P. Wells acted as consulting engineer. The work has been carried out by Messrs. the Stuart's Granolithic Company, Ltd., Fenchurch-street, E.C.

STEEL FRAME OF THE WOOLWORTH BUILDING.

The main portion of the Woolworth Building, now under construction in New York (illustrated in our issue of May 26, 1911), encloses three sides of a light court measuring 95 ft. by 37 ft. in plan, and will be about 400 ft. high from street level to the main roof, above which the tower will rise to a further height of 400 ft.

For the support of the sixty main columns destined to receive the weight of the entire building foundation piers of concrete have been carried 40 ft. down to solid rock.

Upon the piers are steel grillages and distributing girders and cantilevers. The grillages consist of heavy I-beams laid in two or more tiers, according to the load to be carried, and embedded for protection in 1:2:4 Portland cement concrete. The distributing girders extending from pier to pier were laid in trenches before the general excavation was carried down to the same level.

To furnish some idea as to the duty of these members we may say that one of them, designed for supporting one of the tower columns, representing a load of 4,250 tons, measures 5 ft. 9 in. wide by 8 ft. deep by 23 ft. long, and weighs 58 tons.

Seven girders of the same dimensions and weight are included in the foundations, the other distributing girders weighing from 22 tons to 27 tons each.

Steel for the superstructure was sent from the works of the American Bridge Company to the goods depot of the Pennsylvania Railroad at Greenville, New Jersey, where it was sorted and dispatched to New York in lighters as required, being transported through the streets on special lorries.

The largest column section delivered on the site measures 30 ft. long and weighs 40 tons. The average weights of the columns are as follows: First tier, 40 tons; second tier, 33 tons; third tier, 31 tons; eighth tier, 15 tons; fourteenth tier, 12½ tons; main roof, 10 tons.

On August 11, 1911, the first grillage beams were delivered, and on September 15, 1911,

the first foundation girders were received, the first columns arriving ten days later, and the first consignment of steel for the superstructure coming to hand on October 20, 1911.

On the last-mentioned date the first columns were erected, and by the end of November the steel frame had been constructed up to street level.

By April 6, 1912, the frame had been carried up to the height of the main roof, the structure to that level including thirty stories and about 17,000 tons of steel.

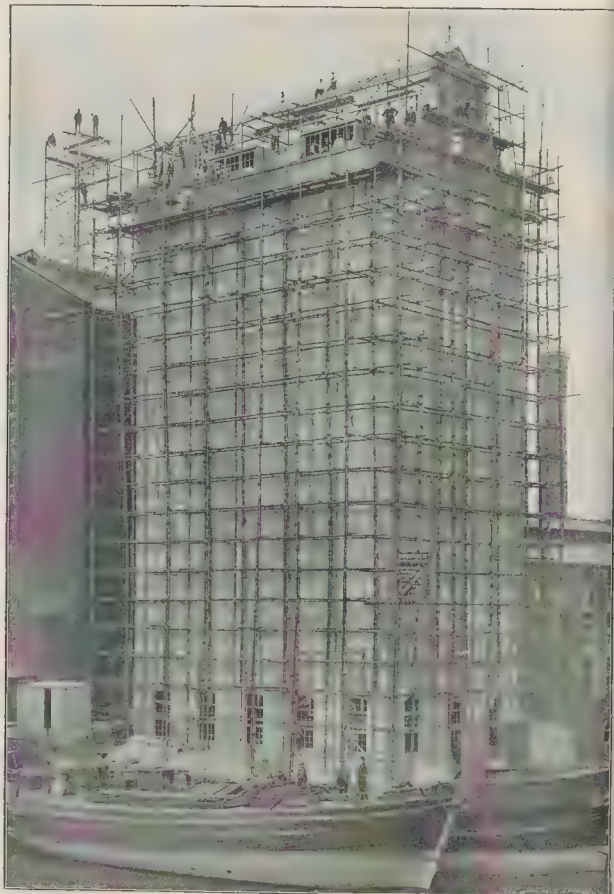
The work of erection was performed by four derrick gangs of eight men each, who were able to complete two tiers per week, and whose record was 1,153 tons of steel erected in 10 consecutive days of eight hours each.

It is interesting to record the fact that although the contract conditions required the whole of the steel to be erected by July 15, 1912, this part of the work was practically finished the end of June.

The construction plant provided for erecting the superstructure included four steel girders, with the lifting capacity of 30 tons each, and one timber guy derrick of 15 tons capacity.

These derricks commanded the entire site and the adjacent street. Consequently they could be employed for unloading lorries as they delivered the steel to required positions in any part of the building.

The large amount of riveting necessary for the steel frame was performed by twenty



Reinforced Concrete Silo at Thornaby-on-Tees.

Messrs. Gelder & Kitchen, F.F.R.I.B.A., Architects.

gangs of four men each, by whom about rivets were inserted per day of eight hours, the aid of pneumatic riveting hammers. The riveters were followed by a gang of fifty-five painters, who applied two coats of oil to all the steelwork.

BOYS' SCHOOL, STRAND-ON-THE-GREEN.

A new school for 420 boys has been erected by the Chiswick Urban District Council at Strand-on-the-Green. About 2,800 sq. yds. have been covered, the school occupying but 440 sq. yds. The playground has been laid and tar-paved for an area of 1,850 sq. yds., about 510 sq. yds. have been left for the boys' gardens.

The whole area has been enclosed by solid climbable iron railing, but double gates have been fixed for the admission of the fire escape and it be required. The existing southern wall will form the main entrance for boys. The covered playground at present forms part of the school, but should the same be required for open-air classes, an additional covered playground at the ground level may be added.

The whole area is drained by gullies only at the sides, thus leaving an even and unbroken face for games. The heating chamber and boiler store, which forms the only basement, is divided with a fixed semirotary pump for lifting all waste or rain water to the general drainage level.

Lavatories are provided in the headmaster's room (for use during medical examination) and in cloak-rooms on mezzanine and ground floors, which discharge into the foul-water main in Brook-road. One master's and two additional boys' water-closets have been provided, with extra urinal accommodation, whilst two "Purita" fountains placed outside the school provide a continuous supply of drinking water.

The walls are of stock bricks with red brick dressings and blue brick plinth, all below main-proof course being in cement mortar. The roof is of wood construction, covered with boarding, felt, and best Broseley tiling.

The internal surface of the walls to the staircase is finished with brown salt-glazed bricks, which material also forms a dado 4 ft. high on both floors, the remaining surface being stemped. The thresholds and steps are of dark stone, whilst the window-sills are made of blue brick blocks, and arches of rubbed brick with Portland keystones. Bull-nosed eaves are provided both externally and internally at all projecting angles.

The windows in all walls are formed with steel casements, with hopper openings for prevention of draught and better ventilation. This type also gives a maximum amount of light for the size of the opening. The borrowed light is similarly of steel construction and is made to open for cross ventilation.

The floors to classrooms are of steel and concrete, finished with 1½-in. pitch-pine boards laid to herring-bone pattern, whilst the staircase is ferro-concrete and the cloak-rooms and corridors are all finished with



Boys' School, Strand-on-the-Green, Chiswick.

Mr. Edward Willis, Architect.

granolithic paving. Blue brick paving is adopted in the basement.

In addition to the ordinary windows, extra ventilators are provided to all classrooms, four opening direct into the external air and four discharging through a ventilating turret about 40 ft. high. Fanlights are fixed to the classroom doors, and at all times cross-ventilation in either direction is possible.

The heating of classrooms, lavatories, corridors, etc., is effected by a low-pressure system regulated automatically, with sectional boiler in the basement and radiators in all classrooms, etc.; the master's and assistant masters' rooms are warmed by open fires.

The artificial lighting throughout is by means of gas, inverted incandescent mantles being used in classrooms and plain guarded burners in corridors.

All rooms are provided with the Magneta Time Company's clocks, and the four faces of the ventilating turret have been provided with dials worked by the same master clock in the headmaster's room. A special pendulum fire alarm and telephone is fixed in the ground-floor corridor at the foot of the staircase, ringing direct to the fire-station. The turret, chimney-stacks, etc., are protected by lightning conductors connected to copper earth plate on the southern side.

The building comprises two floors and basement heating chamber and coal store. The ground floor includes bicycle store, three classrooms for forty-eight and two for sixty boys, with lavatories and cloak-room accommodation.

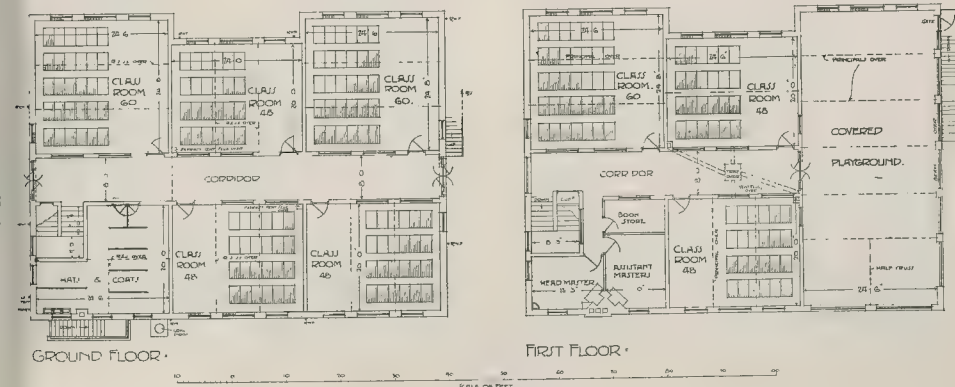
The first floor has only one classroom for sixty boys and two for forty-eight, making 420 as the total present school accommodation. There are separate rooms for the headmaster and assistant masters, with large book store and extensive covered playground, approximately 1,800 sq. ft. in area, which could be used if desired for open-air classes, and from this is an iron and steel escape staircase to the general playground.

The lavatory and cloak-room accommodation for first-floor scholars is on the mezzanine floor. The design was prepared by Mr. Edward Willis, Assoc. M.Inst.C.E., etc., Architect to the Education Committee, and the contract was carried out under his supervision by Mr. W. J. Maddison, of Canning Town, Mr. J. Empson being the clerk of works.

It is anticipated the final cost of the building will not exceed 5,000l., or about 12l. per school place.

COW-STABLE FOR EMIGRATION TRAINING FARM.

A new cow-stable has recently been built for the Hon. Rupert Guinness, G.B., C.M.G., M.P., at Park Farm, Woking, Surrey. It forms an addition to the buildings already erected, and is equipped with modern appliances for instructing and training young men who intend farming in Canada and the Colonies. The building has been planned on the latest Canadian



Boys' School, Strand-on-the-Green, Chiswick.

Mr. Edward Willis, Architect.

lines and fitted almost entirely with Canadian fittings, such as cow-stalls, loose boxes, calf pens, etc. It is constructed with red brick plinth. The external framing above the sill is weather-boarded. The interior is lined throughout with asbestos sheeting, including the ceiling. The roof is covered with red sand-faced tiles. The floors throughout are of 2-in. granolithic laid on a bed of concrete. Special care has been given to lighting, ventilation, heating, and drainage.

The building has been designed by Messrs. T. H. Roberts-Wray & J. A. Hale, architects, of John-street, Adelphi, W.C. The contractors were Messrs. Kirk & Randall, of Woolwich; the heating and dairy fittings by Messrs. Burnard & Co., of Vauxhall.

VENTILATION.

In his address before the Physiology Section of the British Association meeting in Dundee, Mr. Leonard Hill, the President of the section, discussed the conditions necessary to the maintenance of a healthy body, and controverted the common assumption that the air is made deleterious to health by the introduction of chemical impurities. In the course of his remarks he said that everyone thought that he suffered in an ill-ventilated room owing to some change in the chemical quality of the air. The alterations in chemical composition of the air in buildings where people crowded together and suffered from the effects of ill-ventilation had nothing to do with the causation of these effects. Satisfied with the maintenance of a specious standard of chemical purity, the public had acquiesced in the elevation of sky-scrapers and the sinking of cavernous places of business. Many had thus become cave-dwellers, confined for most of their waking and sleeping hours in windless places, artificially lit, monotonously warmed. The sun was cut off by the shadow of tall buildings and by smoke. The bracing effect of cold was of supreme importance to health and happiness. We became soft and flabby and less resistant to the attacks of infesting bacteria in the winter, not because of the cold, but because of our excessive precautions to preserve ourselves from cold, and the prime cause of "cold" or "chill" was not really exposure to cold but to the over-heated and confined air of rooms, factories, and meeting-places.

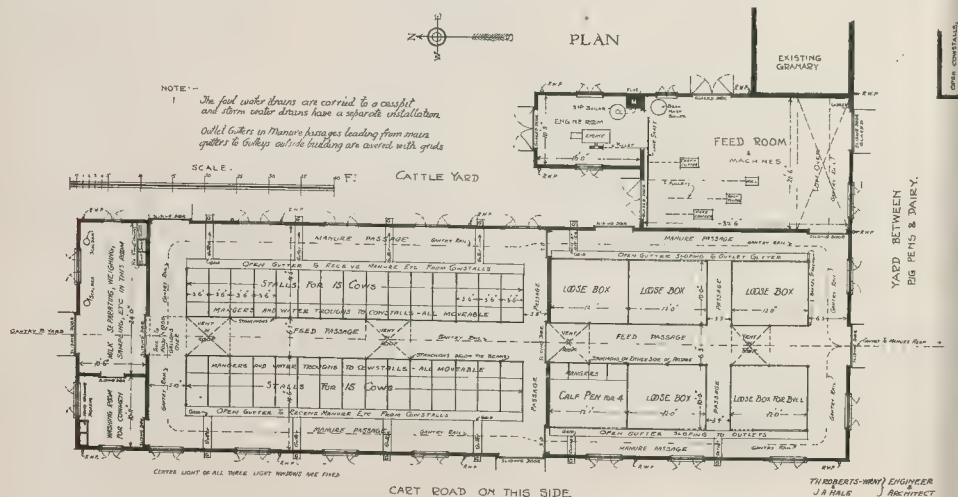
He recently investigated the case of clerks employed in a great place of business, whose working hours were from nine to six on three days and seven to nine on the other three days of each week. These clerks worked in a confined space—forty to fifty of them in 8,200 cubic ft., lit with thirty electric lamps, cramped for room, and overheated in warm summer days. It was not with the chemical purity of the air of such an office that fault

was to be found, for fans and large openings ensured this sufficiently. These clerks suffered from their long hours of monotonous and sedentary occupation, and from the artificial light, and the windless, overwarm, and moist atmosphere. What was the use of the State spending a million a year on sanatoria and tuberculin dispensaries, when those very conditions of work continued which lessened the immunity and increased the infection of the workers? In the last few years the rush and excitement of modern city life had increased, together with the confinement of workers to sedentary occupations in artificially lit, warm, windless atmospheres. The same conditions pertained to places of amusement, eating-houses, and tube railways. Central heating, gas-radiators, and other contrivances were now displacing the old open fire and chimney. The change greatly improved the economical consumption of coal and the light and cleanliness of the atmosphere. But, in so far as it promoted monotonous, windless, warm atmospheres, it was wholly against the health and vigour of the nation. The open fire and wide chimney ensured ventilation, the indrawing of cold outside air, streaky air—restless currents at different temperatures, which struck the sensory nerves in the skin and prevented monotony and weariness of spirit. The height of houses prevented the town-dweller from being blown upon by the wind. He worked, ate, and was amused in warm, windless atmospheres, and suffered from a feeble circulation, a shallow respiration, a disordered digestion.

The widespread belief in the presence of organic poisons in the expired air was mainly based on the statements of Brown Sequard and D'Arsonval, statements wholly unauthenticated by the most trustworthy workers in Europe and America. These statements had done very great mischief to the cause of hygiene, for they led ventilating engineers and the public to seek after chemical purity and neglect the attainment of adequate cooling and movement of the air. The efficiency of workers in mills, mines, tunnels, stockholes was vastly increased by the provision of sufficient draught of cool and relatively dry air, so as to prevent over-taxing of the heat-regulating mechanism. The electric fan has vastly improved the conditions of the work in the tropics. He would suggest that each clerk should have a fan just as much as a lion on his desk. It would pay the employer to supply fans. All the efforts of the heating and ventilating engineer should be directed towards cooling the air in crowded places as cooling the bodies of the people by setting the air in motion by means of fans. They have a very great inherent power of withstanding exposure to cold. The bodily mechanism became trained and set to maintain the body heat by habitual exposure to open-air life. The risk lay in over-heating our dwellings as over-clothing our bodies, so that the mechanism engaged in resisting infection became enfeebled and no longer able to meet the sudden transition from the warm atmosphere of our rooms to the chill outside air of winter. The dark air



Cow-Stable for Emigration Training Farm.



Cow-Stable for Emigration Training Farm.

THOMAS ROBERTS-WRAY ENGINEER
J. A. HALE ARCHITECT
8 JOHN STREET
ADELPHI W.C.

any days of winter confined us within
and, and, by reducing our activity and
course to open air, depressed the metabolism;
influence of smoke and fog, gloom of house
streets, cavernous places of business and
dwellings, intensified the depression.
essentials required of any good system of
tilation were (1) movement, coolness, proper
ree of relative moisture of the air; (2)
ection of the mass influence of pathogenic
eria. The chemical purity of the air would
adequately ensured by attendance to the
entials.

BRITISH STANDARD SPECIFICATION FOR STRUCTURAL STEEL FOR BRIDGES, ETC.

A new edition of the British Standard Specification for Structural Steel for Bridges (General Building Construction (Report 15, revised August, 1912) has recently been issued. The new issue is of importance in view of the fact that the London County Council (General Powers) Act, 1909, requires that all rolled steel used in the construction of skeleton-frame work for buildings shall comply with the requirements of this specification.

Since its first issue in June, 1906, the Committee from time to time had brought before it points which had arisen in connexion with its use, and the present issue embodies necessary amendments in regard to these. The more important modifications in the specification are as follows:—

The classification of the material dealt with into two categories, A Steel and B Steel.

The increase of the allowable Phosphorus content in B Steel from .07 to .08 per cent.

The increase of the upper limit of tensile strength for plates, sections, and bars (other than rivet bars) from 32 to 33 tons per square inch.

The reduction of the lower limit of tensile strength for rivet bars from 26 to 25 tons per inch.

The insertion of clauses dealing with (a) tests by an independent expert, (b) rejection or delivery, and (c) arbitration in cases where it is not otherwise provided for.

Following the procedure adopted in the revision of the British Standard Specification for Portland cement, the text of the specification has been settled in consultation with the Committee by Mr. A. A. Hudson, K.C. (standing counsel to the Committee), with a view of making it as far as practicable it has the same meaning intended by them, and the specification has been remodelled in accordance with his advice.

The specification may be obtained from any bookseller or from the Offices of the Committee, 1, Victoria-street, Westminster, S.W., and published for the Committee by Messrs. J. & W. Lockwood & Son.

CONSTRUCTION NOTES.

Metallic Filament Lamps. RECENT investigation, including microphotographic study of "drawn-wire" and "extruded" filaments for electric incandescent lamps, has demonstrated the fact that the continued high temperature at which such lamps are made has the effect of causing crystallisation of the metal. The larger crystals which are chiefly responsible for fracture of the filaments appear to be built up by accretion upon the original crystalline formation in the original structure of the metal. Drawn-wire filaments having finer initial crystallisation are stronger than extruded filaments, and as indicated by an investigation mentioned remain so until the metal has become crystallised, a process obviously requiring more time than that involved in the crystallisation of extended filaments.

Vibration on Effect of WITH the object of obtaining data as to the relative merits of incandescent electric lamps, a series of tests has been conducted in the Argentine Government Navy Laboratories, with special regard to the capacity of the filaments for resistance to shock and vibration.

The tests were applied to four well-known makes of metallic filament lamp and also to a standard carbon filament lamp.

The results, showing the length of time which the lamps were able to withstand "severe vibration" before failure of the filament, were as follows:—

Metallic filament lamp No. 1, twenty-five minutes; metallic filament lamp No. 2, thirty minutes; metallic filament lamp No. 3, forty-five minutes; metallic filament lamp (Madsen drawn-wire), 140 minutes; carbon filament lamp, thirty-five minutes.

PROFESSOR BORCHERS, of Aix-la-Chapelle, has recently announced the possibility of producing alloys of iron capable of resisting attack by acids, and remaining amenable to ordinary methods of treatment and manipulation in the workshop.

The new alloys are prepared by adding from 2 to 5 per cent. of molybdenum to an alloy of ferrochrome containing very little or no carbon, and not less than 10 per cent. of chrome. An alloy containing only 36 per cent of iron as against 60 per cent of chrome and a small proportion of molybdenum has been found to be insoluble in boiling aquafortis, while possessing all the essential qualities of iron and being suitable for working in the ordinary manner.

MR. H. E. KIEFER, in the *Soundness Journal of Industrial Engineering Chemistry* for 1912, describes tests and their results which show that the presence of free sulphurous lime cannot be the sole cause of the failure of certain samples of Portland cement to pass the boiling test.

H. le Chatelier has stated that the addition of 1 per cent. of freshly-calined lime to a sound cement will render it unsound, but in the author's experiments finely-ground lime was added in relatively large quantities, in one case up to 25 per cent., to samples without rendering them unsound. In all the cases tried, the quality of the cement was improved by finer grinding or by removing the coarser particles by sifting.

In other experiments in which the unsound cements were exposed to moist air at 150 deg. Fahr., the absorption of from 0.1 to 0.27 per cent. of moisture sufficed to render the cements sound. It was found that when cement is allowed to stand, either in a sealed jar or exposed to the air, the coarser particles become progressively finer, and it is considered probable that the seasoning of unsound cement consists in the disintegration of the coarser portion. In this coarser portion free lime may be present encased in glassy particles, and the disintegration be caused or accelerated by heat and moisture. It has been found that the moisture need not be in sufficient quantities to hydrate the free lime, but merely to render the coarser particles sufficiently fine to permit hydration before the cement has set.

Tests conducted with the "Steam-Cured" object of determining the effect of high-pressure steam on the strength of cement mortar, show that the process of hardening is accelerated, and the compressive resistance of the material is proportionate to the pressure of the steam and the duration of the exposure. The tests also indicate that for steam curing the mortar should be of medium consistency, which is better than a very dry or a very wet consistency. Another point to be noted is that the mortar should have developed initial set before being treated with steam.

ACCORDING to Mr. G. Hentschel, in an article printed by the *Tonindustrie Zeitung*, the rate of setting of Portland cement is accelerated by the addition of alkaline carbonates. On the other hand, the addition of varying proportions of calcium sulphate retards the process of setting. The writer recommends that the catalytic effect of compounds such as those mentioned should be determined by comparative experiments.

Sodium and potassium carbonates exert an extraordinarily strong positive effect, while calcium sulphate has a relatively smaller negative influence. It is stated that the positive effect is more strongly marked in the case of finely-ground cements.

Setting Properties of Portland Cement.

Setting Properties of Portland Cement.

Setting Properties of Portland Cement.

In the process of burning any alkali present in the raw materials is converted into an alkaline silicate which has no influence on the rate of setting, but after exposure to the air the silicate is slowly decomposed into silicic acid and carbonate, especially with the assistance of heat.

The pronounced effect of carbon dioxide and heat is stated as an explanation of the fact that rotary kiln cements change more readily than cements prepared in ordinary kilns, and often leave the mill in a quick-setting condition.

Steel and Wrought-Iron Pipes.

Now that steel tubing is coming into more general use for steam and water, the subjoined notes may be found of service to our readers in enabling them to determine by inspection whether the tubing employed on any work is of steel or wrought-iron. Steel tubing is relatively smooth, and any scale on the surface appears in the form of small blisters, revealing a smooth and whitish surface on being scraped away. On the other hand, wrought-iron tubing is rough, lacking the perfect finish of drawn-steel tubing, and scale occurs in heavy flakes. Steel tubing can be flattened considerably without splitting, while iron tubing tends to open at the longitudinal weld. If broken, steel tubing shows a fine crystalline fracture, and iron tubing shows a jagged fracture indicating the fibrous nature of the metal.

United States Government Specification for Portland Cement.

In June, 1911, a Committee of Government engineers was appointed for the purpose of unifying the specifications for Portland cement used by the United States Government. After first arriving at a tentative specification, the Committee conferred with representative manufacturers and users of Portland cement and with the special committees of various engineering societies by whom the same question has been considered.

As a result of such conference the tentative specification was modified until substantial agreement was reached on all points except the methods of determining the normal consistency and time of setting.

An order signed by President Taft has recently been issued requiring that the specification as modified shall apply to all Portland cement purchased by or used in construction work connected with any department or branch of the United States Government.

It is recognised, however, that no specification can be regarded as final. Consequently the order provides that the specification may be modified from time to time by a departmental conference with the approval of the heads of the several departments.

Aluminium in Brass Castings.

THE effects of adding aluminium to brass is to make the castings sounder and remarkably free from pin holes, while the metal runs better, and the castings come out of the sand very sharp and clean. According to the *Brass World*, the best method of adding the aluminium is first to make an alloy consisting of aluminium 1 part and zinc 3 parts, adding this alloy to the brass just before pouring. The proportion of aluminium required is very small, and the addition of too much makes the castings hard and apt to shrink considerably on cooling.

Physical Properties of Concrete.

A MOST useful investigation now in progress by the National Bureau of Standards (U.S.A.) is one for the determination of the physical properties of concrete. At the suggestion of engineers and others interested in the subject, the Bureau have decided to inquire into the causes of cracking in concrete structures and the question of expansion and contraction joints.

For the purpose of the inquiry, reference marks have been placed upon typical old and new concrete work in Wayne County, Michigan, at Greenwich, Connecticut, and on the lock walls and elsewhere on the Panama Canal works.

Measurements will be taken from time to time during summer and winter to determine the expansion and contraction due to temperature variations, and to ascertain the changes of volume taking place during the hardening of the concrete.

THE BUILDING TRADE.

THE TRADE UNIONS CONGRESS.

THE proceedings of the Trade Unions Congress were commenced at Newport on the 2nd inst., under the presidency of Mr. William Thorne, M.P.

The address of the President bore a strong likeness to other Presidential addresses delivered on like occasions. Many of the leaders of the trade unions are men who are opposed to the existing order of things and who advocate the nationalisation of the means of production and distribution of wealth, and who see salvation in the suppression of the capitalist and the employer. If, however, they are convinced of the soundness of their views it is somewhat surprising that they never elaborate their policy. Year after year the same views are expressed in almost the same periods, but no attempt is made to explain a policy which involves changes of such magnitude, and the rank and file must be acquiring a shrewd suspicion that their leaders' reticence may be due to the impossibility and impracticability of the schemes which they put forward. Mr. Thorne in his address followed very much the conventional lines, and little is to be gained by such statements as that land and labour are the foundation of all riches and that the increase in wealth is not due to the capitalist class. The proprietor of the very smallest plot of land could instruct Mr. Thorne on the use and necessity of capital. Again, in discussing the distribution of wealth, what can be more misleading than to take the gross assessment for income tax in this country and compare it with the wages paid also in this country? Quite apart from the distinction between capital and wages, it must be remembered that owing to the action of the trade unions and to certain legislation, or threats of legislation, capital is invested abroad, and the foreign pay-sheets do not figure in this country, though much of the income produced abroad comes home to be assessed. Unreliable as is Mr. Thorne's comparison, the figures he quoted might have been very different if during the past twelve months there had been no railway strike, no coal strike, and no transport strike, and if nearly 39 million working days had not been lost in the first seven months of this year.

The President expressed himself opposed to any scheme of compulsory arbitration and as dissatisfied with the Trade Unions Bill, and in the latter connexion his observations as reported are somewhat remarkable. He claimed unlimited political powers for the unions, but his ideas of political powers appear to be to obtain control of the Army and Navy and the civil authority, so that they should not be used in the case of strikes. We venture to think that such an attitude is most damaging to the cause of trade unionism. The legality of strikes is fully recognised; not only are they legalised, but peaceful persuasion is allowed, and no action for tort can be brought against a trade union. Political action on the part of the unions is now being recognised by this Bill as well, and even the rights of minorities who do not favour the political policy adopted by the unions are very inadequately safeguarded. This being the state of the case, what deduction can be drawn from such observations as we have referred to above but that the unions, as represented by certain of their leaders, desire to be free to resort to intimidation, as that in connexion with strikes is the only thing which remains illegal and which calls for civil or military intervention? The patience of the public has been sorely tried in the recent strikes; the sympathetic strike does not invoke any sympathy from the public, which sees in its intimidation directed against itself; intimidation of non-unionists is distasteful to those with a sense of fair play, and the trade unions, if they wish to retain the extraordinary privileges already granted to them, will be wise if they emphatically dissociate themselves from and strongly condemn the acts of violence and coercion which are illegal and which have marked some of the strikes. On the last day of the Congress we regret to see that a resolution was passed by a large majority on a card vote declaring that in the interests of trade

unionism, and with a view to securing the full benefits of awards and agreements fought for, trade unionists should refuse to work with non-unionists.

The debate on the question of the Trade Unions Bill was unusually interesting. On a card vote a resolution was passed by a large majority to oppose the Bill in its present form, as the Congress claimed complete political freedom. The Bill recognises the right of unions to engage in political activity, thus practically overruling the Osborne judgment, and the only limitations it contains are (1) that the Registrar of Friendly Societies shall be satisfied that the principal objects of a union are the "statutory objects," i.e., the objects defined by the Trade Unions Amendment Act, 1876, the regulation of the relations between workmen and masters, etc., and that the unions are not purely political societies; (2) that the political objects must be approved by a majority of the members voting on a ballot; (3) that payments for political objects shall be made from a separate fund; (4) that members shall be at liberty to give notice that they do not desire to contribute to the political fund.

This is a brief summary of the measure which has been rejected by the Congress as "infringing the principles of self-government and restricting their political liberty"; in other words, the Congress resents the rights of minorities being in any way regarded. It is refreshing to find Mr. Havelock Wilson, in what he termed "a little plain talk to the Congress," arguing against the course adopted by Congress on the same lines that we have often urged in these pages. He said, "They asked a man to join a trade union for trade union purposes, then after they got him into their membership they smuggled a resolution through, and said, 'We are going to charge you one shilling a year, and if you do not pay it we will prevent you from following your occupation.' That was the cause of the trouble—they were trying to compel men to pay the levy whether they liked it or not."

This exactly sums up the case, and, as Mr. Havelock Wilson observed, there is no enthusiasm over the matter. We may add our own opinion that the Bill goes a great deal too far as it is, and the unions are in danger of losing their true character of trade societies, provident societies, and Insurance Act societies, and being converted into political societies.

The attitude of the Congress towards arbitration in trade disputes is somewhat difficult to analyse. A resolution moved by Mr. Tillett that an instruction be given to the Parliamentary Committee to prepare a report and recommendation as to the basis of arbitration and conciliation was defeated by a large majority, but owing to some allusion in the first part of the resolution to compulsory arbitration the impression seems to have prevailed that the motion advocated compulsory arbitration. The vote to leave out this part of the resolution was lost, and thus the final vote seems to have been given upon the proposition of compulsory arbitration. Mr. Havelock Wilson, who has always opposed compulsory arbitration, said that since his visit to New Zealand and Australia he had changed his opinion, and was now in favour of the application of the system there in force to disputes in this country.

In the course of the debate Mr. John Ward dissociated himself from Mr. Crooks' Bill on this subject, the provisions of which we explained in the *Builder*, September 8, 1911. On the subject of the Insurance Act, the President expressed himself in favour of a universal and non-contributory scheme, but the main debate turned on the question of insurance companies becoming approved societies. The trade unions see in this a risk of their members not joining the unions as approved societies, and they accuse the employers of favouring societies other than trade unions. A motion protesting against the alleged practice was carried unanimously. It is certainly essential that good solvent societies should be open to the classes who come under the Insurance Act, and it may be a question whether the State which enforces insurance should not also control and guarantee the societies. The trade unions as provident societies have been allowed to qualify as

approved societies, but if their constitution was to be changed as the Congress have proposed should be the case, and if they became political societies, they would hardly seem suitably organised for carrying out the purely political functions imposed upon them by the Insurance Act.

A resolution relating to the position of casual labourers under the Act was carried unanimously. The resolution was to effect that exemption should be given men earning not more than 10s. a week, that yet they should be entitled to the benefit. We express no opinion upon the remedy, we do believe that the Act is bearing heavily on those casually employed, and that to oblige employers they are often compelled to produce cards stamped by themselves.

The above observations on the proposed do not purport to afford a chronicle of whole proceedings, and, whatever criticism may be passed upon certain utterances of some of the speakers, we think it must be conceded that this Congress was marked by a more practical tone and marked a higher level of debate than many of its predecessors.

In these times of industrial unrest Congress, however, had a great opportunity for putting forward practical suggestions for securing better relations between labour and capital, and it cannot be said that the Congress was by any means made of this opportunity, but the multitude of questions put forward at this annual meeting does not permit of a concentrated debate on any particular subject.

INTERCEPTING TRAPS.

THE Departmental Committee on Intercepting Traps in House Drains, into which was converted the Committee of General Inquiry originally appointed by the President of the Local Government Board in October, 1908, issued its Report.

The document is one that contains a great deal of interest for sanitarians, and may result in some modification of the practice which has been followed by the Local Government Board for more than thirty years in dealing with intercepting traps in dealing with house drains.

The Committee's investigation nominally originated in a proposal by the Willesden Urban District Council to adopt a series of by-laws in which the requirement as to provision of an intercepting trap was to be omitted. The district referred to is one that includes areas in which the ventilation of sewers is a matter of difficulty, and the cheapness of the local authority would, of course, be to utilise the private drains and ventilating pipes of the houses. The Local Government Board refused to assent to the proposal of the Willesden Council, but at the same time promised a general inquiry into the question raised.

The result of this inquiry, in the course of which fifty-two witnesses were examined and experiments were made and observations taken in Bristol as well as in some two suburban districts, is now before us.

The disadvantages alleged by the opponents of the trap are—

1. That it checks the passage of air from the sewer through the house drains, and the ventilating shafts attached thereto.

2. That it involves separate ventilation of the house drains, which, in turn, necessitates the provision of a fresh-air inlet, which of acts as an outlet for foul air and so becomes a nuisance.

3. That it complicates the construction of house drains, and enhances the cost of house drains.

4. That it is an impediment to the passage of sewage and often causes the blockage of the drain.

The advantages claimed by its advocates are—

1. That it prevents the passage of air from the sewer into the house drain, and thus prevents the entry of sewer air into the dwelling.

2. That it acts as a barrier to rats.

The Committee's investigations were directed first to the determination of the actual physical facts connected with the use of the trap as then in vogue, and the consideration of the chemical, bacteriological, and other conditions involved.

the physical results may be briefly stated as follows:—In the first place "it seems to be established (says the Report) that the trap does serve as an effectual barrier to the entry of sewer air into the house drain, which is the fundamental advantage claimed for it." Secondly, it does prevent the passage of rats. Thirdly, it does not involve "ventilation" in the sense of a current of air through the pipes, but only assists, apart from anti-siphonage pipes, operating at the top of each soil pipe. That to say the objectionable "fresh-air inlet" is omitted altogether. Fourthly, it is true that the trap is liable to "retain a considerable portion . . . of the solid matters of the sewage passing through it . . . and is to favour blocking of the trap as well as putrefaction of the sewage before it reaches the sewer." In this last fact the Committee appear to detect the chief objection to the trap. They state that "micro-organisms of sewage origin are very rarely present in sewer air." On the other hand, they may be present in drain air in large numbers. This difference is the result of the splashing of sewage which occurs in drains, and which does not usually occur in sewers." It is, therefore, inferred that "the entry of sewer air into a house is of correspondingly smaller importance, *bacterially*, than the entry of drain air." (The italics are ours.) There are, of course, other considerations on those based upon bacteriological or epidemiological grounds, as the Committee point out, and the question of the harmfulness otherwise of sewer air, especially in dwellings, is one upon which the evidence before the Committee appears to have been quite conclusive. A medical witness was "very opinionative of the theory" that sewer air, *apart from its smell*, can be a predisposing cause of disease, and the generally good health of sewer-men is pointed to as proof of its harmlessness.

The chemical evidence shows that the most frequent characteristic of sewer air is the presence of "smell." This smell is due to the presence of certain volatile substances, given off from sewage, in such minute quantities as to be harmless in themselves, apart from smell, or possibly to effluvia from moulds which may be attached to the walls of sewers. "It must now be felt that this statement is neither so lucid as the rest of the Report nor so convincing as to form a satisfactory basis for any relaxation of efforts to exclude sewer air from our homes. And the Committee quite agree that even "smell" cannot be wisely ignored, for they remind us, with a touch of humour, "that it is possible, through the sense of smell, to induce distinct modifications in physiological processes."

A further note of caution is also sounded in the statement that "there is no doubt a considerable body of medical opinion which maintains the view that certain diseases, notably phoid fever, diphtheria, quinsy and sore throat, and certain 'septic' diseases are fostered or are even actually produced by contact with sewer air or drain air."

To return to the question which was the immediate cause of the Committee's existence—the desirability or otherwise of the ventilation of sewers through house drains—two outstanding conclusions are arrived at, one being that the importance of the effect which the presence of an intercepting trap has on the ventilation of sewers, on which much stress has been laid, is probably been exaggerated, and the other that "too much importance has been attached to the question of sewer ventilation," there being "a considerable amount of evidence which indicates that the necessity for ventilation of sewers has been exaggerated." "If," say the Committee, "the objection to the intercepting trap rested solely or mainly on its interference with sewer ventilation, we should be inclined to question the importance of such an objection."

In Leeds, in East Grinstead, and in many German towns no intercepting traps are used, and in Bristol many houses have no traps, and there is an entire absence of designed sewer ventilation. No exceptional mortality appears to result. There are, however, exceptional cases in which "the ventilating shafts of house drains directly connected with the sewer have proved a nuisance, to abate which it has been necessary to insert intercepting traps."

It would appear that still further investigations are desirable, and that in the meantime will be consonant with the dictates of caution close to the "fresh-air inlets" on our house drains and to retain the disconnecting trap.

L.C.C. SCHOOL OF BUILDING.

THE Evening School of Building, Ferndale-road, Brixton, organised by the London County Council, will open for the tenth session on the 23rd inst. Mr. H. W. Richards is the Principal, and his assistant is Mr. Arthur R. Sage. Professor Beresford Pite, F.R.I.B.A., is the Director of Architecture.

The Evening School has been established to enable artisans and others engaged in the building trades and allied professions to acquire an intimate knowledge of the principles that underlie the processes which they have to carry out in their daily work. Workshops have been provided and equipped for the practical teaching of the several building trades under conditions similar to those met with on buildings and in builders' shops.

The prospectus divides the work of the School into five parts, viz. Section 1—Trade Subjects (Workshop Practice and Theory); Section 2—Lectures and Classes in Building Construction and Allied Subjects; Section 3—Surveying; Section 4—Structural Engineering; Section 5—Architecture and Drawing.

In the practical trade classes admission will be given to those engaged in the trade only. These classes are intended to supplement workshop practice and not to teach trades. Students in these classes are expected to attend the lectures and drawing office work in connexion therewith, and those who fail to do so will not be allowed to continue the workshop practice.

The Advisory Sub-Committee consists of Mr. J. S. Holliday (Chairman), Messrs. W. J. Carpenter, W. Davis, W. Elliott, R. F. Gilling, T. A. Hards, F. Higgs, G. H. Manser, H. D. Seales-Wood, F.R.I.B.A., and G. Stagg.

In the various classes the Principal is supported by a numerous and efficient staff.

A School of Architecture, with courses of instruction in the history of buildings and for the study of architectural design and planning, together with the preparation of architectural drawings, has been added as part of the complete scheme of the work of the School. The work of several classes will be under the general superintendence of Mr. J. B. Fulton, A.R.I.B.A., assisted by Mr. H. F. Murrell, A.R.I.B.A. Mr. G. Dennis, A.R.C.A., will give instruction on architectural perspective and lettering. Lectures upon examples and criticisms of the students' work will be given during the session by Professor Beresford Pite, F.R.I.B.A.

Day Technical Schools for Boys, Junior and Senior, will be open on five days in the week to provide a sound scientific and technical training for those preparing to enter the building trades and allied vocations.

Full particulars of all classes will be sent on application to the Principal, the School of Building, Ferndale-road, Brixton, S.W.

HARDWARE EXHIBITION, OLYMPIA.

THE Hardware, Ironmongery, and Domestic Appliances Exhibition, with which is allied an Exhibition of Oil Engineering, is open at Olympia until the 17th inst., and many interesting features are on view. Among heating appliances may be seen anthracite kitcheners and stoves by the London Warming and Ventilating Company, Ltd., who give cooking demonstrations daily (Stands 180 and 194), and the various productions of the Intervest Stove Company, Ltd. (Stand 196). Messrs. C. A. Peters, Ltd. (Stands 135 and 150) show the Carbotron portable stoves for heating motor-houses and various household specialities: Messrs. Helliwell, Ltd. (Stand 182), exhibit fregrates and mantelpieces; and The Petroleum Solid Fuel (Parent) Company, Ltd. (Stands 15 and 26), show the various "Petrol" briquettes, firelighters, and other novelties.

The British Vacuum Cleaner Company, Ltd. (Stands 93 and 108), have in operation a full range of hand and power vacuum cleaners, and The Electric Appliances Company, Ltd., with their portable vacuum cleaner, are at Stands 114 and 127.

The possibilities of lighting by acetylene gas are brought forward by the Thorn & Hodde Acetylene Company, Ltd. (Stand 208); the Acetylene Corporation, Ltd. (Stand 205); the Leading Light Syndicate, Ltd. (Stand 7); the Dennis Acetylene Illuminating Company (Stand 8); and by the Acetylene Publicity, Ltd. (Stand 8A).

Oil engines and similar appliances are shown by the Westinghouse Brake Company, Ltd.

(Stand 4), by the India Rubber, Gutta Percha, and Telegraph Works Company, Ltd., and by the Crossley Gas Engine Company (Stands 60 and 61). Messrs. Tangyes, Ltd. (Stands 95 and 106), are represented by various well-known engineering inventions.

Among other exhibits to be mentioned are the models of a pump rig, derrick, and engine-house, with plans, and other features, shown by Mr. George W. Mancell (Stands 55 and 68); the chemical fire extinguishers and other fire appliances of the Harden Star-Lewis and Sinclair Company (Stands 17 and 24); the sash-lines, blind and other cords of Messrs. J. Austin & Sons, Ltd. (Stands 13 and 28); the "Kaye" oil cans, fillers, oil pumps and lamps made by Messrs. Joseph Kaye & Sons, Ltd. (Stands 39 and 42); the "Climax" carpenter's cramps of Messrs. Crampton Brothers; the brass and iron fire guards and other work devices of the Holborn Wire and Cage Works (Stands 92 and 109); and the enamelled ware of Messrs. Oscar Molnich & Co., Ltd. (Stands 139 and 149).

GENERAL BUILDING NEWS.

CHURCH EXTENSION, BIRKENHEAD.

The foundation-stone was laid last week of the Lady Chapel of St. Matthew's Church by the Mayor of Birkenhead. The scheme comprises clergy and choir vestries, lady chapel, south aisle, and ambulatory, and when completed the seating accommodation of the building will be for 514 people. The architects are Messrs. Nagington & Shennan, of London and Liverpool.

SCHOOL, KILBIRNIE.

A new school is to be built between Kilbirnie and Glegarnock from the plans of Messrs. H. & D. Barclay, architects, Glasgow, to accommodate 400 children.

PUBLIC SCHOOL, GLASGOW.

A new public school has been erected in Carmichael-place, Langside, at a cost of about 17,000. The building is two stories high and has a frontage of about 170 ft. and a depth at the wings of 120 ft. The architect for the work was Mr. Ninian Macwhannell.

INFANTS' SCHOOL, MERTHYR.

This new school has been erected at a cost of about 4,615*l.* from the designs of Mr. F. Thackeray, the Borough Architect, and the building will provide accommodation for 250 children. The contractors were Messrs. Enoch Williams & Sons, of Dowlais.

SECONDARY SCHOOL, GIRVAN.

The new secondary school for Girvan and district, erected by the Girvan School Board at a cost of 7,000*l.*, according to competitive plans by Mr. Wm. Cowie, architect, Ayr, was opened on the 2nd inst. The building is planned with a central hall on each floor, giving direct access to the classrooms, the upper hall leaving an open gallery on one side, with high mullioned windows connecting the two stories. There are separate entrances for boys and girls, and separate entrances at each end of the hall, with cloakrooms, etc. There are nine ordinary classrooms for thirty pupils each. On the upper floor there are a science-room, art-room, cookery and laundry room, and gymnasium, while a portion of the old school has been converted into a work-room for twenty boys. The principal facade is in a free treatment of Renaissance in red sandstone, while the elevations are of brick and rough-cast, with stone dressings.

KIRKCONNEL NEW SCHOOL.

At a meeting of Kirkconnel School Board it was agreed to accept the plan by Mr. Crombie, architect, Dumfries, for the erection of a new school at an estimated cost of 3,100*l.* The school will consist of four rooms and a corridor, with the customary outside offices.

NEW SCHOOL AT LIANGAN.

New Liangan Schools have just been opened. Accommodation is provided for 122 children. The school is built of local stone, and the exterior is part rough-cast, together with the Welsh slates. The building was designed by Mr. D. Pugh Jones and built by Messrs. Vickery Bros., Barry Dock.

COUNCIL SCHOOL, STRATFORD.

The Senior Department of the London-road Council School has been erected from the designs of Mr. A. S. R. Ley, Lic.R.I.B.A., at a cost of about 4,915*l.*, and the building provides accommodation for 376 children in eight classrooms. The building has been planned in order to allow of future additions, when it is expected to increase the accommodation to 636 children. The builder was Mr. George Brown, of Grays, and the clerk of works was Mr. T. J. Day.

SCHOOLS, HARGROATE.

The new schools for girls, Queen Ethelburga's School, at Killinghall Moor, Hargroate, are, says the *Yorkshire Herald*, the result of a limited competition, in which six architects were invited to submit designs, and that of Mr. W. Gribbee Scott, F.R.I.B.A., was selected. He is the architect of the whole of the buildings, with the exception of the chapel, which was erected from the designs of the late Mr. C. Hodgson-Fowler, F.R.I.B.A., of Durham. The scheme comprises the school block, head mistress's house, four large boarding-houses, a sanatorium, lodge, and chapel. Of these, the whole have been erected with the exception of two of the boarding-houses and the sanatorium, which will be added as soon as the school fills up. The school block provides accommodation for 150 girls. The floors and staircases are of fireproof construction. The classrooms are grouped together for the lower, middle, and upper schools. The floors are of pitch-pine blocks, and the walls have panelled dadoes. The large science-rooms are provided with preparation, balance, and store rooms adjoining. There are also two fine rooms for the teaching of elementary and advanced art, each having large north windows. The assembly hall is in the centre of the building, opposite to the principal entrance. It is 60 ft. by 34 ft., and is provided with a gallery at one end. The vaulted entrance hall with its recessed alcoves forms an interesting feature between the front vestibule and the assembly hall, and provides crush-room space just where it is required. The gymnasium is on the lower ground floor, and is 55 ft. by 25 ft., and 20 ft. high. It has a gallery for spectators at one end. A large number of rooms for the teaching and practice of music are provided. These are placed in a separate building, which is connected with the main block by a corridor. The partitions and ceilings of all rooms are formed of a combination of plaster and slag wool, with hollow spaces between, and all the doors are double. Private rooms for the headmistress and assistant mistresses are provided, and also other rooms for various purposes. Rooms for the teaching and practice of domestic economy are also provided. A covered playground is provided immediately adjoining the school block, and also stores for games, bicycles, etc. The house for the headmistress forms a wing to the school block, and contains accommodation for some of the assistant mistresses in addition. An open covered corridor, 10 ft. wide, connects the school block with the chapel and with each boarding-house. Each boarding-house is an entirely detached building, forming a complete home in itself, and contains accommodation for thirty-eight girls and for five assistant mistresses. Each girl has a separate cubicle, except that, in a few instances, rooms are arranged for sisters. There is a lounge hall for common use, and a play-room and a preparation-room. Six small studies are provided for the elder girls. There are twelve bathrooms in each house, the walls of which are tiled. The floors are of fireproof construction, and ample means of escape in case of fire are provided. There are three staircases in each boarding-house, two of them being fireproof. All the doors are made with pitch pine blocks. The houses and the school block are heated throughout with hot-water pipes and radiators, but all sitting-rooms and the lounge hall have fireplaces as well. The buildings are faced with red brick, and the ornamental portions are of Pateley Bridge stone. The roofs are covered with green Westmorland slates. The style is Georgian, quietly treated. The contractors for the whole of the works, excepting the chapel, are Messrs. Harold Arnold & Son, of Rugby, and the clerk of works is Mr. E. Bilby. The cost of the complete scheme is estimated at about £5,000.

TRADE NEWS.

Lee's "All Time" sheet-lead and asphalt damp course has been specified and extensively used on the new Southmead Infirmary near Bristol.

Messrs. Spalding & Myers, of 36-37, King-street, E.C., are the architects for new printing works now being erected in Emerald-street, Theobald's-road, by Messrs. E. A. Roome & Co., 36, Basinghall-street, E.C.

Under the direction of Mr. R. T. Longden, Lic.R.I.A.B., Stoke-on-Trent, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "Air Pump" Ventilators and Air Inlets, has been applied to Rudyard Chapel, Rudyard, Staffs.

Messrs. Patman & Fotheringham, Ltd., 100 and 102, Theobald's-road, London, W.C., also of Park-street, Islington, N., have secured the following contracts:—Extension to Mayfair works, Miles-street, South Lambeth-road, for Messrs. Brand & Sons; taking down and rebuilding front and other alterations at No. 70, Fleet-street, E.C., for Messrs. Sweetings, Ltd.;

new works and garage, etc., for the National Steam Car Company, Nunhead-lane, Peckham, S.E.

The Church National Schools, Beccles, are being supplied with Shorland's Warm-Air Ventilating Patent Manchester Grates by Messrs. E. H. Shorland & Brother, Ltd., of Failsforth, Manchester.

PIECE AND TIMEWORKERS' HEALTH INSURANCE CALCULATOR.

A USEFUL calculator, the first of a new series being brought out by Messrs. Gall & Inglis under the title of the "Flash" Reckoners, is a "Health Insurance Calculator." The necessity for such a calculator has no doubt been felt already, for while in many cases the ascertaining of the rate of remuneration for the purposes of the Insurance Act is fairly simple, when through short time or a broken week's work employees' earnings verge upon the differential rates of insurance, it is not always easy to find out quickly the exact amount allowed by the Act. The Health Insurance Calculator has therefore been devised so that by the movement of the finger the exact amount of insurance is quickly ascertained. The working of the calculator is very simple, for by the movement of two slides the separate calculations involved are brought together, and a finger points to the workers' and employers' rate of contribution. The calculator can be obtained at No. 31, Henrietta-street, Strand, W.C., price 2s. net.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Extensions to factory of Messrs. John Mallis & Son, (2,500); Mr. G. Bennett Mitchell, architect, 148, Union-street, Aberdeen.

Arbroath.—Extensions to factory (4,500) for Messrs. F. Webster & Sons, sailcloth manufacturers.

Askearn.—Cinematograph theatre, Moss-road, for the Yorkshire Picture-drome Company; Messrs. B. D. Fairbank & Son, architects, Craven. Bank chambers, 1, Bank-street, Bradford; Mr. W. Waterton, architect, Askearn.

Baschurch.—Bacon factory; Mr. G. Griffiths, Baschurch.

Blackwood.—Electric theatre and twelve houses, Montehave-avenue, for the Montehave Building Syndicate, No. 1.

Bromham.—Twenty-four flats, Garden Suburb Estates, for the Kaling Co-partnership Tenants Association, Ltd.

Bristol.—Factory; Mr. W. F. Bird, architect, The Island, Midsummer Norton.

Buckfastleigh.—Proposed workmen's dwellings; Mr. Andrew Warring, Surveyor, U.D.C. Offices, Buckfastleigh.

Casthill.—Schools; Mr. A. Vernon Rowe, architect, 30, Foregate-street, Worcester.

Cawood (near Selby).—Reconstruction of old Wesleyan Methodist Chapel (1,000) for the Trustees.

Doncaster.—Premises, Bally-road, for Messrs W. Firth, Ltd., iron and steel merchants, Leeds; Mr. T. H. Johnson, architect, 6, Priory-place, Doncaster.

Dublin.—Proposed housing scheme (11,464). Mr. C. J. McCarthy, Architect, Town Hall, Dublin.

Dudley.—Public convenience, The Square, Holly Hall; Mr. J. Gammage, Surveyor, Town Hall, Dudley. The following plans have been passed:—Additions to church, Church-road, Netherton, and extensions Sunday school, Tinchbourne-street, for the Trustees of the Wesleyan Church; additions to Holloway-chambers, Priory-street, for the Midland Counties Mutual Benefit Society; picture hall, Cinder Bank, Netherton, for Mr. W. Williams.

Exeter.—Children's home (5,000); Mr. R. M. Challice, architect, Bedford-road, Exeter.

Fowey.—Hospital (2,000); Mr. Parkes Lees, Llanteglos-by-Powey.

Glasgow.—Alterations to buildings, Buchanan-street, Royal Bank-place, Royal Exchange-square, and South Exchange-place, for the Royal Bank of Scotland.

Heywood.—Offices at Hooley Bridge Mills; Messrs. Lowther & Bigby, 22, Market-street, Manchester.

High Wycombe.—School; Mr. T. Thurlow, architect, 25, High-street, High Wycombe.

Horncombe Chudleigh (Devon).—Residence, etc.; Mr. J. A. Lucas, architect, Guildhall-chambers, High-street, Exeter. Messrs. Woodman & Son, builders, Bartholomew-street East, Exeter.

Hove.—A plan has been lodged for a proposed church in Parkland-road by Mr. B. H. Dixon, also for alterations to Nos. 92-102, Montgomery-street, for Mr. J. W. Hayler.

Kilbirnie (Glasgow).—School (4,500). Messrs. H. & D. Barclay, architects, 245, W. Vincent-street, Glasgow.

Kilmarnock.—Warehouses, Strand and Cross streets (5,000), for Messrs. John Walker, Sons, Ltd., distillers. Alterations to building, Bonnyton-road (750), for the Ayrshire Owners' Association. Wool store, Laws street (650), for Messrs. Douglas, Reyburn, Co., spinners.

Masham (Yorks).—Town and assembly hall (5,000); Mr. J. Houfo, architect, Albion-chambers, Hargroate.

Moira.—Mission church; Messrs. Orton Sons, builders, Kilwardby-street, Ashby-de-Zouche.

Motherwell.—Presbyterian church (5,000), site of present building for the Trustees.

Nelson.—Proposed housing scheme; Mr. Ball, Surveyor, Town Hall, Nelson.

Newcastle-on-Tyne.—School, St. George's road (1,000 places); Mr. A. C. Coffin, Town Hall, Newcastle.

Oakenshaw.—Additions to Oak Mills; Messrs. E. W. Lister & Co., yarn spinners.

Portsmouth.—Shops, Magdalen-street; Mr. J. Blatherwick, architect, City-chambers, Southampton, Nottingham.

Penzance.—School; Mr. T. H. Cornish, Town Hall, Penzance.

Portree.—School; Mr. R. J. McBeth, architect, 33, Academy-street, Inverness.

Redhill.—Residence; Mr. J. A. South, architect, 52, Bishopsgate, E.C.

Rochdale.—School, King's-road, Lowerplan; Mr. E. J. Holden, Town Hall, Rochdale.

Rochester.—Additions to King's School; Mr. E. Farley Colton, architect, 43, High-street, Rochester; Messrs. West Bros., builders, High-street, Rochester.

Spalding.—Drill hall; Messrs. Scorer Gamble, architects, Bank-street-chambers, Lincoln.

Stapington (Guildford).—Alterations to Royal Hotel for the Farnham United Breweries, Ltd., West-street, Farnham.

Stretford.—Plans have been passed as follows:—Addition to works, Trafford Park, the Rubber Regenerating Company, Ltd., vicarage, Northumberland-road, for the Trustees of St. Hilda's Church; bakehouse, Empire-street, for Mr. Jas. Fryer; extensions to works for Messrs. Brett, Hamilton, & Tarbolton picture hall, Malvern-street, for Messrs. New & Gibbons; three shops, Chester-road, for Mr. J. L. Duniger; bakehouse, Moss-road, for Mr. Joseph McFetrick. A plan has been lodged for alterations to King's Hall by Mr. W. J. Cadman.

Throston.—School; Mr. H. C. Crummas, Surveyor, Town Hall, Hartlepool.

Tonbridge.—School; Mr. B. C. Andrews, architect, Biddicks-court, St. Austell.

Todmorden.—Conversion of Fielden House into club (1,000); Secretary, Conservators Club, Todmorden.

Underhill.—School; Architect, County Hall, Dorchester.

Yorks (W.R.).—Schools, Horsforth & Brierley; Mr. J. Stewart, Architect, Sh. Hall, Wakefield.

BUILDING TRADE WORKERS.

A meeting was held on the 8th inst. building trade workers at the Kingsley Hotel, Bristol, when addresses were given on "Our Union for Building Trade Workers," the Chairman being Mr. T. C. Lewis, Secretary of the Trades Council. A resolution was moved endorsing the principle of consolidation of existing organisations, recognising the good work done by sectional unions, and expressing the opinion that the workers must organise on the basis of industry. The resolution, after being seconded, was put to the meeting and carried.

A NEW SHOWROOM FOR HEATING APPARATUS.

Messrs. Hartley & Sugden, Ltd., of Halifax have opened showrooms and offices at 61, Gr. Portland-street, W., and will be glad to meet at that address all those who are interested in the problems of heating. The firm propose to supply for heating hospitals and other institutions, churches, business premises, hotels and houses of all sizes, with the various accessories to the plant. They are prepared to demonstrate the advantages of independent boilers for supplying hot water in every sort of building, even where the heating requirements are not large. It is contended that the range boiler is not the most economical means of heating water for bath and other purposes, the supposed "water heater" from the fire being in reality an expensive product. The range boiler is heated by coal, while the independent boiler is heated by coke, cinders, and any combustible household refuse. The kitchen fire can be reserved therefore, for its legitimate purpose of cooking, without the necessity of diverting the heat from the ovens sometimes when it is least convenient.

* See also our list of Competitions, Contracts, etc., on another page.



Design for Stencil Frieze. By Mr. T. A. Godfrey.

DESIGN FOR STENCIL FRIEZE.

Characters from Shakespeare's "As You Like It." This design for a stencil frieze is to be placed in the hall of the London County Council's special school situated in the Old Kent-road. The subject has been selected that would be most likely to appeal to children and at the same time one that would be of some educational value. Three colours are to be used in the modelling, and the room is being painted to harmonise with and help the colours selected for the frieze. It was first thought to make the design a repeat, but on further consideration it was concluded that it would not be the good taste to have a repeat of definite characters and those characters engaged in definite action. The result is the scheme is to be enlarged, and designs are being made taking other comedies of Shakespeare's for models. A large proportion of the space will be given to "Midsummer Night's Dream," the number of stencils will thus be in hand that can be placed upon other walls in other schools. Under each character will be stencilled the name.

NEW TOWER, ST. VINCENT'S CHURCH, SHEFFIELD.

The tower of this church, shown in our illustration (p. 314), has been completed at the cost of £1,000 by the benefactor of the parish, the opening ceremony being performed on October 29 last, in the presence of his Eminence Cardinal Logue. The church, which is situated in the slum quarter of Sheffield, stands on the summit of rising ground, and the position of the tower, seen from distant parts of the city, is a very commanding one. It was originally opened in 1856, and the north aisle was added in 1898. The lower part of the tower was built in 1870. Its dimensions are 22 ft. square at bellry level, and 33 ft. high from ground to top of parapet 93 ft. The architects of the whole of the works described have been the late Mr. M. E. Hadfield and Messrs. C. & C. M. Hadfield. The contractors for the recently-finished tower were Messrs. D. O'Neill & Sons.

INFLUENCE AND ETHICS OF COMPETITIONS.

The following is taken from a paper, prepared by Mr. Donn Barber, and printed in the proceedings of the forty-fifth annual convention of the American Institute of Architects.* The paper, of course, deals with a competition system in the States, but the views of the author will be of interest here:— "It must be admitted that the subject of competitions considered in any of its aspects is a most vexatious problem, and one which, in all probability, will never be solved to the complete satisfaction of the building public or the practising architect. Competitions in one form or other are as old as the art of architecture itself, and history teaches us that the resulting heartburning and disappointments, the strife and argument, the petty jealousies, the every important doubt to whether, after all, the best man and the best work have really won, obtained just as much in a competition for St. Peter's at Rome as

it has perhaps in our lesser competitions for a post office of negligible importance.

It would be improper and unfair, indeed, to condemn competitions as a whole and indiscriminately, for from some points of view they seem to be a necessary evil. We can, I think, admit that competitions in themselves are not necessarily evil. It is the continual abuse and mismanagement of competitions, the unbusinesslike, undignified, inadvised desperate sort of struggles that ever carries in their train disappointment, prejudice, criticism, and hard feelings of many and varied kinds, that is responsible for a condition that has become a most serious consideration in contemplation of the interrelation of architects and bearing upon the actual work that we as a profession are doing and standing for. The architectural profession has for years been kept in a state of commotion and hot water while the real solution of the difficulty seems as yet unobtainable.

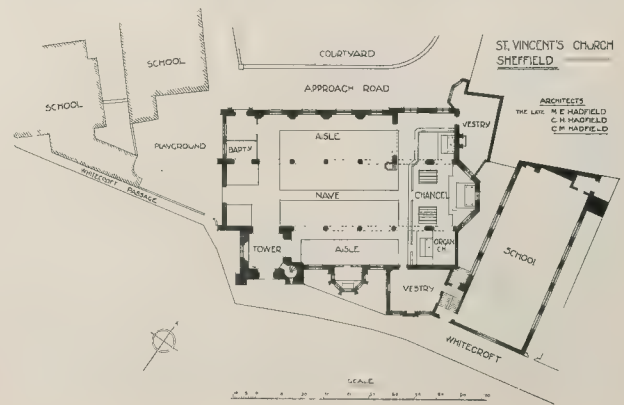
It seems to have become a very generally accepted and recognised tradition in certain cases, notably where proposed structures of a public or semi-public nature are involved, that architectural competitions still prove to be desirable or necessary as furnishing perhaps the best available means for selecting an architect.

Just at the present time in this country, however, architectural competitions seem to be declining somewhat in popularity. Where only a comparatively few years ago competitions were sufficiently numerous to provide almost continuous employment for some firms who were fortunate enough to acquire the major part of their work in that manner, to-day we find an immense quantity of important work being given out by direct selection and appointment to architects, and competitions comparatively infrequent. It would be difficult to assign any real reason for the change which seems just now to be taking place. Can it be that the owner is gradually coming to see that competitions are at best very slow, and if properly conducted a most expensive method of choosing an architect; is it possible that the owner realises that an occasional good preliminary scheme is, after all, the real limit

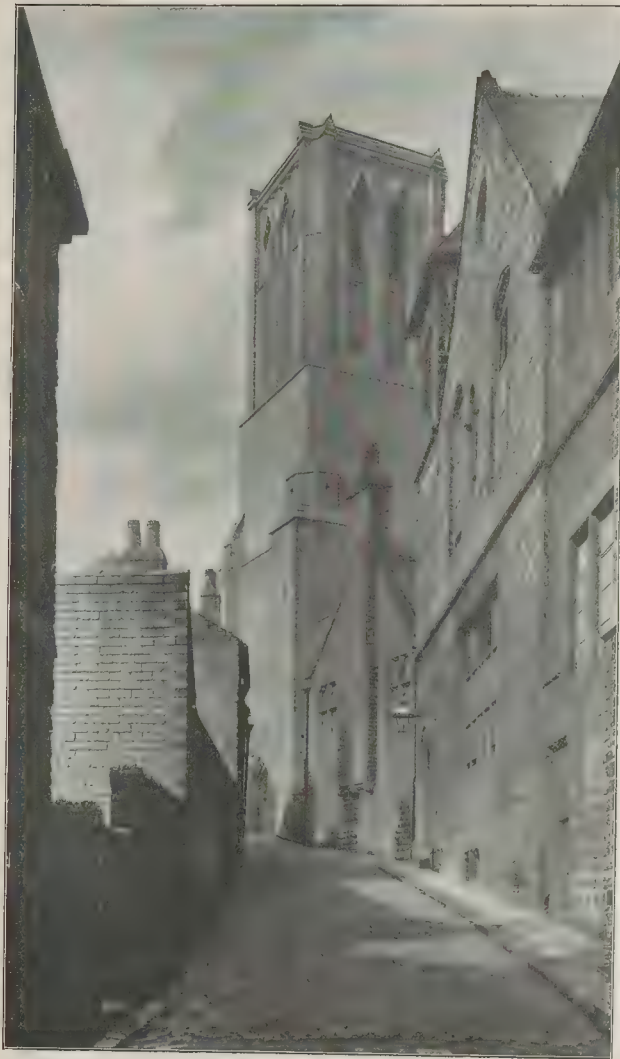
of the competition method, and, that being the case, competitions are in the main of no advantage to him? Does the owner begin to appreciate the extreme difficulty of devising a scheme of competition that will afford him conclusive assurance and evidence of the winner's ability to secure for him the final and practical execution of the design selected, without committing him to unnecessary if not inordinate expense.

Notable instances exist where architects who have proven adepts in the preparation of competitive designs, men of extraordinarily developed imagination and possessing marvellous dexterity in draughtsmanship, have been awarded the prize and later the work, as a result of competition, and have during the prosecution of the work shown themselves to be devoid of practical experience, and even lacking in the ability to discriminate in the selection of competent assistants or superintendents. The ultimate results in such cases have very probably had the very natural effect of somewhat impairing confidence in the competition method of selecting an architect. It is only fair to say, on the other hand, that there also exist many instances where notably satisfactory results have been obtained through the method of competition; but have these not ordinarily followed as a result of choosing the competitors from the ranks of competent and thoroughly experienced practitioners, and paying the competitors so selected an adequate or reasonable sum for their sketches? Exceptions to this latter rule might be noted in the cases of Government or municipal work, and perhaps possibly in some private work of sufficient size and importance to induce the experienced architect to enter an unpaid contest; but even in such circumstances the competitors have usually been limited in number and carefully selected.

It must of necessity be prejudicial to the interests of the owner that any architect should be allowed to enter a competition who cannot in advance establish his ability and competence to properly design and satisfactorily execute the work involved if entrusted to him. It is sometimes urged that to open an unlimited competition may disclose some unknown



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St. Vincent's Church, Sheffield.

Messrs. C. & C. M. Hadfield, Architects.

but brilliant designer. This reasoning might be valid if the sole object of a competition were to secure a brilliant set of sketches. But unfortunately sketches in themselves give no real evidence that their author has the technical knowledge or matured ability to fulfil the promise of his sketches through proper and adequate control of the work itself in execution.

The general influence of competitions can for present purposes be broadly divided as regards the influence on the architect. Theory presupposes competitions to be instituted with the sole purpose of advancing the interest of the owner, and practice proves that these interests are best served where a fair, clean-out and equitable agreement has been entered into between the owner and the architect before the competition takes place.

The American Institute of Architects, after years of untiring study and labour, has finally issued a circular of advice relative to the conduct of architectural competitions as a statement of the principles which it believes should underlie such agreements. Serious

difficulty with the system prescribed, however, has been found in some cases where it has proven inexpedient, not to say impossible, to carry on important competitions along the lines of what is conceded and believed to be the best practice, owing to the general and natural desire on the part of the owner to get free advice in the form of the greatest possible number of competition sketches, and also on account of the surprising willingness on the part of the architect to rush into competitions where no prearranged agreement or understanding exists with the owner. The owner often regards what he believes to be the information contained and given in his particular competition in the light of a consensus of expert opinion on the subject of the problem before him, and therefore is pleased or disappointed, as the case may be, with what he regards to be the possibilities of his project. On account of the quality and character of the information so given, however, the real satisfactory solution of the problem is often complicated, and confusion rather than lucidity results. We have all seen the results of what

have been termed "unregulated scrambling" and how many times this inconsistent, businesslike, undignified, and certainly inart mode of procedure has carried with it its disappointments, prejudices, and sins.

Why an owner, even when he has taste, judgment, and is, besides, a good business man, possessing an ordinarily sound common sense, continues to persist in this method of obtaining a design for a building is a question which we architects must answer. It is certainly a most discouraging situation, looking at it entirely unselfishly and from a directly professional standpoint.

The shortsighted, unbusinesslike practice of the seeking out of a client and the offering to him of preliminary services on approval, gratuitously, whether in competition or in hope of finally being awarded the work, to a great degree in the past lowered the dignity of the profession as a whole and resulted in cheapening of the architect's services in the mind of the building public. The average owner seems to attach no particular value to architects' sketches either as meaning standing for more than he himself can see them, or as representing anything like cost and labour involved in their production.

Architects are not paid enough for the work they actually do to be able to afford to live on their earnings on the whims and fancies of an owner who is willing to take, without compensation from them in any form or amount, professional advice which may be the result of years of technical preparation and experience. The public should be made to feel that the architect who bears the title of architect has the knowledge and ability needed for the proper invention, illustration, and supervision of all building operations which may be entrusted to him, and that his services when desired or sought are entitled to commensurate remuneration. An architect should have a better standing in the community: he should be more prominent before the public and its public enterprises in the courts, and in all matters of good and helpful citizenship. To just how much of a lack of all this can we trace the influence of the practice of unlimited and irregular competition obtaining throughout the past is a question well worth considering.

The influence of competitions on the architect, aside from the undoubted educational advantage which they have furnished at unjustifiable and exorbitant expense to the profession, has been to create unreasonable jealousy and unprejudice, misunderstandings, disappointments, and in many cases undeserved criticism. It must be remembered in competitions that the resulting joy, if there is any, is of necessity confined to the winner, while the burden of disappointment is left to be shared by all others who have through labour and expense competed. It has been proven over and over again, as an economic argument in the case of competitions for smaller buildings, that unsuccessful competitors have often expended collectively in the cost of preparing competition designs, a sum equal to, if not exceeding, the gross fee that the successful architect has finally received for his complete services rendered in connexion with the execution of the work involved. This is, of course, a serious situation for the profession, and one which thus far has not been properly met or handled. It can be justified either as a good public policy or as a sound professional policy. The query is, How long can the profession be expected to afford to keep it up?

The ethics of competitions would seem to be inseparable from the ethics obtaining in the general practice of architecture. The writer's circular of advice relative to the principles of professional practice, the canons of ethics, and the conduct of competitions as prepared and circulated by the American Institute of Architects form a very complete and helpful basis for the avoidance of the usual pitfalls and temptations due to an over anxiety to work at any cost.

The application of decent methods in practice rests entirely with the individual practicing architect, who, armed with these traditional principles and possessing a broad and comprehensive vision, not to speak of a healthy and sincere desire to apply in addition to all the golden rule to all of his dealings, must let himself unselfishly at the part he must play as a force in the great work of his present in order that his architectural progeny may occupy the undisputed place in the affairs of the world.

(Continued on page 316.)

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* * It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

SEPTEMBER 14. — **Doncaster.**—SWIMMING BATH, &c. for YORKSHIRE INSTITUTION FOR THE DEAF.—Premiums, 50l. Information from Mr. B. D. rough, 6, Halketate, Doncaster.

SEPTEMBER 30. — **Dublin.**—UNIVERSITY COLLEGE: NEW BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

SEPTEMBER 30. — **Glendun.**—SCULPTURE.—The Llanely Education Committee invite competitive designs and estimates for school buildings and domestic subjects centre at Stobonheath-terrace. Assessor, Mr. G. E. Hildesley, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.

OCTOBER 7. — **Beckenham.** PUBLIC ELEMENTARY SCHOOL.—Mr. A. W. S. Cross, F.R.I.B.A., assessor. Selected architects only.

OCTOBER 14. — **Batham.**—SWIMMING BATH.—The Wandsworth B.C. invite designs for a public Swimming Bath. See advertisement in issue of August 16 for further particulars.

OCTOBER 23. — **Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnett, assessor. Deposit, 1l. 1s.

OCTOBER 31. — **Huddersfield.** TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the town of Huddersfield. Particulars in the Huddersfield News, 100s., 50s., and 25s. Deposit of 2l. 2s. See advertisement in issue of August 2 for further particulars.

OCTOBER 31. — **Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1. — **Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

DECEMBER 1. — **Bulgaria.**—DESIGNS FOR A ROYAL PALACE AND LAY COVERS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9).

DECEMBER 2. — **Carlisle.** SCHOOL BUILDINGS, &c.—Particulars from the City Surveyor, 36, Water-street, Carlisle.

NO DATE. — **Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

NO DATE. — **Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 685.

NO DATE. — **Wetherwell.**—HIGH SCHOOL.—Dr. Burnett, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 14. — **Bishop Auckland.**—HOTEL.—For pulling down and rebuilding the Black Boy Hotel, Newgate-street, Bishop Auckland. Messrs. J. Johnson & Son, architects and surveyors, 7A, Prospect-chambers, Darlington. Deposit of 1l. 2s. for quantities.

SEPTEMBER 16. — **Broadclyst.**—COW-HOUSES.—Erection of new cow-houses at Clyston Mills, Broadclyst. Plans with Messrs. E. H. Harbottle & Son, architects, County-chambers, Exeter.

SEPTEMBER 16. — **Poole.**—COTTAGES.—For erection of eleven cottages in Skinner-street and Pounder-street, Poole, for the Poole Housing Association. Plans and specifications with Messrs. Bacon & Jurtia, 44, High-street, Poole.

SEPTEMBER 16. — **Portsmouth.**—OFFICES, &c.—For rebuilding the offices and other work at the Fratton-street Council school. Plans and specification by the Surveyor, Mr. Alfred H. Bone, Cambridge Junction, Portsmouth.

SEPTEMBER 16. — **Tredegar.**—HOUSES.—Erection of thirty-one houses for the South End Building Club, Tredegar. Plans and specification with Mr. A. F. Webb, M.S.A., architect and surveyor, Blackwood.

SEPTEMBER 16. — **Tyrene.**—CHURCH.—For building a new church at Pomeroy, Co. Tyrone. Plans and specification with Messrs. William H. Byrne & Son, architects, 20, Suffolk-street, Dublin. Quantities by Mr. A. B. Bruntz, of 5, Leinster-street, Dublin. Deposit, 10s.

SEPTEMBER 17. — **Bradford.**—COW-HOUSE.—Erection of a ten-stalled cow-house at Low Ash Farm, Thackley. Plans and specifications at the Estate Office, Hall, Thackley.

SEPTEMBER 17. — **Durham.**—SCHOOLS, &c.—For new Council school at Walbridge-lane; alterations and additions at Birtley George-street and Wingate Council schools and erection of caretakers' houses at Horden Colliery Council school. Plans, specifications, and general conditions of contract seen, and quantities at—E. Walbridge-lane, Birtley (George-street) and Horden caretakers' houses, the office of Mr. W. Rushworth, Shire Hall, Durham; for alterations at Wingate the office of Mr. N. Richley, Shire Hall, Durham.

SEPTEMBER 17. — **Halifax.**—SHELTER.—For the erection of a tramway shelter at Bradshaw. Plans and specifications seen, and forms of tender from Mr. James Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax. Deposit of 1l.

SEPTEMBER 17. — **Maxborough.** WORKS, &c.—For new parade-room at Maxborough Police-station, and new parade-room at Moorhorpe Police-station. Plans seen, and specifications, with quantities, from Mr. J. Vickers Edwards, County Architect, County Hall, Wakefield.

SEPTEMBER 18. — **Tynant.**—HOUSES.—Erection of twenty five or more houses at Tynant, Walsort Yards, for the Tynant Property Club. Plans and specification with Messrs. Gibson, Parry Williams & Co., architects and surveyors, Portynrump.

SEPTEMBER 19. — **West Hartlepool.** STATION, &c.—For the building of a new power station and for the foundations for cooling tower ponds at the works of the Seston Carrow Iron Company, West Hartlepool. Plans, specification, and quantities, on deposit of 1l. 1s. from Mr. H. F. Friederichs, M.Inst.C.E., Borough Engineer, Corporation Electricity Works, Burn-road, West Hartlepool.

SEPTEMBER 20. — **Ardglass.**—STONE.—Erection of a drain and water store at Ardglass, Co. Down. Plan and specification with Mr. R. McCullen, C.E., Miners-town, Clough, Co. Down.

SEPTEMBER 20. — **Rhondda.**—ALTERATIONS, &c.—For extensions and alterations at the Blaenllechau infants' Council school; alterations at the boys' and girls' departments of the Cwincly-on-Clough school; repairs and laying cement concrete at the Dinas boys' school playground; repairing and asphaltizing playgrounds at the boys' and girls' departments of the Williams-town Council school. Plans and specifications seen, and quantities and tender forms from the architect, Mr. Jacob Rees, Hillside Cottage, Pentre. Deposit of 1l. 1s. for first two and 10s. 6d. for second two.

* SEPTEMBER 23. — **Winchmore Hill.**—RESIDENCE AND COTTAGES.—The Enfield and Edmonton Joint Hospital Board invite tenders for residence for Medical Superintendent and four workmen's cottages. See advertisement in this issue for further particulars.

* SEPTEMBER 24. — **Hendon, &c.**—WORKS AND REPAIRS.—The Commissioners of H.M. Works and Public Buildings invite tenders for ordinary works and repairs to buildings in the Hendon, Cricklewood, and Mill Hill districts during three years from October 1, 1912. See advertisement in this issue for further particulars.

SEPTEMBER 24. — **Spalding.**—COTTAGES.—Erection of thirty-six cottages on a site adjoining the Holbeck-road, Spalding. Plans and specifications by Mr. J. B. Corby, F.S.I., architect and surveyor, Stamford and Spalding. Quantities on deposit of 1l. 1s.

SEPTEMBER 25. — **Bristolington.**—SCHOOL.—For the erection of a new infants' Council school at Bristolington. Plans and specifications by architect, Mr. J. J. Pictor, A.R.I.B.A., Bruton.

* SEPTEMBER 30. — **Huddersfield.** POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for erection of new post-office. See advertisement in this issue for further particulars.

* SEPTEMBER 30. — **London.**—ADDITIONAL ACCOMMODATION.—The Secretary of State for War invites tenders for additional accommodation for officers and men in existing barrack blocks, also new sanitary annexes to same, site, water, drainage water, gas mains, &c., at Wellington

Barracks. See advertisement in this issue for further particulars.

* SEPTEMBER 30. — **Plymouth.**—RECONSTRUCTION.—The Secretary of State for War invites tenders for reconstruction of chaplain's range block as twenty "A" married soldiers' quarters (in flats) at Plymouth Citadel. See advertisement in this issue for further particulars.

OCTOBER 1. — **London.**—SCHOOL, &c.—For the erection of a school and cottage and other works at East Lodge-lane, Botany Bay, Enfield. Drawings and specifications seen, quantities by Messrs. Young & Brown, of 104, High Holborn, London, and information from Mr. Richard Collins, Public Offices, Enfield. Deposit of 2l. 2s.

* OCTOBER 1. — **Tooting.**—TRAINING COLLEGE, &c.—The London C.C. invite tenders for training college and one hostel, and also adapting an existing house for a hostel on the Farnedown Estate. See advertisement in this issue for further particulars.

OCTOBER 2. — **Sedcar.** ROOM. Erection of a cookery and manual instruction room at West Dyke Council school, Redcar. Plans, specification, and forms of tender from Mr. Mennell, Cleveland District Education Office, Redcar.

* OCTOBER 2. — **Southend-on-Sea.**—PUMPING STATION, &c.—The Corporation of Southend-on-Sea invite tenders for pumping station and destructor buildings, inclined roadway, two cottages, &c., at Sewage Disposal Works, Littlewell. See advertisement in this issue for further particulars.

OCTOBER 11. — **Cold Norton.**—SCHOOL.—Erection of a new public elementary school at Cold Norton. Plans, specification, and form of contract with the County Architect, 73, Duke-street, Chelmsford. Quantities on deposit of 2l. 2s.

NO DATE. — **Barkisland.**—HOUSE.—For erection of a scullery house. Mr. Tom Hutton, Surveyor, Barkisland.

NO DATE. — **Leeds.**—ADDITIONS, &c.—For alterations and additions to the infirmary wards at the Union Infirmary, Beckett-street, Leeds. Plans and specifications and quantities from the architect, Mr. J. Mitchell Bottomley, 2, Basinghall-square, Leeds.

NO DATE. — **Merthyr.** ALTERATIONS.—For extensive alterations to the Volunteers Inn, High-street, Merthyr, for Messrs. D. Williams & Co., Taff Vale Brewery, Merthyr, specifications, &c., with Mr. C. M. Davies, M.S.A., 112, High-street, Merthyr.

NO DATE. — **Mountain Ash.**—RESIDENCES.—For erecting two detached residences at Mountain Ash. Plans and specification from Messrs. Morgan & Elford, architects, 1, Jeffrey-street, Mountain Ash.

NO DATE. — **Neath.**—REMODELING.—For the remodelling of Alderman Davies' Schools, Neath. Mr. J. Cook Rees, M.S.A., architect, Neath.

NO DATE. — **Neath.**—PREMISES.—For converting buildings at Melincrythan, Neath, into business premises for the Briton Ferry Co-operative Society. Plans and specification seen, and quantities, on deposit of 1l. 1s. from Mr. H. Alex. Clarke, architect, Briton Ferry.

NO DATE. — **West Harton.**—EXTENSIONS.—For extending the nurses' home and the infirmary kitchen, at the Workhouse, West Harton. Drawings and specification by architect, Mr. J. H. Morton, F.R.I.B.A., North-Eastern Bank-chambers, South Shields, and Newcastle-upon-Tyne. Quantities on deposit of 2l. 2s.

ENGINEERING, IRON, AND STEEL.

SEPTEMBER 16. — **Northfleet.**—HEATING.—For alterations to the heating apparatus at the police-station. Specification at the police-station, Mr. Frederick W. Buck, County Architect, 86, Week-street, Maidstone.

SEPTEMBER 17. — **Erpingham.**—BRIDGES, &c.—For the erection of bridges and culverts. Plans and specifications seen, and quantities from Messrs. A. F. Scott & Son, 24, Castle-meadow, Norwich, and 12, Holborn Hall, London, W.C.

FURNITURE, PAINTING, MATERIALS, &c.

SEPTEMBER 16. — **Chelmsford.**—PAINTING.—For exterior painting at the Admiral's Park Water Tower, Rainford-road. Forms of tender, particulars, and specification at the Borough Engineer's Office, 16, London-road.

SEPTEMBER 19. — **London.**—PAINTING.—For interior and exterior painting at offices, St. John's-road, Upper Holloway. Specification and form of tender from the architect, Mr. E. J. Harrison, 9, Gray's Inn-square, W.C. Deposit of 2l.

SEPTEMBER 19. — **London.**—PAINTING, &c.—For interior cleansing and painting at school in Hornsey-road, N. Specification and form of tender with the architect, Mr. B. J. Harrison, 9, Gray's Inn-square, W.C. Deposit of 2l.

FURNITURE, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* OCTOBER 2.—**Canning Town.**—CLEARANCE OF SITE.—The Committee of the Mansfield House Women's Settlement invite tenders for clearance of site and purchase of galvanised-iron buildings. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

SEPTEMBER 17.—**Bushey.**—STREET.—For the making-up of Grange-road (part 2) and Nightingale-road. Plans, specifications, etc., seen at the Council Offices on application to Mr. Ernest E. Ryder, Surveyor to the Council. Quantities and form of tender on deposit of 21. 2s.

SEPTEMBER 18.—**Reigate.**—STREET.—For private street works in Russell's-crescent, Horley. Plan and specification at the office of the Surveyor, Mr. Arthur J. Head, 48, High-street, Reigate.

SEPTEMBER 18.—**Rochdale.**—STREETS.—For sewerage, leveling, paving, metalling, flagging, channelling, and making good in New-street, Shawclough. Plans and specifications seen, and quantities and form of tender, at the Borough Surveyor's Office.

SEPTEMBER 20.—**Argoed.**—SEWAGE.—For diversion of sewer near Castle Inn, Argoed. Drawings and specification seen, and quantities and form of tender from Mr. Dan H. Price, Surveyor to the Council, Surveyor's Office, Abergarroed, Mon.

SEPTEMBER 21.—**Burnley.**—IMPROVEMENT.—For a road improvement at Higham. Particulars and form of tender from Mr. H. Pritchard, M.I.M. and C.E., Surveyor, Union Offices, Burnley.

SEPTEMBER 25.—**Belfast.**—SETTS.—The Belfast Harbour Commissioners invite tenders for supply of about 400 tons of setts. Specification of form of tender, and information from Harbour Engineer, Mr. W. Roden, Ke M.Inst.C.E.

* SEPTEMBER 25.—**Hammersmith.**—PAVING.—The Hammersmith B.C. invite tenders for paving east footpath of Wood-lane, between Shinn's street and North Pole-road. See advertisement in this issue for further particulars.

No DATE.—**Blackwell.**—SEWERS.—For the construction of 9-in. sewers in the parish of St. Norman. Particulars from Mr. H. Silcock, District Surveyor, 67, Westgate, Mansfield.

No DATE.—**Bury.**—SEWAGE.—For construction of 440 in. yds. of 12-in. diameter stone sewer. Engineer, Mr. E. T. Morland Johnson, Bank of England-chambers, Tiblane, Cr street, Manchester.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Applicants to be in
*QUANTITY SURVEYOR	Lancaster County Asylum	See advertisement in this issue	Sept. 21
*CLERK OF WORKS	Depton Borough Council	31. 10s. per week	Sept. 22
*CITY ARCHITECT AND SURVEYOR	Calcutta Corporation	See advertisement in this issue	Sept. 28
*CHIEF ARCHITECT'S ASSISTANT	Glasgow C.C.	500l. per annum	No date

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDING SITES, PARKSTONE, DORSET—Canford Cliffs Hotel	Whatley King & Bamford	Sept. 20
*BUILDER'S STOCK AND PLANT, CHORLEY WOOD On the Works	J. T. Skelding & Holland	Sept. 26
*BUILDING SITES, COTTAGE, ETC., SURREY—At the Mart	Driver, Jones, & Co.	Oct. 22

INFLUENCE AND ETHICS OF COMPETITIONS—continued from page 314.

that should rightly be given to those who (we at least believe) represent the greatest of all constructive professions.

The American architect of the future must of necessity become less of a creative artist, and more of a trained manager of building enterprise. The ever-increasing pressure for speedy and adequate execution will preclude more and more exhaustive study and tentative experimentation. It will become the duty of the architect to surround himself by specialists in design, in construction, in superintendence, in technical research and engineering; men representing every department of architectural practice, and possessing a knowledge in their individual capacity perhaps far beyond his own. The architect himself must remain, however, the master mind that organises and directs those who strive for the common cause of the work involved and for the office. He will deserve to exercise a greater moral influence in public affairs than heretofore, for the scope of his organised efforts will be nationwide, and his authority will be that of a broadly trained executive of large and varied experience which, coupled with a high sense of duty, should make him a generous and true friend of public spirit and the eternal fitness of things.

LONDON COUNCILS.

Barnet.—A plan has been passed for Mr. T. Crude for the erection of nine houses in Normandy-avenue.

Barnet (East).—Plans have been passed for Mr. H. Cufford for the erection of six houses in Leicester-road.

Battersea.—Muncaster-road and portion of Culmstock-road are to be made up, the footpaths with artificial stone and the roadways with tarred clay macadam, at estimated costs of 1,503l. and 829l. respectively.

Hackney.—The tender of the Acme Flooring and Paving Company (1904), Ltd., has been accepted by the Borough Council at 5.927l. 3s. 9d. for supplying the necessary materials and the execution of the works required for the repaving of portions of the carriageways of Stamford-hill and Kingsland-road with Acme-Sectional Jarah wood paving blocks, 5 in. deep, as has also the tender of Messrs. William Griffiths & Co., Ltd., Hamilton House, Bishopsgate, E.C., at 1,507l. 15s. 6d. for repaving the carriageway of part of Victoria Park-road with creosoted yellow deal blocks 5 in. deep. The following plans have been passed:—J. Garvy & Sons, house and shop, Lower Clapton-road; Mrs. A. Hunter, alterations and additions to Nos. 65 and 7, Tottenham-road; Mr. H. S. Goodhart-Rendel, building, Eton Mission Club premises, Rise-

holme-street; Messrs. Durbin & Katesmark, additions at German Hospital, Clifton-grove; Messrs. H. Bradford & Sons, eight houses, Wellington-road; Messrs. Moon & Ballinger, four shops, Lea Bridge-road. Mr. C. W. Hodgson, on behalf of Messrs. Brook & Son, has lodged plans with the London County Council for the erection of a factory in Chateworth-road.

Sunbury.—Plans have been passed for Messrs. Smith & Co., Walthamstow, N.E., for the erection of six houses in Orchard-road, Park-road.

FOREIGN AND COLONIAL.

Building in Egypt.

The Egyptian *Journal Officiel* of August 17 notifies that tenders are invited by the Ministry of Public Works for (1) the construction of three pavilions for the Khanka Lunatic Asylum; and (2) the sanitary equipment for these pavilions. Sealed tenders, on stamped paper (obtained from Mr. A. L. Webb, C.M.G., Queen Anne's-chambers, Broadway, Westminster, London, S.W.), will be received up to 11 a.m. on September 30, by the Chief of the Administrative Service, Public Works Ministry, Cairo, at whose office the specifications, plans, and estimates can be seen. Local representation is necessary.

OBITUARY.

Mr. J. Wolstenholme.

The death on September 6, at No. 11, Hillgrove-road, London, N.W., is announced of Mr. James Wolstenholme, in his 80th year, lately of Blackburn, architect and surveyor. Mr. Wolstenholme, in 1861, he being then the Borough Surveyor, made the plans and designs for the Blackpool Sanatorium, comprising two wards for forty patients, and four cottages, with administrative, laundry, and disinfecting blocks, stabling, etc., erected at a cost of 9,000l., and enlarged in 1905-6 by Mr. J. S. Brodie, the Borough Engineer.

The Late Mr. R. C. Jones.

Among other works of Mr. Jones (see p. 287) should be mentioned the Congregational Church at Ryde and the superintendence and measuring of the excavations at the Roman Villa at Brading, discovered at the beginning of the 'eighties.

PATENTS.

APPLICATIONS PUBLISHED.

19,755 of 1911.—Charles Henry Sparks: Gutter bracket and wedge.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

25,786 of 1911.—Daniel Weisinger Adam Survey instrument.
25,826 of 1911.—John Badger: Locks a latch for sliding doors.
26,131 of 1911.—Lionel Henry Teale: Domes fireplaces.
29,185 of 1911.—Francis Heron Rogers (Société L'Almandares): Casings for stoves or furnaces.
29,284 of 1911.—Reginald Tavernor Johnson: Means for supporting lavatory basins.
3,351 of 1912.—Edward Richards: Stays for swing windows, fanlights, and the like.
5,648 of 1912.—Maz Franz Hoffmann: Water closets.
5,818 of 1912.—Anthony Robson Poole: Distributing-tank for use in systems of heating by liquid circulation.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom, and to all other parts of the world, with delivery by *Post* (except in the case of the United States, where it is sent by *Express*). The price is 3s. 6d. per annum, and to all parts of Europe, America, Australia, New Zealand, India, China, Japan, &c., 4s. 6d. per annum. Remittances payable to J. MORGAN should be addressed, The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

SOME RECENT SALES OF PROPERTY ESTATE EXCHANGE REPORT.

August 27.—By S. & G. KINGSTON.
Moulton, Lincs.—Farms and smallholdings, 615 acres, l. 232,600
August 28.—By BLACKFORD & SON.
Kingsymington, Devon.—Broomham and Littlewood Farms, 299 acres, l. 2,700
August 30.—By WINTERKOT & SONS.
Shenstone, Stafford.—Moor View, l. w.r. 4
Lichfield, Stafford.—Gallows Wharf and 2 a. 3 r. 20 p. f. 9
Pasture, 17 a. 3 r. 31 p. f. 1,300
17 to 188 (even), St. John-st., and 3 r. 2 p. f. w.r. 17 l. 1,000
Whittington, Stafford.—Rose Cottage and 2 a. 1 r. 30 p. f. 1,000
By JOSEPH STOWER.
Harlech, Merioneth.—Part of Harlech Estate, 216 a. 3 r. 30 p. f. 7,500

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; l.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; y.r. for leasehold; p. for possession; a.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; y.s. for years; l.a. for lease; st. for street; rd. for road; sq. for square; pl. for place; for terrace; cres. for crescent; av. for avenue; gds. for gardens; y.d. for yards; gr. for grove; b.h. for beerhouse; p.h. for public-house; a. for office; s. for shops; ct. for court.

PRICES CURRENT OF MATERIALS.

Our aim in this list is to give, as far as possible, the prices of materials, not necessarily the lowest, and quantity obviously affects prices—a fact which should be remembered by those who make use of an information.

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks.	1 14 0
Best Stocks for Facings.	2 10 0
Per 1000, Delivered at Railway Depot.	£ s. d.
Best Blue Pressed Staffordshire.	3 15 0
Do. Buxtonshire.	3 10 0
Best Staffordshire.	4 0 0
Fire Bricks.	4 0 0

ASBEST BRICKS.

Double Headers 14 7 6	One Side and two Ends 18 17 6
Two Sides and one End 19 17 6	Spalls & Squints 17 7 6
Double Headers 14 7 6	Spalls & Squints 17 7 6

Second Quality £10s. per 1000 less than best.

James and Pitt Sand.	£ s. d.
Best 6 per yard, delivered.	5 8
James Ballast.	5 8
Best Portland Cement.	34 0 per ton.
Best Ground Blue Lias Lime.	19 0

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Stone Lime.

13s. 6d. per yard delivered	£ s. d.
Fourbridge Fireclay in sacks 27s. 6d. per ton at ry. dpt.	1 14 0

STONE.

Per Ft. Cube.	£ s. d.
Gr. Stone—delivered on road wagons.	s. d.
Paddington Depot.	1 7 6
Do. delivered on road wagons, Nine Elms Depot.	1 9 6

DEWLAND STONE (30 Ft. average).

Best Whitened, delivered on road wagons.	£ s. d.
Paddington Depot, Nine Elms Depot, or Pimlico Wharf.	2 3
White Bashed, delivered on road wagons.	£ s. d.
Paddington Depot, Nine Elms Depot, or Pimlico Wharf.	2 4

Per Ft. Cube, delivered at Railway Depot.

Closest Bed	£ s. d.
Freestone	2 0
Red Mansfield	2 4
Freestone	2 4
Talrose & Stewage	2 4
Stone	2 4

Per Ft. Cube, Delivered at Railway Depot.

Asphalt random blocks.	£ s. d.
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10

Per Ft. Super., Delivered at Railway Depot.

Asphalt random blocks.	£ s. d.
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10
Asphalt random blocks.	2 10

Per 1000 of 1200 at Railway Depot.

Best blue	£ s. d.
Best blue	13 3
Best blue	13 7
Best blue	13 7
Best blue	13 7

At Railway Depot.

Best plain red roof.	£ s. d.
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0

Best plain red roof.

Best plain red roof.	£ s. d.
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0

Best plain red roof.

Best plain red roof.	£ s. d.
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0
Best plain red roof.	42 0

WOOD (Continued).

BUILDING WOOD (Continued)—At per standard.

Battens: best 24 in. by 7 in. and 8 in.	£ s. d.
Battens: best 24 in. by 7 in. and 8 in.	11 10 0
Battens: best 24 in. by 7 in. and 8 in.	11 10 0
Battens: best 24 in. by 7 in. and 8 in.	11 10 0
Battens: best 24 in. by 7 in. and 8 in.	11 10 0

JOINTERS' WOOD.

White Sea: first yellow deals.	£ s. d.
White Sea: first yellow deals.	24 10 0
White Sea: first yellow deals.	24 10 0
White Sea: first yellow deals.	24 10 0
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White Sea: first yellow deals.

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White Sea: first yellow deals.	24 10 0

METALS (Continued).

Iron (Continued)—Per ton, in London.

Sheet Iron, Galvanized, flat, best.	£ s. d.
Sheet Iron, Galvanized, flat, best.	18 10 0
Sheet Iron, Galvanized, flat, best.	18 10 0
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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 5 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

CARGO FLEET.—For proposed new school and alterations and additions to existing Lawson Schools at Cargo Fleet, Yorkshire, for the North Riding Education Committee. Mr. William E. Haslock, architect and surveyor, 143, Albert-road, Middlesbrough:—
Viner & Davy £5,788 12 7
son £6,520 0 0
T. Metcalfe 5,143 15 0
King & Sons 6,681 8 9
D. Doughty & 6,043 2 0
G. Ridge 5,993 17 8

EALING.—For the erection of a new police section-house at Ealing. Mr. J. Dixon Butler, Architect, Surveyor to the Metropolitan Police, New Scotland-yard, S.W. Quantities by Messrs. Thurgood, Son, & Childrey, 8, Adelphi-terrace, Strand, W.C.:—
E. Green & Sons £9,422 13 3
W. Taylor & £5,198 0 0
Sons 5,390 0 0
Rice & Son 5,370 0 0
F. & H. E. 5,267 0 0
Messom & Sons 5,200 0 0

LITTLEHAMPTON.—For a sea wall at Millfield, Rustington, for the Metropolitan Asylums Board. Mr. H. Howard, F.S.I., surveyor:—
E. Wall £250 0
K. Randall 679 15
T. Bennett (Herts Contract Co.) 620 0
A. G. Oseinton 571 0
T. Robinson 546 19
D. G. Somerville 620 0
C. & Co., Ltd. 285 02
E. Hill 405 2
† Alternative tender for reinforced concrete wall to their own system and design.

LLANHILLETH.—For erection of a drill hall, for the 2nd Battalion Monmouthshire Regiment. Messrs. Jenkins, James, & Co., architects, Newbridge, Mon. Quantities by architects:—
D. Lewis, Aberbeeg, Mon* £1,380 18 7

MIDDLESBROUGH.—For all trades except carpenter, joiner, ironmonger, and painter, proposed machine bakery at Middlesbrough, Yorkshire, for the Middlesbrough Co-operative Society, Ltd. Mr. William E. Haslock, architect and surveyor, Middlesbrough:—
H. McNaughton £1,597 0
T. Pearson 1,456 7
[Carpenter, joiner, ironmonger, and painter to be executed by the society's own workmen.]

MIDSOMER NORTON (Somerset).—For the erection of an additional classroom at the Church of England school, Midsomer Norton, for the Trustees of Ann Harris' Charity. Mr. W. F. Bird, architect, Midsomer Norton:—
F. Crouchen, Midsomer Norton* £310
[Seven tenders received.]

MIDSOMER NORTON (Somerset).—For the provision and fixing of internal shopfronts to business premises, Midsomer Norton, for the Radstock Co-operative and Industrial Society, Ltd. Mr. W. F. Bird, architect, Midsomer Norton:—
Farnall & Sons, Bristol* £408 10
[Two tenders received.]

MIDSOMER NORTON (Somerset).—For the provision and fixing of internal shopfronts to business premises, Midsomer Norton, for the Radstock Co-operative and Industrial Society, Ltd. Mr. W. F. Bird, architect, Midsomer Norton:—
S. Smith, Midsomer Norton* £295 16
[Five tenders received.]

NORMANTON.—For proposed house, Normanton, for Mr. Horne. Mr. Fred Scotland, architect and surveyor, Midland Bank-chambers, Castleford. Quantities by architect:—
Exonator, Bricklayer, Mason, and Plasterer:—
J. H. Thorpe, Normanton £332 0
Carpenter and Joiner: G. Parker, Castleford 93 0
Sinters, Dalton & Sons, Castleford 25 0
Plumber and Glazier: Bateson & Sons, Castleford 55 10

PEASEDOWN ST. JOHN (Somerset).—For erection of a block of three cottages at Peasedown St. John, for Mr. J. C. Mallins. Mr. W. F. Bird, architect, Midsomer Norton:—
W. J. Heal, High Littleton* £575
[Three tenders received.]

PONTYPRIDD.—For erection of new offices in Courthorne-street. Messrs. Evans, Williams, & Evans, architects, Pontypridd:—
H. Herbert & £10,290 0 0
S. Shall 9,692 0 0
D. Griffiths & 9,536 12 5
Son 9,480 0 0
W. H. Evans 9,553 0 0
Williams & James 9,302 0 0

RADSTOCK (Somerset).—For a hot-water low-pressure heating installation at the Council schools, Radstock, Somerset, for the Somerset County Education Committee. Mr. W. F. Bird, architect, Midsomer Norton:—
G. N. Haden & Son* £206
[Seven tenders received.]

RADSTOCK (Somerset).—For the construction of a heating chamber, repairs to floors, etc., at the Council schools, Radstock, Somerset, for the Somerset County Education Committee. Mr. W. F. Bird, architect, Midsomer Norton:—
T. Foster, Radstock* £189
[Three tenders received.]

RADSTOCK (Somerset).—For the enlargement of boys' cloakroom, etc., at the Church of England school, Radstock, Somerset, for the trustees. Mr. W. F. Bird, architect, Midsomer Norton:—
T. Foster, Radstock* £130
[Three tenders received.]

WHITWOOD.—For proposed extensions to the Whitwood Mare National Schools, for the Managers. Mr. Fred Scotland, architect and surveyor, Midland Bank-chambers, Castleford. Quantities by architect:—
Irwin & Co., Ltd., Leeds* £1,955
[Exclusive of painting.]

J. J. ETRIDGE, J^r.

SLATE MERCHANTS. LTD.

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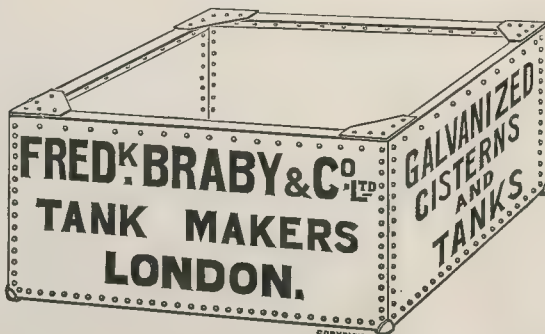
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A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3633.

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ILLUSTRATIONS.

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BAROQUE ARCHITECTURE, III. — A MONUMENT IN A PUBLIC PLACE. BY MR. ERNEST PERSTWICH.
FONTANA DI TREVI, ROME. DESIGN FOR A TERRACE OF FIVE HOUSES. BY MR. E. F. DODD.
PALAZZO DORIA, IN THE CORSO, ROME.

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ARCHITECTURE, COMMERCIALISM, AND PUBLIC RIGHTS.

WE live in a commercial age and in one of rapid developments unlike any of which we have records. Between the date of the Conquest and the reign of Elizabeth—a period of some 500 years—the population of England doubled itself, a result which, though enormously affected by the destruction caused by the Black Death, yet indicates a state of things having no similitude with the present time, when such an increase takes place within a period of fifty years.

A slowly-growing population has no need for advertisement; a small addition to a village inn, its renewal if burnt down, met most necessities in the past; trades were largely traditional, handed down from father to son; primitive means of communication meant that each man had a good knowledge of all within a small locality and little or none of the outside world; a suit of clothes lasted for years, and was replaced by another made by those whose calling had descended from generation to generation. Neither display in a shop window nor printed advertisements would have had value under such conditions. One result of all this was that there was no factor to be

considered in design in any way analogous to modern commercialism.

Now the insistent cry of the trader is for advertisement, and this no longer confined to a mere printed notice, but an appeal which must be emphasised by the very buildings devoted to certain purposes. No longer does a man obtain his goods from those he knows personally; as often as not he will go to a fresh shop or place of business every time, convenience largely dictating his choice, and the shop-keeper has to respond by making his goods and place of business conspicuous, often in a way which is detrimental to the architectural amenities of a whole district. Nor does the evil stop short with the shop; an hotel proprietor seeks to attract new custom by giving us what is frequently but an advertisement-board in masonry; the railway companies must attract attention by carrying out the fronts of their stations in materials out of harmony and keeping with all their surroundings; the banks and insurance offices find it is necessary to advertise the flourishing state of their finances or the convenience of their position by putting up buildings in novel materials or by means of design calculated to arrest the attention of the casual passer-by.

Frequently a building pleases its promoter more completely because it is out of harmony with its surroundings than for any other reason—it creates "a shock" which may lead to custom, and so in violating every canon of architecture it serves the promoter's purpose.

Occasionally we find a business corporation, such as Lloyds Bank, inclining to the opinion that architectural excellence and quiet suitability of design may constitute an appeal to the public, but the reverse feeling is that usually obtaining.

And it would be often wrong and unfair to blame the building owner's architect. Having a clear instruction, implied or expressed, he has to satisfy a demand, which he knows to be wrong, in the best way he can, and often he does it exceedingly cleverly.

Such an instance is Messrs. Waring & Gillow's new premises in Oxford-street. We feel that the sculpture and ornament of such a block, which would be right and proper in some great domestic or public building, is unmeaning when applied to what is in reality a warehouse for the display of goods.

The great new block which Messrs. Selfridge have erected is a more logical



The Need for Control: A View from Bloomsbury-square.

rendering of the wants of such an enterprise, though here, too, we feel that an importance is perhaps given to a utilitarian building which is not wholly in keeping with the necessities of the case. And it is unfortunate when such a building entirely dwarfs and destroys the scale of its surroundings. The problem of Regent-street is still unsolved, though our recent efforts in this direction will, we hope, bear some fruit in the fulness of time.

The very finely-designed front for Messrs. Debenham & Freebody, in Wigmore-street, which we think one of the most successful of commercial designs, is not improved by a tower which is unnecessary and which is hardly in complete harmony with the remainder of the design, but which we can well imagine appeals to commercialism.

Kingsway is a modern failure because most of the buildings in it are a restless appeal to our attention, and show a supreme disregard for what should be their *métier*—harmonious parts of a fine boulevard.

Further north we have the new Sicilian-avenue, which we illustrate from the Bloomsbury-square end, cutting awkwardly both with the square and with Southampton-row. The County Council Central School of Arts and Crafts and Tollard's Hotel compose somewhat awkwardly with Mr. Keen's Baptist House in the same road, but probably in each case the designers had more or less to make their buildings appeal to the notice of the passer-by.

We also illustrate the Imperial Hotel and its extension now being erected in Russell-square. These buildings, we believe, are ably planned and well thought out as practical problems, but the assumed necessity of making a strong appeal to the passer-by has conflicted with the lines on which alone a building in such a position could harmonise with its surroundings.

These are but a few instances among thousands which might be noted in modern London which show the difficulties which the present age lays upon us, and we should consider the means, if there are any, by which the architectural amenities could be more effectually preserved than is the case at present. The remedy does not lie in socialistic legislation, which would militate against the value of property and commercial security, nor in unreasonable interference with the liberty of the individual. Were this the case the greatest happiness of the greatest number would be secured by allowing the interests of our art to be sacrificed for the public weal. Henry IV. of France, in defining the object of good government as "to make it possible to grow two fig-trees where one grew before," showed a profound political instinct wanting in those who recommend socialistic panaceas.

But much can be done without heroic remedies. To prevent a man making full use of a site by keeping down the height of his building is clearly impossible, but there is no reason why an appeal should not be made to the great ground

landlords of London, asking them to consider in granting building leases the effect of any proposed buildings on its adjoining neighbours. Often a building suitable on one site would be entirely unsuitable on another, and in many of the great London estates there would be room for such alterations of site. We must always remember that while the land abutting on a street or square may be private property, the thoroughfare which is public property is also bounded by buildings, and that the preservation of the beauty of our streets concerns the passer-by.

It would be quite feasible for the great landowners to consult with some committee or individual, nominated possibly by the Royal Institute of British Architects, as to such points, and it is more than likely, if properly approached, that great landowners would be willing to consult such committees or nominees.

With regard to advertisements of the poster type, we feel that the often suggested idea of taxing such notices, as is done everywhere on the Continent, has much to recommend it. It would not stop advertising, but it would render it more expensive. At present the firm who can spend most has the advantage, and under a system of taxation the same would hold, but a certain proportion of the money spent would go in taxation, no charge being made in the relative advantage possessed by one trader over another. Apart from relieving the public purse, the disfigurement of posters would be reduced in scale, because posters would be taxed according to their size. Such permanent advertisements as sky-signs and illuminated advertisements might well be rendered illegal. A system of taxation applied to large lettering across the front of buildings would also reduce the evils of what is one of the most effective of all means of disfiguring a building. Public bodies might well exercise some control over the sanction to be given for the erection of buildings whose materials offer a violent and unpleasant contrast to their immediate neighbours. It will be remembered in this context that many years ago the City of Edinburgh rightly took action to oppose the erection of an insurance office faced with terra-cotta and out of harmony with the neighbouring stone buildings, and such action has reason to recommend it. Such control is of another character to the fixing of minute and arbitrary rules, such as those often insisted on by the County Council and other public bodies, in connexion with the prevention of fire, housing schemes, ingress and egress to public halls, and similar points. It is well known that in the case of certain insurance and other private offices the authorities have insisted on special bolts and fittings for fire-prevention purposes, which bolts and fittings have been replaced when the buildings have been occupied on completion!

We are not arguing that adequate regulation is not necessary in such cases. We only wish to emphasise our opinion that such regulation has in many cases been carried to an extreme point, causing annoyance and expense to private owners, and that a little control over the general character of buildings to be erected is

both necessary and could well be applied without increasing the cost of building or stifling enterprise.

We have recently legislated *ad nauseam* for the health and safety of the public, often regardless of expense, but it is open to anyone holding property to affront the aesthetic sensibilities of the public.

But the spadework that must be done is in educating and appealing to the reason of the large landowner. Anyone wishing to build on the Portman, Westminster, Cadogan, Bedford, or Howard de Walden estates will not be prevented from doing so because they find that reasonable and not onerous restraint is placed on their freedom of action in the matter of design.

We cannot imagine, for instance, that such a company as that called the "Whitehall House," which is acquiring and opening houses as residential hotels in Bloomsbury, would go elsewhere if they found they could not replace the ordinary Georgian ground-floor sash-window by a new one, the sash bars of which are in violent and unpleasant contrast to the neighbouring houses. They would submit to a restriction which applied equally to others, and pay the rents they pay now.

Nor is there any reason why the unusual and displeasing shop window used as a mark of distinction by a firm of

restaurant proprietors should be tolerated everywhere. These and other weird fancies only become necessary because of the fear that a neighbour and rival may go one better.

And such owners as the Crown need not be afraid of applying reasonable control in districts like Regent-street, provided their restrictions are evenly insisted on over large areas. Naturally, the fact that the Piccadilly Hotel front is an extreme case with a comparatively short frontage constitutes the shop-owners' greatest grievance. It is putting a comparatively small number of owners at a disadvantage, compared with their immediate neighbours, a disadvantage that would not have existed had a greater length of frontage been rebuilt.

But this is, as we have emphasised, an extreme case, and there are ways in which the shopkeepers' point of view might have been considered without the loss of architectural character.

We think in such ways as the above much might be done to save the architecture of our towns without injustice or hardship to anyone, and that without some such action being taken the standard of individual design may be raised without affecting the collective loss of restfulness, character, and dignity which is taking place from day to day among us.

THE GUILDHALL IMPROVEMENT SCHEME.

IN our present issue we give illustrations of the new buildings and plans which have been adopted by the City Lands Committee in connexion with the proposed improvements at the Guildhall, and which were to be considered by the Court of Common Council yesterday, but at too late a moment to enable us to give any report of the deliberations. We referred to this scheme in a note last week. Immediately on the issue of the Committee's report the leading newspapers gave prominence to Mr. Sydney Perks's designs, which not only indicates public interest in the proposed improvements, but also the awakening of the daily Press to the importance of matters architectural.

For some years the various operations concerned with civic government at the Guildhall—the Law Courts, the various Committees, the administrative offices—have suffered from congestion through lack of convenience of space. Further, the important collection of pictures, which is one of the chief ornaments and attractions of the City from a visitor's point of view, was inadequately housed, while the ceremonies and entertainments



The Need for Control: The East Side of Russell-square.


the important functions of hospitality which are historically associated with the City of London, occasioned a certain disorganisation of ordinary official and administrative routine, which under the present scheme of rebuilding can, to a great extent, be mitigated or altogether avoided. The machinery connected with the government of so important an authority as the City Corporation is as intricate as it is extensive, and the problem which the City Lands Committee had to solve, with the assistance of Mr. Perks, suggested many solutions, and it is only after upwards of four years' close attention to all the details, after consultation with various other Committees, legal authorities, the Library Committee (which administers the Art Gallery), and so on, that the present scheme in its entirety has been arrived at. There could, to begin with, be no question of change of site; the historic associations of something like five centuries forbade the entertainment of any idea of the sort. The acquisition of fresh property in the neighbourhood was also, in the view of the Committee, impracticable on the score of its immense cost. The Committee, besides, felt (we are speaking from their report) assured that they had enough space at their command, if adequately handled, to provide for all requirements, while maintaining the historic continuity of the contours of the site since the XVth century, so far as the disposition of the external building lines of the Guildhall and its courtyard are concerned. A scheme of covering the courtyard, either wholly or in part, which was at one time formulated by Sir Horace Jones, was dismissed, because it was found that the deprivation of light which it would entail on buildings according to the existing plan would involve changes which would not really add appreciably to the space accommodation. In addition to this consideration Sir Horace Jones's scheme would have deprived the courtyard of its quadrangular seclusion and increased the difficulties of traffic on ceremonial occasions.

So it was determined to work upon the main lines of the present site. Another problem suggested itself. The Great Hall, identified as it is not only with the history of the City, but with ceremonies and great occasions which are closely connected with the history of the whole country, must necessarily remain. But Dance's front? As we referred to this matter last week, we do not wish to dwell further on this point, beyond saying that after reading the Committee's report we are in agreement with its conclusion, that this quaint and picturesque façade should be retained. It has become an historic feature, as much indeed a symbol of civic dignity and custom in the minds of many generations of our countrymen, as the mace or sword bearer, as the great coach, which we associate with the paraphernalia of great civic affairs. But while Dance's front should be retained, we are also in agreement with the Committee's decision that the rebuilding of the collateral wings should not be modelled on the same design. Let Dance's front remain, as it ought to remain, the central feature. The east and west wings are to be devoted to Law Courts and to administrative offices.

Above the Law Courts in the east wing, which on occasion are to provide the space required for great ceremonials, there are the picture galleries, excellently lighted, reached by an ample and decorative stairway. On this side the building line is carried a little farther than the existing buildings by an arch which covers the passage to Basinghall-street to a small plot which, in effect, enlarges the present site to the exact line of frontage which existed in the XVth century.

It will be seen from our brief commentary that the City Lands Committee have had no easy problem to solve. They have had many things to consider—a circumscribed site, historic and æsthetic associations as well as the more convenient accommodation which modern exigencies demand. They have devoted four years or more to its solution, and its various members are intimately connected with the practical work of municipal administration. They have sought the advice and enlisted the services of two architects and have finally adopted a scheme which answers the requirements and which, so far as exterior design is concerned, harmonises with the general effect of a courtyard without perpetrating any archaeological imitation, which is not always easy to discern, and which, if projected in the present instance, would have no doubt provided an easy target for the shafts of adverse criticism.

THE SUBMERGED TEMPLES OF PHILÆ.

HE *Times*, in an article of the 17th of this month, calls attention to the effects of the submersion of the temples of Philæ, caused by the new Assuan dam, and the further damage which will result when the works—now finally completed—for increasing the height of the dam have caused a further heightening of the water level during the seasons of flood. A very interesting letter from an Assuan correspondent in the same issue gives an account of the manner in which the water is destroying the temples.

We all remember the protests made at the time the construction of the dam was determined on by those interested in archaeology and in architecture, but the Government of Egypt considered—as we think rightly—that the interests of the inhabitants of Egypt were too important to be subordinated to any artistic considerations whatsoever, and simply took precautions by underpinning the foundations of the temples, and strengthening the walls that they might be better able to withstand the action of the water. It is pointed out that the beauty of the temples, which is largely extrinsic, has been in great measure already destroyed by the drowning of the surrounding palm-trees and the destruction of the brilliant tints of stonework now washed into a dull grey or hidden by the growth of water weeds.

The new addition to the dam will raise the level of the waters by 18 ft., and the damage already done to the lower part of the columns will extend to the capitals and roof blocks of the famous Hall of Columns. The stone of which the temples are constructed is of a porous nature, unable to

carry much more than its own weight, and the added weight of the water absorbed, coupled with the resultant disintegration, will cause the destruction of the roof.

Steel joists have already been introduced under the stone beams to obviate similar danger in places, but since the beams are painted such measures hide the paintings, besides being otherwise hideous.

An interesting description of the process of destruction is given. The site of Philæ, like other temples, was inhabited from time immemorial by peasantry seeking the protection of the buildings, and accumulations of organic refuse have formed salts which dissolve in the water and crystallise on drying, disintegrating the sandstone of which the temples are built. In addition, the waters left in the flooded courts and passages of the temples have produced crops of water weeds and slime which cover the lower part of the adjacent columns, and then dry in the sun into whitish skin which peels off, bringing with it the painted surfaces, and hangs in tags and patches which flutter in the wind. The effect is described as being as if the buildings had been "stuck all over with dirty blotting-paper."

It seems a pity, reading the foregoing, that the proposal made for the removal of the ruins to a neighbouring island could not have been carried out, for the process described, which has now been continued for but ten years, must in a few more decades convert these once beautiful ruins of later Egypt to a shapeless and unimpressive edition of Stonehenge; but we feel that we can still join with the *Times* in thinking that the very gods of Old Egypt would have been willing to spare one of their shrines to bring such benefits to the people of the "Upper and Lower Land" as are occasioned by the conservation and spreading of the waters of the Nile.

The fulness of modern existence and the making of history in every country is bound to be accompanied by the destruction of much of the past that we have valued, and if this process were only balanced by the creation of what the world would value in the future, we need have little to regret; our mission must ever be to create a present architecture worthy to be "bound in" with the pages of the past.

NOTES.

Railways and Landscape.

THE *Times*, in a leading article last week, entitled *Beauty and Engineering*, comments on the address given by Professor Archibald Barr to the Engineering Section of the British Association on the offences committed by engineers against the æsthetic senses of the community, and Mr. Carbe has written a letter published a few days ago in which he refers to the "lucid and convincing exposition of realities which touch, so nearly our everyday life," given by Professor Barr and by the *Times*. Professor Barr points out that engineers have no right to do what is "detrimental to the health and prosperity of the community, or offensive to the senses of those who are condemned to live with them." And he goes on to instance the manner

in which the railway engineer has caused such offence. This is straight talking from an engineer to engineers, and we hope the seed has fallen on fruitful ground. When, however, Professor Barr goes on to speak of beauty as being the result of the perfect performance of the function aimed at and lays down the dictum that engineering which offends against our æsthetic sense is *per se* bad engineering, we feel he is going farther than we can follow him. We concede that it is probably quite safe to say that, given good and bad engineering, the latter will in all probability offend our senses more than the former, but as Professor Barr puts it we feel he is uttering a platitude similar to that "all things work together for good," or "vox populi vox dei est," sentiments which are comforting, but will hardly bear the cold and searching light of analysis. Many things in this life are absolutely fitted to their purpose and clearly necessary to which the expression beautiful cannot be applied. No stretch of the imagination could imagine a beautiful bicycle or pumping engine; at the best such things are negative in their effect on the æsthetic sense. But, turning from theory to fact, we are delighted to find an engineer recognising the havoc which his profession has in many cases brought on the landscape and the necessity for greater thought and care.

At a time when there is a cry for nationalising all undertakings connected with the supply of the necessities of life it may be well to point out that the abolition of competition does not necessarily make for cheapness. The Metropolitan Water Board appears to be a case in point. There is a constant outcry against the rates charged for water, and yet the Water Board shows a deficit in its receipts. It was recently stated that the loss to the Board from persons sinking artesian wells represented a large sum, amounting to some 8,000*l.* per annum—we quote the figures from memory—and it is certain that the high charges are causing manufacturers to sink for private supplies. In this connexion it may be well to draw attention to the statement made by a correspondent to the *Times* of the 2nd inst., and printed on p. 285 of our issue for September 6, that the supply of water to be drawn from the chalk bed under London is falling in level, and that a pure supply from this source cannot be looked upon as permanent as percolation from the Thames may ensue. How far this fear may be justified we do not know, but, having regard to the fall of the water in the chalk, those contemplating sinking artesian wells will do well to obtain competent advice before embarking upon an expensive operation.

Two PAPERS by Colonel Sir C. M. Watson, C.B., R.E., President of the Geographical Section, and Colonel C. F. Close, C.M.G., R.E., which were read to the British Association on September 6 describe the progress made with the production of the International Map of the World. The scheme and form of the map were adopted three years ago

by a Committee of delegates nominated by the Governments of Austria-Hungary, France, Germany, Japan, Russia, Italy, Spain, and the United States, under the Presidency of Colonel S. C. N. Grant, C.M.G., R.E., the then Director-General Ordnance Survey. The scale of the map is 1—1,000,000 metres, with the Greenwich meridian; countries using other units can use them for the values of the heights if they so desire. To cover the whole world, with the oceans, will need 2,084 sheets; for the present, the oceans being neglected, about 500 sheets—representing land—will be prepared, and of them five are already on sale: one of Northern France, two of Scotland, one of South Africa, and one of Turkey. Other sheets are also in course of production by the Ordnance Survey, and by the Italian, Hungarian, Spanish, and American Governments. If we take the earth's mean diameter as being 7,930 miles, the line of sheets along the equator would, it seems, encompass a globe 41 ft. 4 in. in diameter.

Church Property and the Finance Act.

THE Vicar of Ashbourne writes to the *Times* (on 16th inst.) that under the Insurance Act he has been required to make a return as to the value of the church and the churchyard of St. Oswald, Ashbourne, an edifice which dates from the year 1241, a task which he says he and his professional advisers find it impossible to perform. It comes as a surprise to us that the Insurance Act can in any way apply to Church property, as it might be expected that it should be exempted in the Act in express terms. This, however, appears not to be the case, and in Mr. Houston's work on the "Law of Land Values" we find the matter thus referred to:—"Ecclesiastical bodies corporate, whether aggregate, as a Dean and Chapter, or sole, as a Bishop, Rector, or Vicar, are, it is submitted, 'governing bodies,' as defined in sect. 37, in which corporations sole are expressly included, and are therefore entitled to the exemption created by that section, which also applies to many other bodies corporate or unincorporate." It will be seen, from the use of the expression "it is submitted," that this is only the opinion of the writer, and that the point is not dealt with specifically in the Act. If this is the case the sooner a test case can be submitted to the courts the better it will be, it appears to us, for the valuation of such property for the purposes of the Insurance Act seems wholly uncalled for and inappropriate.

The Royal Photographic Society's Exhibition.

THE show of photographs, forming the fifty-seventh annual exhibition of the Royal Photographic Society, at present on view at the Suffolk-street Galleries, is well worth a visit. These annual exhibitions mark time, as it were, in the progress of the photographer's skill. The work of the camera is to-day, however, so universally abundant that the eminently pictorial phase of the lens, which seems to be the aim of the members of this Society, scarcely brings anything fresh to our observation. We are now and then moved to protest against the painter's striving after results which are more

properly those which can be obtained on the photographic plate. The photographer, on the other hand, is more and more seeking to obtain the effects which are associated with the arts of painting, etching, or pencil drawing. He has developed all sorts of processes which aim at disguising that a photograph is after all a photograph; he arranges his portrait subjects after the manner of a Royal Academician, while in his landscapes he often seeks to obscure the definite results of the lens by the application, to our thinking, of a certain misplaced skill. He is not content with giving us the plain title of his subject, but often chooses some fanciful description after the manner of a painter. A number of architectural subjects, for instance, at the present exhibition are catalogued under some semi-poetic title, which is irritating when the building possesses any features of interest, and we are not able to identify it. For the most part the architectural subjects are limited to churches and church crypts, largely, we suppose, because they present effects of light and shade which require some special aptitude on the part of the operator and which come within his view of what is artistic and pictorial. It is sought, too, by some of the exponents of the art, controlled, we suppose, by the same idea, to diminish the clearness of the picture details for the sake of atmospheric effect. Some of the best photographs at the exhibition are of birds and moths, in which the purpose has obviously been to get as definite a presentment as possible of the subject. Many of the portraits are also excellent, more especially those arranged and taken by Mr. Furley Lewis and Mr. Hugo Erfurth. The camera may not always be definitely true to fact (its reputation in this respect is a little notorious), but it is a lenient prevaricator, and it is the most useful instrument for graphic record that science has given us. The present pictorial phase is largely experimental, and has no doubt aroused additional interest in the practice of the craft. It is admirably represented at the present exhibition.

Mr. Gordon Craig's Exhibition of Drawings.

MR. GORDON CRAIG is a visionary; he dreams dreams which he translates into charming drawings for stage scenery. Mr. Craig arouses a certain enthusiasm in those who are bored with the obvious in art. We admire the delicacy and imaginative quality expressed in much of his work; but we are far from being convinced as to the soundness of his theories with regard to the purpose and arrangement of stage scenery. His theory is, broadly, that stage scenery should not be realistic or archaeological, but should serve as a symbol for states of mind. He would make the *décor* a beautiful and spectacular commentary on the action of the play, on the emotions portrayed by the personages of the drama; he would, in short, establish a new formula by which the scenery would be brought into closer abstract relation with the drama and its action. Mr. Craig's theories also extend to the costumes of the theatre, if we can quite call them theories; they are indeed so wilful that we should prefer rather to call them



Watergate-street, Chester.

From a Drawing by Mr. Charles L. Pace

statements or assertions. He may say perhaps that you cannot have a Hamlet who does not wear pockets in his breeches without convincing us, without, indeed, stirring in us any mood of curiosity or argument; because the point is in any case immaterial. We remember Mr. Craig as a young and charming romantic actor; he comes, moreover, from a family whose careers form an important chapter in the history of the theatre of the last fifty years, so that his views on the art of the stage must be taken as from one who is intimately acquainted with his subject. It is well known that he devised the scenery and costumes for a production of "Hamlet" at the Moscow Art Theatre, and that this opportunity for the practical application of his views won a certain success. We should like to see him provided with the same opportunity in London; for the drawings and small stage sets now on exhibition at the Leicester Galleries, delightful as they are in themselves, can at best give only an inadequate idea of what their effect would be (the scale and conditions are so different) in the actual theatre. But

speaking of Mr. Craig's production in Russia brings to mind a Russian artist, Léon Bakst, who in his designs for scenery and costumes for the performances of the Russian ballet at Covent Garden has captivated so many of us in this country. It would be interesting, had we the space, to compare the work of these artists. They possess in common imagination and a desire for beauty, but little else. Mr. Craig's art is evolved in a sort of Celtic twilight; it is mystical, we might perhaps even say that it is in its higher aspects spiritual; it is an art of vague echoes heard before the sun sets or in the mystery of the night. The imagination of Bakst, on the other hand, revels in colour, sensuous movement, and the light of a bright sun; it is objective in so far as it seeks to realise the actual spectacular conditions in which this or that scene might have been enacted; it does not emphasise the subjective, purely personal view of Mr. Craig. Mr. Craig's exhibition at the Leicester Galleries should not be missed by anyone who takes the art of the theatre seriously. We may reject his

paradoxes, we may not agree with his theories; the main thing is that he is a genuine artist seeking to express ideas in a province of art which is at present largely governed by a sociological or merely sensuous tendency.

WATERGATE-STREET, CHESTER.

WATERGATE-STREET, Chester, can well claim to be one of the most picturesque old city streets in England. In olden times it was the main thoroughfare to the water gate giving access to the River Dee, and through which the produce from the river traffic was carried. The gabled fronts of the houses are full of quaint and curious detail, and beneath run the Rows for which the city is so famed. In the "Vale Royal" is written:—"The buildings of the city are very ancient and the houses builded in such sort that a man may go dry from one place of the city to another and never come in the streets, but go as it were in galleries which they call Rows."

On the extreme left of the first view is an interesting gabled house known as "God's Providence House," dated 1652. When the plague devastated the city this is supposed to be the only house which

escaped the pestilence. The second view is of Bishop Lloyd's Palace, dated 1615. The gables are extremely rich and elaborate, and many of the small panels are filled with carvings of Biblical subjects; the interior has some very good plasterwork. The other sketches are general views looking up and down the street. Many valuable Roman remains have been found from time to time. In 1779 a Roman altar was unearthed in very good condition, the sides of which were sculptured in bas-relief; a Roman bath was also found about the same date with columns and tiles *in situ*.

GENERAL NEWS.

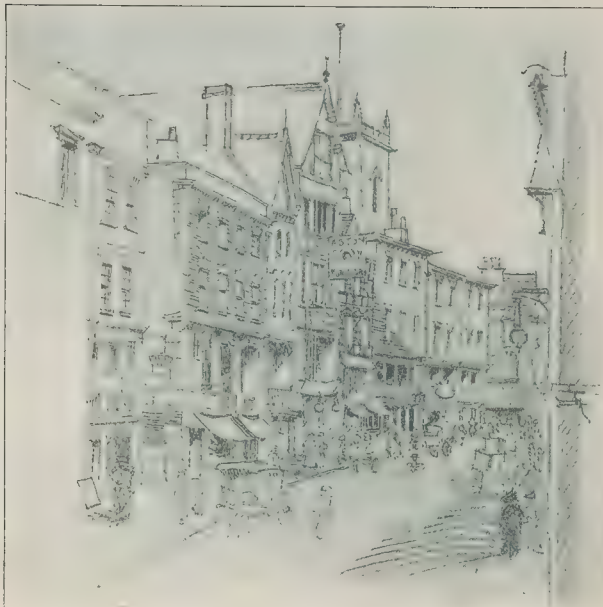
Appointment.

Mr. J. Campbell Reid, A.R.I.B.A. (formerly of Paisley Technical College), has been appointed Head of Architecture, Surveying, and Building in the Northern Polytechnic Institute, London.

London University.

Among the public lectures that have been arranged at University College is a course by Mr. W. H. Ward, M.A., F.R.I.B.A., on "The French Renaissance in Architecture." The opening lecture will be delivered on Thursday, October 10, at 6 p.m., when Mr. Spencer W. Morris, Master of the Worshipful Company of Carpenters, will preside.

At King's College two courses of public lectures will be delivered during the coming session on Thursday evenings at 7.30. The first course, commencing on October 17, will be on "Domes and Vaults, their Form, Construction, and Decoration," by Professor R. Elsey Smith. The second course, commencing on January 16, will deal with "Tudor and Renaissance Architecture in England, particularly the Architecture of the Later Renaissance," and will be arranged by Mr. Arthur Stratton, F.S.A. All the above courses will be illustrated by lantern slides.



Watergate-street, Chester.

From a Drawing by Mr. Charles L. Pace.

Ordnance Survey.

The publication of the revised maps to the scale of 25 in. to the mile is in progress for the county of Surrey, and is proceeding from east to west; similar progress, and from south to north, is being made with the 6 in. to the mile maps of Berks. Copies of the sheets may be obtained from the Ordnance Survey Office, Southampton, or from the local agents for their sale, or any bookseller.

Carden Hall Destroyed.

Another old house has fallen a victim to fire, this time a half-timbered mansion situated near Tilston, which is some twelve miles south-east of Chester. Carden Hall, which was practically burned out on the 16th inst., was one of those XVth-century houses which had been so much added to and restored that it had lost its interest to the architect, but nevertheless had attractions which appealed forcibly to the lover of the picturesque. It was occupied by Lieutenant Colonel Holdsworth and owned by the Cheshire family of Leche.

Repairing Lintlithgow Palace.

The work of carrying out repairs on Lintlithgow Palace has been in progress for the past three months. An interesting part of the work has been the opening up and cleaning out of the original well of the Palace, which is located in the centre of the floor of the kitchen. The well, which had not been opened for many years, has a depth of some 40 ft. In making this excavation the workmen came upon two sculptured figures, which, however, were broken and damaged.

The Glasgow School of Architecture.

The Glasgow School of Art has reopened. In the section of architecture the director of studies is Professor Eugène Bourdon, with Mr. Alexander McGibbon, A.R.I.B.A., as professor of architectural design, and Mr. Walter R. Watson as instructor. Among the Architect-Governors and Committeemen are Dr. J. J. Burnet, Mr. Reginald Blomfield, A.R.A., Mr. Alexander N. Paterson, Mr. John B. Wilson, Mr. Charles R. Mackintosh, Mr. T. L. Watson, and Professor Charles Gourlay.

Municipal Housing Scheme, Paris.

The Government Bill to authorise the loan of 8,000,000, voted by the Municipal Council for the provision of cheap dwellings has been



Watergate-street, Chester.

From a Drawing by Mr. Charles L. Pace.



Caldicott School, Hitchin: The Chapel.

Mr. Louis A. Hayes, A.R.I.B.A., Architect.

signed by the President of the Republic. The Ministers of Labour and the Interior and the City of Paris have agreed that the City shall lend one-fourth of the sum to societies for the creation of cheap dwellings, and that the Municipal Council shall apply three-fourths to the building, acquisition, or sanitary improvement of premises but as lodgings, whereof two-thirds, upon the basis of rental value, are to be reserved to families with more than three children under sixteen years of age.

Old Roman Roads.

In a recent leading article we commented on the need of improvement to the main arterial roads between the great centres of population in view of the fact that the introduction of motor traction would bring back much of the traffic to the roads, and suggested that it might be possible to repair the old Roman roads, and so bring them again into use as the principal traffic thoroughfares of the country. We are interested to notice, therefore, that a Special Committee of the Road Improvement Association is now investigating the matter in connexion with the facilities afforded by the Imperial Road Improvement Fund.

Memorial to Lord Clive.

The statue of Lord Clive has recently been removed from Burlington House to the small garden at the corner of Whitehall and Whitehall Gardens, and adjoining Gwydyr House, preparatory to its temporary erection in this position. Its permanent situation, however, will be at the steps leading from Charles-street to St. James's Park, immediately by the entrance to the India Office, but owing to the erection of the new Government offices on the site between the Local Government Board Offices and the Park being in progress, it is impracticable at present to place it in position. The statue, which is the work of Mr. John Tweed, is a little over life size. It will rest upon a pedestal of stone, with a base about 5 ft. square. The inscription, "Clive, 1725-1774," will be cut into the front stone panel, but the other three sides will be enriched by bronze panels illustrating Clive's work in India. The statue is being carried out by Messrs. Kirkpatrick Brothers, of Manchester. Although there is a certain propriety of sentiment in placing this statue in close relation to the India Office, many people may be disposed to think that the importance of the services which Clive rendered to his country are perhaps not quite adequately recognised by the position assigned

to his monument. Apart from this aspect of the question, it is doubtful whether the steps leading down from Charles-street to the Park are of sufficient width to give a proper setting to a statue on a pedestal of these dimensions, and whether indeed they are wide enough to admit of division by any statue whatever. It will be a pity if this monument should appear too big for its position. Surely it would be possible to put up a rough model in order to realise the effect before the actual work is put in hand.

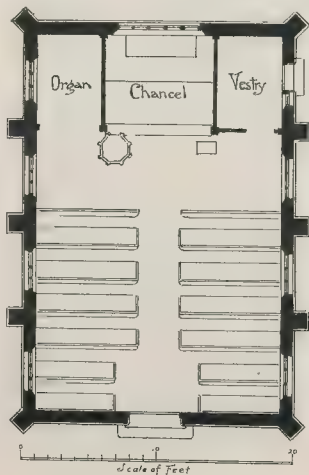
Esher Place and "Wolsey's Tower."

We learn that the Society for the Preservation of Ancient Monuments are about to repair "Wolsey's Tower," at the request and charges of Sir Edgar Vincent, of Esher Place, Surrey. The gate-house, or tower, of the "stately brick mansion" built by William de Waynesflete, Bishop of Winchester in 1447-86, and a home,

as "Asher House," of William of Wykeham, stands by the River Mole, within the finely timbered grounds of Esher Place. William I. bestowed the manor upon St. Leutrid's Abbey; the abbot sold it to Peter de Rupibus, temp. Henry III.; Edward I. gave it to the See. Wolsey, having succeeded Fox at Winchester in 1528, intended to rebuild the house. But on October 18, 1529, he was bidden to surrender the great seal and to retire to Esher, where he abided a few weeks. Queen Mary restored the lordship and manor, with the park, some 185 acres in all, as part of Hampton Court Manor, to Bishop Gardiner. Her sister bought it back again of the See in 1583. In the XVIIIth century John Lutton sold to Thomas Holles Pelham, Duke of Newcastle, all the manor (including Claremont and Waterville), excepting Esher Park and the house, which latter he sold to Peter de la Porte. Dennis Bond bought Esher Place in 1724; he sold it to Henry, the Duke's brother, in 1729, when but little more than the two gateways of the bishop's house remained. Kent made additions for Henry Pelham, retaining the present gateway for a central feature of his design. Esher Place ultimately passed by sale by Miss Pelham to John Spicer, for whom Edward Lapidge built the existing house, upon higher ground away from the river. Spicer pulled down Kent's work, but kept one of the towers and planted the ivy against its walls. The square tower is of red brick with stone dressings, and has octagonal turrets; it is four stories high, the third and fourth being machicolated. There are views by Kniff and Kip, circa 1695; T. Rocque, 1737, showing Kent's additions; a large print of the west front, 1759, by Sullivan; and two in "Surrey," 1841, by E. W. Braxley, who cites the brick newel staircase, in the roofing of which, he says, "the principles of the construction of the oblique arch (a supposed invention of modern times) are practically exhibited."

WATERWORKS SCHEMES.

The Loxden and Winstree Rural District Council have instructed Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of Newcastle-upon-Tyne and Birmingham, to prepare a scheme and report upon the waterworks for the parishes of Abberton, Peldon, Little Wigborough, Great Wigborough, Virley, and Salcott.



Caldicott School, Hitchin.

CALDICOTT SCHOOL, HITCHIN.

The chapel, illustrated herewith, is the latest addition to the Caldicott School buildings. It is constructed of red brick and Bath stone and roofed with sand-faced tiles. The turret is covered with copper. The windows are glazed with diamond-paned leaded lights with "bottle eyes." The roof principals and timbers, rood-screen, and panelling, etc., are in oak, and the floor is finished in Japanese oak. The floor and steps to the chancel are of Sicilian marble. The oak pulpit, Communion-table, and benches were designed by the architect. The east window is the work of Mr. H. J. Salisbury, and represents "The Journey to Emmaus." The contractors for both buildings were Messrs. G. Willmott & Sons, Hitchin. The architect was Mr. Louis A. Hayes, A.R.I.B.A., of Brook-street, Hanover-square, W.

CORRESPONDENCE.

Lambeth Bridge.

SIR,—This month fifty years ago Lambeth Bridge was opened to the public, when Mr. Hodge's fire-engine was the first horsed vehicle to cross over from Lambeth to Westminster.

The writer was engaged during the construction of the bridge as assistant to the late Mr. Peter W. Barlow, F.R.S., the engineer, and on June 4, 1862, first walked over the Thames from Lambeth by a temporary bridge completed that day, suspended from tower to tower on the north side, over which the first wire cable was hauled on June 10. A similar temporary bridge was subsequently completed on the south side, and by July 2 all the permanent wire rope cables, namely, fourteen on each side, were in place.

On the abutments of the bridge each group of fourteen cables—in pairs of seven—passes over a saddle-piece of the form of a sector of a circle, and the ends of the cables are anchored vertically below. It is probably not generally known that the reason of the irregularity of the curve of the Westminster span was an accident which occurred through the weight of the bridge causing the cables to raise, or rather to tilt, one of the saddle-pieces on the Westminster abutment, resulting in the breakage of a cast-iron strut holding the saddle-piece in position and the sudden lowering of the Westminster span. The noise created by the accident, about two o'clock in the morning, was considerable, and was heard some distance away. Though at each high tide, night or day, for some time the arch was lifted by means of frames erected on barges, and the saddle-piece forced back by hydraulic power to its original position, subsequently secured by the addition of tie bars to the back of the abutment and a strut to the tower, the arch never regained its proper form.

The total cost of construction of the bridge was under £50,000, including purchase of land, etc. It was acquired by the Metropolitan Board of Works in 1879 for under £30,000. In 1892 it was considered expedient to rebuild both Lambeth and Vauxhall Bridges, and it was afterwards suggested that the temporary wooden bridge opposite the Tate Gallery, erected previously to the demolition of old Vauxhall Bridge, should be allowed to remain until the completion of a new Lambeth Bridge. The temporary bridge, however, was removed, and Lambeth Bridge has been allowed to go to a state of decay through neglect, and remains in a truly lamentable condition. Had it been kept in proper repair and painted it would have shown a very different condition, and the roadway need not have been so soon closed to light vehicular traffic, to the serious inconvenience of many.

A proposal to replace the existing Lambeth Bridge by a steel arch bridge at a cost of £400,000, was rejected by the London County Council in 1910. This year the passage of a Bill introduced by them for a

similar bridge of modified design was defeated in the House of Commons; it is contemplated to introduce another Bill next year.

There appears to be great difference of opinion, some arguing for heavy expenditure to ensure a bridge of ample width to allow of tramlines, others that a more moderate scheme would be sufficient, and others, again, that the bridge should be totally abolished. In the interests of the public, the folly of reducing the facilities for crossing the river should be considered, and it should be remembered that Lambeth Bridge is on the direct line between Westminster and the Tower Bridge and a short cut to London Bridge. Failing the construction of an expensive and more suitable bridge giving greater accommodation, there is no reason why a strong suspension bridge of elegant design should not be erected on the existing piers and abutments. Clearly all superstructure would have to be entirely removed, but the writer can speak with confidence of the strength and durability of the foundations; the piers and abutments are of concrete and brickwork set in Portland cement, based on the London clay. Such a bridge would last many years, it could be erected at comparatively a very small cost; the roadway would be sufficiently wide for a moderate traffic, and the footpaths could be readily made of greater width. Surely this would be better than not having any bridge at all.

G. S. ULLATHORNE, Ph.D., M.A., C.E.

The New Wesleyan Hall.

SIR,—I have seen the announcement of the approaching opening of the Wesleyan building at Westminster. It seems to me incredible that the authorities should allow so important a building in the heart of London to remain unfinished and proclaiming its unfinished state to every passer-by.

Surely here is a case where the cost should first be counted, and, if the sum available was not

sufficient, the design ought to have been modified accordingly.

Has the local authority no power to insist on the proper completion without delay?

ENGINEER.

* * * Our correspondent may not be aware that the new Central Wesleyan Hall remains unfinished owing to the rights of light of the present Westminster Hospital.—Ed.]

Holborn Viaduct.

SIR.—An examination with a thin searcher would assure anyone that no lead had been used in jointing the stones of the columns that support this structure.

The writer, when making an examination for a defunct engineering paper four years ago, found no difficulty in penetrating the joints for a foot and more in many directions.

H. T. D.

THE TRADES TRAINING SCHOOLS.

A conversation was held on Monday evening at the Carpenters' Hall, London Wall, when the new session of the building trades classes of the Associated City Companies was opened. The director, Mr. H. Phillips Fletcher, F.R.I.B.A., F.S.I., in the course of some remarks, said that the schools were carried on in Great Titchfield-street, and were established by the Carpenters' Company and Associated Guilds about twenty years ago, the object being to assist craftsmen to master the technique of their different trades. In other words, the Company was trying to preserve individualism and to make the lifework of the craftsman more interesting. To be successful it had been found necessary not to have any set curriculum, and, so far as was practicable, each man was allowed to do whatever work in his trade he desired. Work entered upon with enthusiasm would always be useful and prove a source of pleasure and gratification.

The students were welcomed by Mr. Spencer William Morris, the Master of the Carpenters' Company, supported by Mr. J. Hooke, Mr. F. Preston, Mr. Minden Smith, and others.

The Companies which share the credit of promoting the schools with the Carpenters are the Joiners, the Painter Stainers, the Plasterers, the Tyers and Bricklayers, and the Wheelwrights.



Caldicott School, Hitchin.

Mr. Louis A. Hayes, A.R.I.B.A., Architect.

ILLUSTRATIONS.

Guildhall Improvement Scheme.

REERENCE was made in our issue of last week (p. 299) to the proposed alterations in the neighbourhood of the Guildhall, and we refer elsewhere (p. 321) to the general features of the scheme. Designs by Mr. Perks are shown on one of our plates. The top illustration represents the facade to the east block, and the plans of the proposed new building are underneath. Beneath are suggestions for the elevations to the west block and to Church-passage.

Baroque Architecture.

ONE of our plates this week is given in connexion with the third article (see p. 329) of our series on "Baroque Architecture," the first of which appeared in our issue for August 16, and the second in our issue for September 6. The plate consists of illustrations of the Fontana di Trevi and the Palazzo Doria, Rome.

R.I.B.A. Problems in Design.

The designs, by Mr. Erastwich and Mr. Dodd, reproduced as one of our plates, were submitted to the Board of Architectural Education in connexion with the new requirements of the Royal Institute of British Architects relating to the Final Examination. Both the examples illustrated have satisfied the Board.

MEETINGS.

FRIDAY, SEPTEMBER 20.
Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. Charles Porter on "Sanitary Law," 7 p.m.

SATURDAY, SEPTEMBER 21.
The Institution of Municipal and County Engineers.—Eastern District meeting, to be held at the Council Offices, High-street, Grays.

MONDAY, SEPTEMBER 23.
Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. C. Porter on "Duties of a Sanitary Inspector: Out-door," 7 p.m.

WEDNESDAY, SEPTEMBER 25.
Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. C. Porter on "Duties of a Sanitary Inspector: Indoor," 7 p.m.

FRIDAY, SEPTEMBER 27.
Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. C. Porter on "Duties of a Sanitary Inspector: Offensive Trades and Trade Nuisances," 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 341.

Cardiff Fire-Station.

Forty-three designs have been submitted in this competition, and will be adjudicated upon by Mr. A. Marshall Mackenzie.

MAGAZINES AND REVIEWS.

THE *Burlington Magazine* contains an interesting illustrated article on windmills. Essentially industrial in its functions as the wind-mill is, it has identified itself so closely with the romantic that by lovers of landscape and the South Downs especially such an article will be received as a gratifying attention. What do not Crome, Cotman, and the English School of landscape owe to the "post" mill—the oldest and most picturesque of the family? There are three very distinctive types, and anyone who stands on the jetty at Littlehampton may command the three at a glance. A dilapidated "post" mill stands away on his right at the extreme east of the town, a "smock" mill on his left at Oyming, and a "tower" mill near by in front of him. But the "post" mills are few; the "tower" and "smock" variety are scientifically their superiors in the process of milling, and the additional floors they contain render them also more economical in supervision. But life and romance lay with the old "post." It rocked when in operation like a ship at sea.

There is also an article entitled "Artist Life in the Middle Ages," which, if it cannot add much to our knowledge, is of interest. It discusses but does not remove speculation as to the personnel and position of the medieval architect. That there was such a person cannot be doubted. It was not an age of Syndicalism, and the suggestion that cathedral design sprang from a fount-head of "Comacine

Masters," or any such guild or collegiate body, invested with the mystery enjoyed by the modern order of Freemasons, cannot be entertained. It is not, however, a matter of supreme moment. That his personality should be merged in an imperishable achievement is as dignified a record as we could wish an architect to possess.

The *Connoisseur* reviews the "Taylor Collection," now dispersed. It is melancholy to reflect that it was at one time the intention of the owner, the editor of the *Manchester Guardian*, to leave his treasures to the nation, and that it was so specified in a will, later rescinded. The collection contained some cinque-cento bronzes of the greatest beauty. There is also a worthy article on Liverpool and its history, with illustrated references to its civic plate. St. George's Hall and its destinies are in the mind of not a few at the present moment.

The *Architectural Record* presents us with "Examples of Ornamental Plaster Work of the English Lowlands," with plates unfortunately described as Saffron Walden, Sussex, England. That the architecture is English is obvious. That it has nothing in common with Sussex is also obvious, and as a matter of fact, of course, Saffron Walden is in Essex. These examples of parge work are curious and executed with boldness. But designs of real beauty may be found, throughout the eastern counties particularly. They belong generally to the late XVIIth and early XVIIIth centuries. Lime, hair, and sand, the ordinary "wattle and dab" materials, are used, and the pattern, when in relief, modelled by hand. Sometimes a wooden template of the running ornament to be executed would be fixed to the wall, and the plaster face being brought up flush, and the templates removed, the sunk ornament was displayed upon the plaster. Old parge moulded floral patterns are especially beautiful.

This class of work succeeded the more refined stucco modelling, introduced by Italians in the XVIth century, such as is found at Longleat and Hardwick. This was frequently executed with great skill and fertility of design, but the homely parge work often displays a charm that is far more appealing. There is also a scholarly article on the "Architecture of Mexico City." The writer is inclined to question Richardson's choice of a model for a national type of architecture, when he sought it at Fontiers, while such types of historic interest already exists at home. Given the sunshine, the richness of colour on tile and plaster is no doubt alluring. But Spanish architecture of the XVIIth century is scarcely capable of further development. It was already overripe, "a fascinating display of brilliant littleness."

The *Nineteenth Century* has an article which can scarcely, perhaps, be termed archaeological, though dealing with an episode that figures so largely in a study of that nature—the descent of the Gods upon Rome. It is a vivid description, conceived with imagination from the pen of Professor Flinders Petrie.

The *National Review* contains a survey by Mr. W. Roberts of the progress made within recent years by the American picture collector. A list prepared in 1880 of the works of the principal old masters by that time imported is almost too inconsiderable for notice. By the year 1910 it seems that the number of Rembrandts alone had reached a total of eighty-six. Out of these eighty-six only nine belong to public institutions. A knowledge of what you are proposing to buy and a long pocket are the standard requisites of the collector. The former may be acquired or its deficiencies supplied by the assistance of agents and experts, while recent sales have established the fact that in the auction room America has the advantage. But to collect for the true and legitimate pleasure of it, you must hazard personal knowledge and judgment: it may even prove a greater commercial advantage than the mere power to bid.

BOOKS RECEIVED.

COLOUR IN THE HOME. By Edward Duveen (London: George Allen & Co. 2l. 2s. net.)

PRACTICAL GEOMETRY AND GRAPHICS. By E. L. Bates and F. Charlesworth. (London: B. T. Batsford. 4s. net.)

PRACTICAL MATHEMATICS. By E. L. Bates and F. Charlesworth. (London: B. T. Batsford. 3s. net.)

FIFTY YEARS AGO.

From the *Builder* of September 20, 1862.

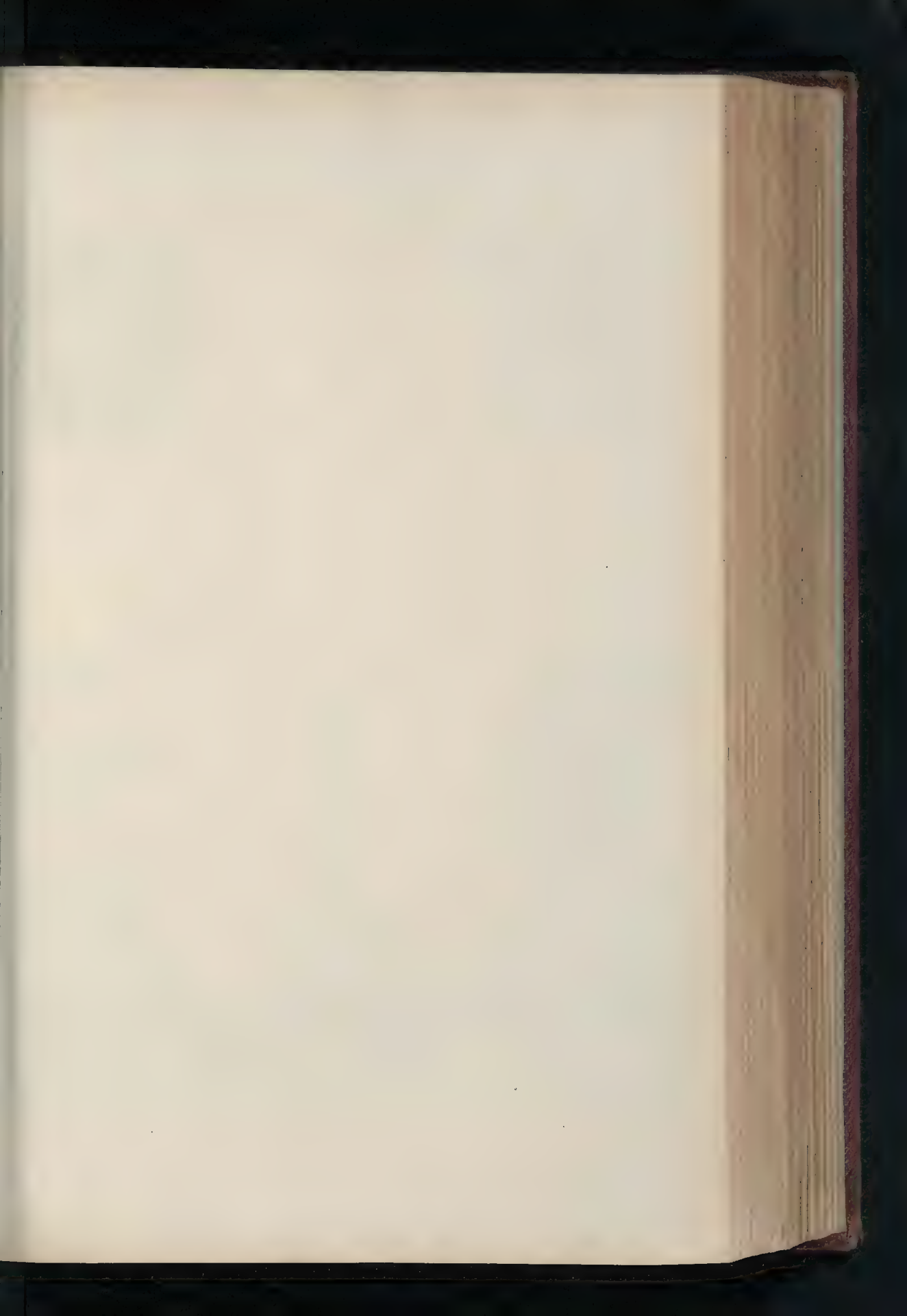
Utilising Roof Tops.

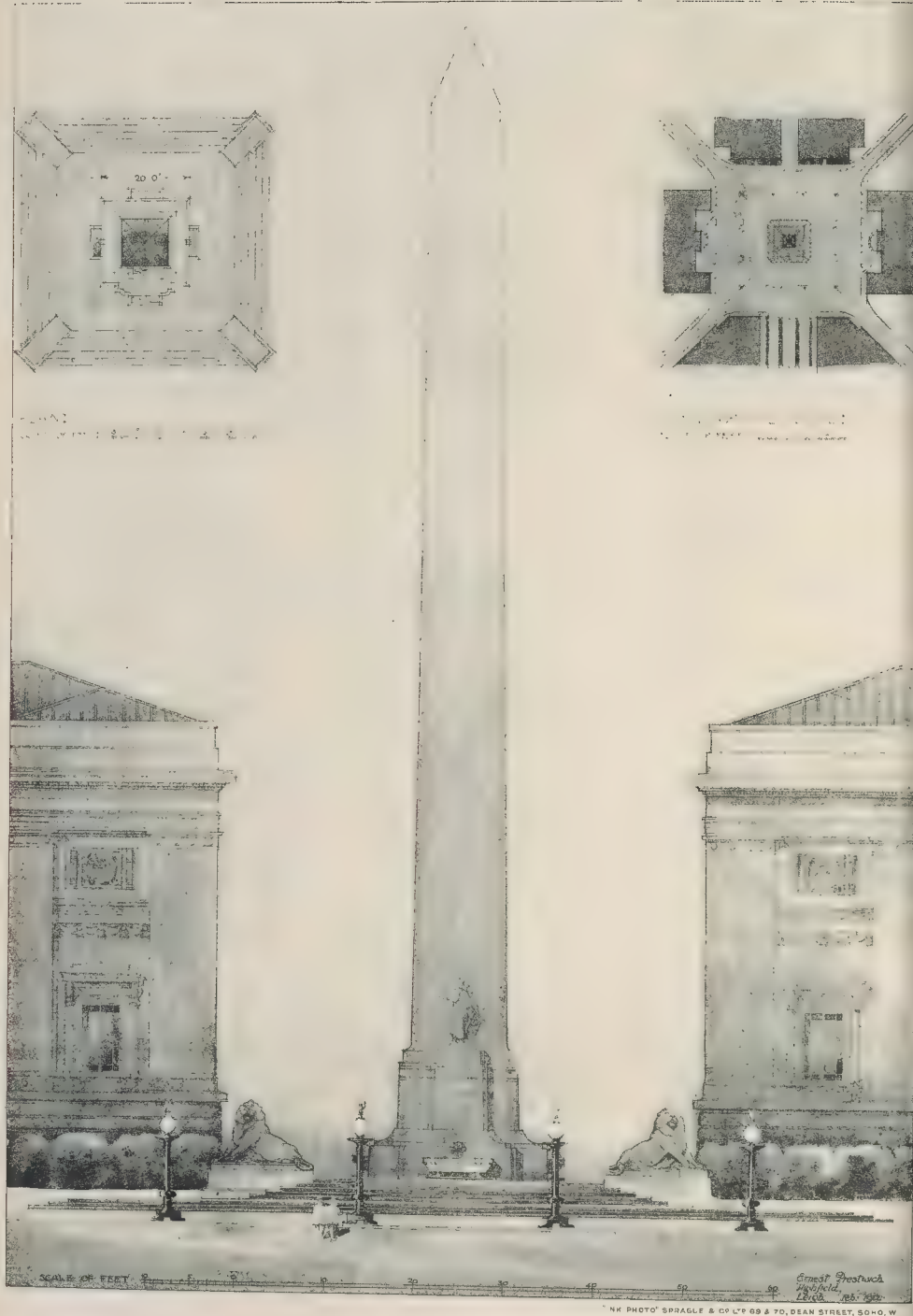
IN a block of building in the Pleasant Edinburgh, a novel arrangement—that of converting the roof of the house into a bleaching-green—has been carried out. The *Courant* gives the following particulars:—In the roof, which is, of course, flat, the first requirement is that it should be water-tight. To secure this the sole is constructed of thick iron plates, riveted together at the flanges and having india-rubber introduced in the manner of a "washer" between the edges. To resist corrosion the iron has been treated while in a heated state with oil which, it is expected, will act as a preservative of the metal. Over the joints of the plates asphalt has been poured, so as to assist in preventing the access of damp to the house below. Next the iron a thin layer of clay is placed, above which soil is laid, making a thickness of 12 in. from the iron to the top of the turf. The "green" is divided by walks of asphalt, so as to preserve the turf, and, at the same time, to give access to all parts of it. Round the sides the edges of the plates are turned up to the extent of 14 in., so that continuous rain to that depth must fall before the water can run over to the walls, supposing all drainage and evaporation to fail.

.* The utilisation of the roof of a building otherwise than as a box-room is assuredly a novelty no longer. Some of the large modern Stores use the roof as a café. At St. Bartholomew's Hospital there is a tennis court. Upon the pavilion on Brighton Pier there is a promenade. There are numerous instances of drying-grounds and gardens, while there is at least one apiary in the middle of London. Had methods of construction been limited to those above described, no doubt the bleaching-green referred to would be a novelty still. The specification reads more like that of part of some pre-historic ironclad than an industrial flat. The cost must have been considerable and prohibitive towards any general adoption. The use of concrete floors and asphalt as a jointless covering has made the problem an easy one. From the point of view of design, a flat roof demands that the building shall be conceived in the Classic manner, with perhaps the dignity added which size can impart. In this age of eugenics and *plein air*, the dwelling-house with a flat roof is not past comprehension: a "desirable residence" with its self-contained playground or swimming-bath should not long remain on the hands of the enterprising agent. But the high-pitched roof—a native of that part of the world in which we dwell—has its uses in maintaining an equable temperature in a house; it has fulfilled all requirements when it has proved itself weather-tight; it too often happens, however, that the moral of wasted opportunities may be applied here, for space beneath the roof is woefully wasted instead of being turned to the reasonable use which the space invites.—Ed.

ART AND CRAFTSMANSHIP CLASSES.

The London County Council announces that the evening classes held in Polytechnic Technical Institutes, Schools of Art, Commercial Centres, and Evening Schools will shortly be reopened. The programme includes classes to meet all kinds of needs. For students who are engaged in trades there are held in the Polytechnic and Technical Institute classes in all necessary subjects. Art and craft students will find provision in the Schools of Art for the study of every branch of craftsmanship. Boys and young men can obtain instruction in wood and metal work and in workshop drawing and calculation to prepare them for the Polytechnic and Technical Institutes. The enrolment of students began on Monday, September 16, and a leaflet giving particulars as to where the classes are held and as to fees can be obtained at any of the Council's schools and of the Education Officer, Education Offices, Victoria Embankment.





A MONUMENT IN A PUBLIC PLACE TO COMMEMORATE THE REFOUNDING OF LONDON BY KING ALFRED.
By MR. ERNEST PRESTWICH.

(R.I.B.A. Problems in Design.)

THE BUILDER, SEPTEMBER 23, 1912.

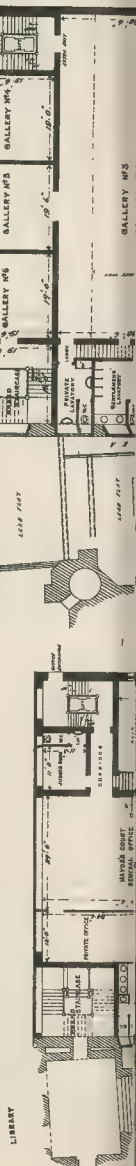
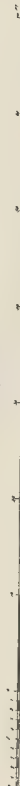


FONTANA DI TREVI, ROME.

Sprague & Co., Ltd., Printers, 98 & 70, Dean St., London, W.

ELEVATION TO GUILDHALL YARD.

SCALE



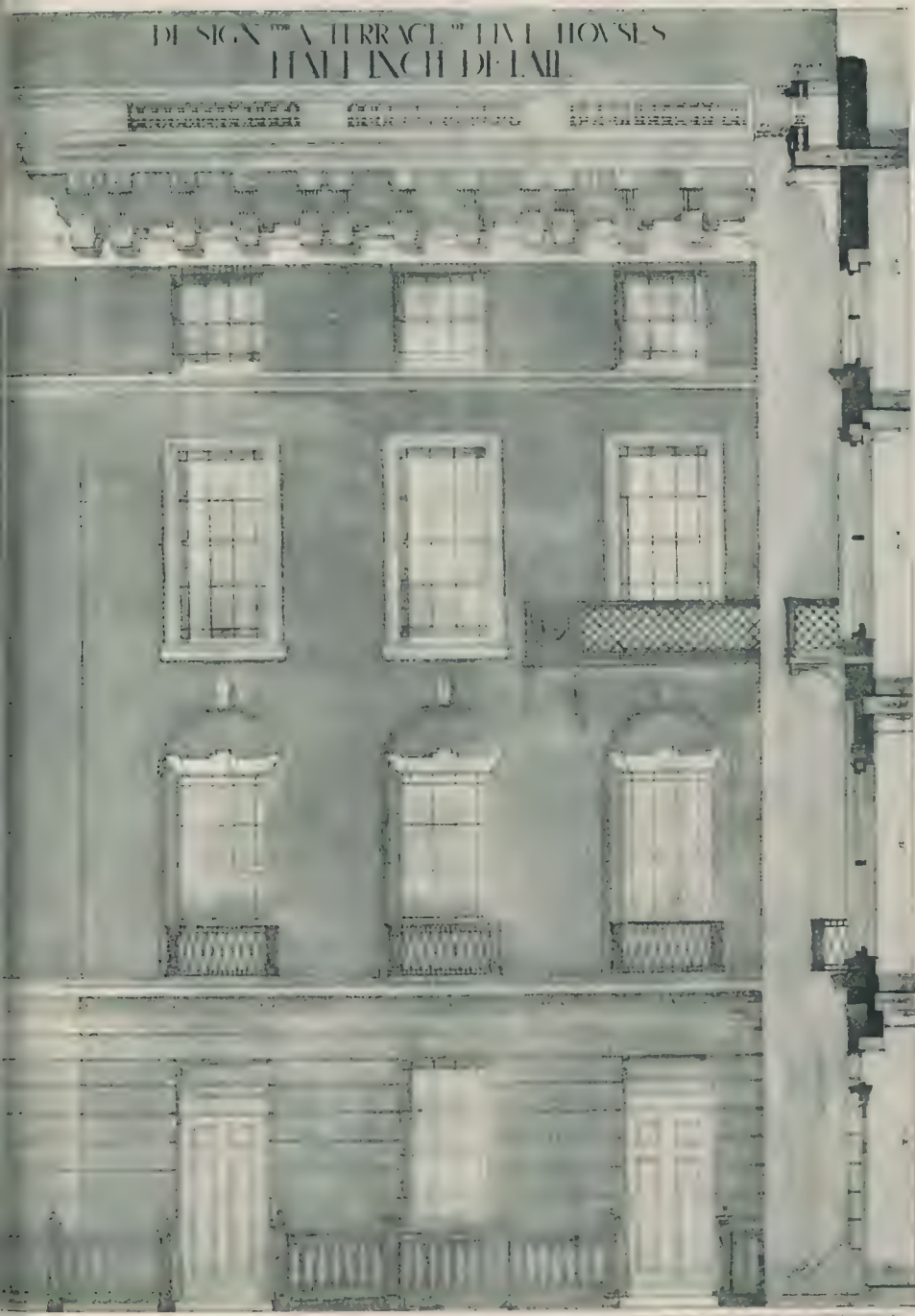


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PALAZZO DORIA, IN THE CORSO, ROME.

"BAROQUE ARCHITECTURE," III

DESIGN FOR A TERRACE OF FIVE HOUSES
HALF INCH DETAIL



DESIGN FOR A TERRACE OF FIVE HOUSES.—By MR R. F. DODD.

MONTHLY HISTORICAL REVIEW.



[Photo. by Richter.]

The Spanish Steps, Rome.

With Bernini's celebrated Fountain, "La Barca" (the Ship), in the foreground.

BAROQUE ARCHITECTURE: III.

ROMAN PALACES AND GARDENS.

(Continued from page 279.)

THE architectural labours of the Popes were by no means confined to churches, for, although, as we have seen, an incredible and perhaps disproportionate number of these buildings were erected, the pontifical energies were equally active in other channels. Their newly-awakened theories as to nepotism and the establishment of their families account for their magnificent palaces in Rome and villas in the country, while their desire to beautify and ennoble their Church and their city produced their more official buildings and their civil monuments.

What we may group as official palaces of the Papacy are the Vatican, Lateran, and Quirinal palaces, the Sapienza, Collegio Romano, Propaganda, etc. Their purpose was to house the Pontiff and his vast retinue on the one hand, the army of papal officials on the other. In modern times there have been many changes of ownership, and the crossed keys over many famous palace doors have been superseded by the arms of United Italy. Yet the Vatican and the Lateran continue in the unbroken succession of many centuries.

It was some five hundred years after Christ that the first Popes came to dwell in

the Vatican, but it was a thousand years later when the Renaissance Popes increased it to any great size.

Nicholas V. decided, about 1450, to make the Vatican the most imposing palace in the world, uniting under its roof all the offices of his Government and all the dwellings of his cardinals. In the ensuing century the first library, the Appartamento Borgia and the Stanze, the Torre Borgia, Sistine Chapel, Belvedere, and Bramante's great court were erected. This, then, was the extent of the Vatican at the beginning of the Baroque period.

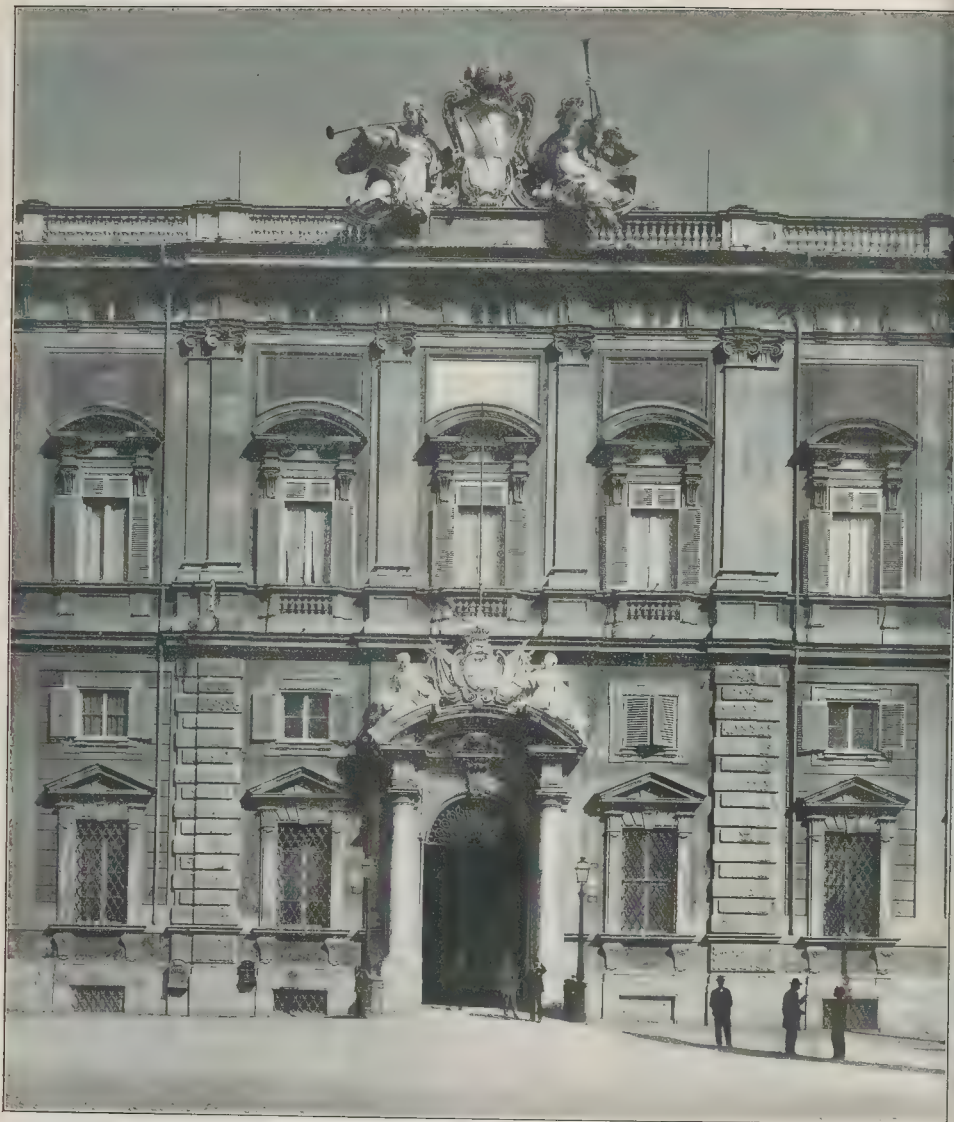
The lovely little casino in the gardens—the Villa Pia—is the first building for us to notice, but it barely seems to belong to the Baroque style, rather to that vague category of villas and garden-houses which includes the Pamphili, Medici, and Borghese villas, and which is neither pure Renaissance nor Baroque. Here, as in the Villa di Papa Giulio which preceded it by several years, the architecture seems to breathe the spirit of classic times, perhaps recalling the days of Imperial Rome with its rich and almost debased refinements in marble.

Sixtus V. left his mark upon the Vatican buildings; and of his additions the

best known is the Library, which divides Bramante's enormous court into two parts, the Cortile di Belvedere and the Giardino della Pigna. But between 1585 and 1605 was erected that strange amorphous group which has now become the real home of the Popes, the greater part of the palace being devoted to art collections. Fontana adopted a façade closely resembling that at the Lateran, which he was building simultaneously, a simple Late Renaissance treatment with a good cornice.

Maderna's work at the Vatican is limited apparently to the water-garden; and Bernini, who followed him, has left only one example of his art, but that is a masterpiece.

The Scala Regia is more than a staircase, more than even a royal staircase need be; it is one of the greatest achievements of the Baroque period. Critics will differ as to the legitimacy of his scheme for lengthening the vista by diminishing the width of the stairs the whole distance up to the landing. Yet the effect is wonderful, and compares favourably with some of the famous instances at Genoa or in the gardens of the villas at Frascati. In the matter of staircase design, the Baroque period stands superior to any other epoch in architectural history.



Palazzo della Consulta, Rome.

[Photo. by Gargioli.]

Lastly, it might be noted that much building has been done at the Vatican in more modern times by Pius VI. and Pius VII., and even recently.

The Lateran Palace is more compact and less straggling in arrangement. From early Christian days down to the XVth century it was the official dwelling of the Popes, but, as we now see it, it is largely the work of Domenico Fontana, who "restored" it in 1586. It consists of a group of buildings round a square court with arcades. For some seventy years it has served as a museum to contain part of the incomparable treasures of the Popes. In appearance it closely resembles Fontana's work at the Vatican, a great façade crowned by a heavy cornice, fifteen windows in the whole length and three stories high, with a rusticated central doorway.

The Quirinal Palace, now occupied by the King of Italy, was formerly a summer residence of the Popes, to whom its healthy situation appealed. It is also largely the work of Baroque architects, having been begun in 1574 by Flaminio Ponzio.

The remaining official buildings of the popes are of no great architectural importance here, though often on a considerable scale, and the rest of this chapter may better be devoted to other matters.

The greater private palaces of Rome are, with a few exceptions, the residences of families whose fortunes were made when one of their members became Pope, and dating in no case earlier than the XVth century. The Palazzo Venezia and the Palazzo Colonna, though differing so much in general appearance, are not separated by a wide span of years.

The growth of Roman prosperity in the earlier part of the XVth century, however, is marked by a succession of large palaces by Bramante, Peruzzi, and Sangallo, and by their successors—Michelangelo and Vignola, in whose work, we are told, may first be discerned the "germs of the Baroque corruption." Putting aside for the moment all buildings outside the city proper, we find that Sangallo and Michelangelo's Palazzo Farnese represents the culminating point of the pure Renaissance palaces, and perhaps the prototype of the sumptuous Baroque designs which followed. In the work of Fontana at the Vatican and Lateran the influence of the Palazzo Farnese is easily to be traced, and one may assume that it was regarded even in those days as masterpiece. In Lunghi's Palazzo Borghese we notice the same motive, an immense

g and lofty façade, with a great cornice
a simple system of fenestration, ornament
restricted to the central doorway. Yet
design is in most ways inferior to the
ness. The courtyard of the palace is
rimingly treated with coupled columns
arches.

This building was bought by Paul V.
ing its construction for one Cardinal
zza, a Spaniard, and was eventually
pleted by Flaminio Ponzio.

Martino Lunghi also built the Palazzo
emps (1580), and to this same semi-
roque period belong the Giustiniani,
icellotti, and Ruspoli palaces.

Montaigne, in his visit to Rome in 1580,
es some account of life among the grandes
the city, and appears astonished at the
liance of Rome and its people, which he
sidered comparable with his beloved
is. In those days French influence
manners were in the ascendancy, for
was many years before Spanish etiquette
l completely altered the face of things,
l reduced the occupations of the
stocracy to making a display and con-
vening with tables of precedence. Yet even
1580 Montaigne tells us:—

"The city is all for the courts and
nobility, every one adapting himself to
the ease and idleness of ecclesiastical
surroundings. There are no main streets
of trade; what there are would seem small
in a small town, palaces and gardens take
up all the space.

In the palaces the suites of apartments
are large, one room after the other, and
you may have to pass through three or
four rooms before you come to the chief
saloon.

In certain houses where M. de Montaigne
dined in ceremony the buffet was not set
in the dining-room, but in one adjoining,
whither the servants would go to fetch
drink for whomsoever might call for it;
here, too, was displayed the silver plate."

Of the palace gardens he says that the
most beautiful are:—

"Those of the Cardinals d'Este at
Monte Cavallo and Farnese at the
Palatine; of Cardinals Orsini, Sforza, and
Medici; of Papa Giulio and of Madama;
those of the Farnese and of Cardinal
Riaro in Trastevere, and of Cesio outside
the Porta del Popolo."

In the XVIIth century many more palaces
were built, the Palazzi Sciarra (1600),
spignoli (1603), by Ponzio, Mattei (1615),
Madama, Barberini (1626), Madama
(42), Pamfili (1650), Altieri (1674), and
oria being the most important.

The Palazzo Sciarra was built by Cardinal
rberini, who may have bought the site for
gardens existing there, which were
eady laid out. These gardens he embellished
ll further, and the beautiful fountain
orned with cupids is of the Baroque period.
e façade of the palace is still simple in
aracter, the "barocco corruption" is still
sent, but to most architects its virile
es will appeal far more than do the
tenuated pedantries of a hundred years
fore. It is what is technically known as a
oroughly architectural design, and only an
chitect thoroughly grasps what that means.
e huge Palazzo Barberini, too, though
is the joint production of the three most
pical Baroque architects—Madama, Borro-
ini, and Bernini—does not suggest a
sordered imagination, but rather a highly-
veloped sense of the magnificent. The
ade is infinitely more dignified than the
alazzo Giraud, infinitely more restrained
an the Palazzo Spada, or even than some
those sacrosanct but confectionery-like
ildings of the Renaissance in some of its
eliter and, as we are told, more palmy days.
he staircase may be original in its grand
iral sweep, but the Doric Order—unem-
lished and simple—is employed. Nor is
ere anything despicable or extraordinary,
anything that is not palatial, dignified,

and grand in the great gate-piers at the
entrance.

Our next two examples, it is true, dating
from the middle of the century, display
more freedom, perhaps almost to the point of
licence, in some of the decorations.

Thus the façade of the Palazzo Madama,
built by one Marucelli, though carrying out
accepted tradition in its proportions and
fenestration, has all its features accentuated
by ornament, and the exterior of the
Palazzo Doria in the Corso leads us one
step further on what we are assured is the
downward path. Its interior courtyard is
restrained enough in design, dignified and
grand, again with the Doric Order. Its size
is colossal, larger than the royal palace of a
small State and capable of sheltering a
thousand inmates, as indeed it has done.
But taking these XVIIth-century palaces
strictly on their merits, putting aside the
disrepute which has accrued to them all
through the Victorian era by reason of
prolific criticism, can we as architects abuse
them? Are we bound to accept a mass of
opinion when we admit that very little
of what is written about architecture is
written by capable architects? When we
know perfectly well that a building in the
style of the Cancellaria or the Giraud palaces,
of the Pazzi chapel or of Giotto's campanile,
would be rejected in any competition on its
merits; when we realise that almost every
eminent architect who has mentioned Italian
architecture in recent years has protested

against sweeping criticisms of its later
phases, can we in honesty curse the Baroque
with candle, with bell, and with book
simply in deference to the bigoted views
of a few enthusiastic but narrow-minded
amateurs?

The XVIIth-century palaces of Rome are
expressive of the age in which they were
built in the sense of their magnificence,
their love of display, and their dignity;
but to say that on this account they are
false in construction and overloaded with
ornament is manifestly absurd and out of
accord with obvious facts.

We cannot claim that they surpass the
Farnese palace in elegance; we contend that
they are worthy of comparison with the best
work of the Renaissance, and far superior
to some of its earlier examples whose value
—like that of South Sea idols—is derived
more from their place in artistic develop-
ment than as examples of the world's
greatest art.

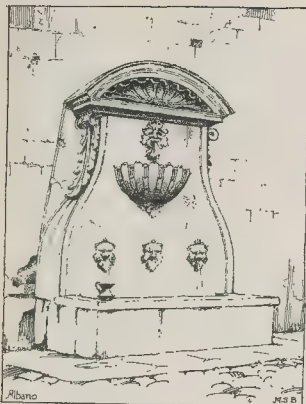
* * * * *

It may seem strange to any who have not
considered the subject that a hard-and-fast
line should be drawn between the town
houses of the Popes in Rome and the villas
and gardens which lie just outside the city,
or at most a few miles away on the Alban
Hills. For there is not the same apparent
difference in planning and design as in the
case of modern English town and country
houses as we know them.



Palazzo Belongnetti, Rome.

[Photo. by Gargolli.]



Fountain at Albano.

Nor may it have occurred to the reader how much these villas are bound up with the Baroque period.

Of late years it has become fashionable to take some notice of the old gardens of Italy, and several sumptuous volumes have appeared illustrating and describing them in detail. It is not surprising to find architects figuring as students of this phase of Italian art, for there is much to be learned by a careful study of the subject, more indeed than appears at first sight.

What the Baroque architect realised so fully was exactly that quality which has only just begun to dawn on the mind of the modern Englishman, that the effect of a house depends very largely on its setting. We might even go further and say that the former cared more for the setting than for the house itself, and perhaps a reason for this may be found later.

The "villa habit," if so we may describe it, was largely the outcome of climatic conditions, and was especially welcome in Rome. For malaria still hangs round the city in the summer months, and must have been far more virulent before men knew of any precautions with which to meet it. This disease is chiefly prevalent in marshy and low-lying country, so that the majority of villas are found either on the hills immediately surrounding Rome or on the more distant and loftier slopes of Frascati.

The Romans built villas long before the XVIth century. The Villa Adriana at Tivoli, for instance, was erected a little more than a hundred years after Christ, while Tuscolum, almost on the site of modern Frascati, was a favourite summer resort in classic times. The villas of Pliny and Mummius have been exhaustively dealt with by many writers, but the chief value of these researches is that we are thereby enabled to trace a close and exact parallel between the Roman country houses of pagan and of papal times, and thus to add yet another to the long list of similarities between Rome of the Emperors and Rome of the Popes.

During the Dark and Middle Ages villa life and the cult of gardens alike waned, the country house being fortified against marauders, while gardening was restricted to domestic requirements and a patch of vegetables was often all that was to be seen from the close-barred windows. Moreover, this fortified state is said by some to be reflected in the massive basements of the later Frascati villas, where the incursions of brigands from the lonely hills was a constant dread.

Although there are a few precious and isolated examples, a little group of villas and gardens of the early XVIth century indicates the revival of interest in this branch

of art and the gradual return of Rome to its classic past.

In ten years or so we find four well-known examples being laid out—the Villa Madama just across the Tiber (possibly by Raphael), the Palazzo del Te at Mantua, the Palazzo Doria at Genoa, and the Villa d'Este on Lake Como, all on more or less formal lines.

By the time that Vignola and Ammanati were at work on the Villa di Papa Giulio (1550) some general principles of garden and villa design had become established, and these may well be considered here before passing on to the later examples.

The villa or casino varied greatly in size, sometimes being very little more than its name implies in England, at others attaining to the scale of a great mansion. It is perhaps too much to say that the villa is subservient to its garden, but it is never too large for the garden. The internal arrangements were invariably simple, and did not cater for the more complex life of a town. The rooms, though often lofty and richly decorated, were few in number, usually *en suite* and without any connecting corridor.

Their architecture may be divided under three heads. The classic refinement of the Villa Papa Giulio and the Villa Pia in the Vatican Garden developed into the peculiar design of the Villas Medici, Pamphili, and Borghese, where a new style seems to have been evolved particularly suited to the purpose—a style not at all suited to the street of a busy town, but capable of execution in stucco. Then we have such grandiose buildings as the Villa "Aldobrandini" at Frascati, most bombastic of all, but not, one feels, so well adapted to a garden, however splendid; and, lastly, there are such simple and unpretentious country houses as the Villa Torlonia, also at Frascati, where the style can hardly be defined, being rustic and cosmopolitan.

Yet the fact undoubtedly remains that these houses are unimportant. Their sole interest is as a part of a garden scheme, of which they invariably formed a centre.

Nearly every famous villa in or near Rome lies upon the slope of some hill, and its position on the site is always contrived with consummate skill. An axial line is usually taken from the main entrance to the grounds through the centre of the house and beyond, and a formal treatment is adopted. But the whole triumph of this Italian garden design lies in its adaptation of nature to a conventional treatment, for, as Percier and Fontaine have happily phrased it:—

"It is art which has adorned nature, and not art which has wished to create it."

So the main principle of these architects seems to have been to lead one in gentle stages from the saloons of the house to a formal terrace with balustrades and statues, from the terrace to a formal alley between close-clipped ilex hedges, from the ilex walk to the rustic wilderness of the *bosco* or wood beyond. Occasionally more of a contrast was aimed at, so that in the *bosco* one came unexpectedly on the main axial line of the house prolonged in cascades and terraces.

The power of the Italian sun accounts for the almost complete absence of flowers, so apparent a want to English eyes, yet not so much in Rome where the brilliant rays cause one to demand but two things in a garden, shade and running water. Of these there is always abundance, and at one period the hydraulic engineer contested with the architect the post of chief importance in a garden. His task was not only to supply water for the cascades and fountains of every kind, which are so prominent a feature in all these gardens, but in some cases to devise "quaint conceits" for dousing the delighted guests of the cardinal or other lordly owner. In full accord with the broad and lusty humour of Shakespeare's day is the extract from Evelyn's diary at Tivoli many years later, where he talks of "many devices to wet the unwary spectators, so that one can hardly walk a step without

wetting to the skin." Of the same delicate character was that collapsible island, Isola Bella, where the house-party—happily watching the sunset—gradually sank in the lake till drowning was sufficiently imminent to proclaim the joke complete. Montaigne tells us, too, of organs played in water, of chirping birds and unexpected owls appearing, and of many scientific tricks of the sort, though he had seen the same things elsewhere, he says.

These general remarks on Italian gardens describe as far as is possible in a few paragraphs the gardens of the Baroque villas in and near Rome.

The most important examples in Rome are the Villas Borghese, Chigi, and Corsini at Frascati the Villas Aldobrandini, Borghese, Falconieri, Mondragone, Muti, Lancellotti and Torlonia.

The Villa Medici (1540) in Rome is early to be strictly considered as Baroque and the Villa Albani (1760) almost too late.

No man who has ever travelled through Italy needs to be reminded of the charm these lovely gardens, their silence and peace, their coolness and their dignified perfect blending of architecture and nature. But as he climbs their stair flights of steps or leans pensively over moss-grown balustrade of some silent forlorn lake at Frascati—the cypresses stand black around him, the dome of St. Peter in the purple distance—he should remember that these dreamily beautiful places are solely the creation of the despised Baroque architects.

We have now passed in review most of the work of the Popes in Rome—their church palaces, and their villas—but we have still to mention many things, some of the hardy buildings, which they built in the city.

We have some idea of what Rome would be stripped of her Baroque churches, palaces, of the many empty sites and ragged streets which would be left. Yet to some people this would be no loss, and one might imagine some—of more than usual enthusiasm for the work of approved period—who would not notice the difference if, three-quarters of Rome were spirited away. But even to such people, even to some of those great critics of art who are so vituperative about Baroque, we think there is something which must appeal.

Rome without its fountains, its public places, and its central features, would hardly be Rome at all. And, with a few trifling exceptions, all these fountains are Baroque. Their variety is infinite, but their effect



Bernini's "Scala Regia," Rome.

ally admirable. There are one or two which can hardly be classed as fountains, as the Acqua Paola in the Janiculum. Its strange erection is one of the very worst functions of the period, and, in view of its prominent position, is one of those undoubted ones which have brought the style into a disrepute. Meaningless, huge, and it was set here by Paul V. (that Pope), in derision, was christened by the palace "Fontifex Maximus" to signalise an otherwise fine achievement in bringing a good supply of water to Rome. In striking pleasant contrast is that equally famous but less prominent work, the Fontana di Trevi, erected in 1735 from the designs of Giovanni, one of the happiest efforts of the later rococo period.

Of another very different type is the series of fountains in the Piazza Navona, one of which is the most successful work, where the effect is all the better as the whole tone of the piazza is Baroque. Then there are the numerous other examples scattered through the city, most of them picturesque and roughly admirable, a few (such as the Fontana di Piazza) merely bombastic.

And, lastly, we have these schemes which cannot be classed as buildings at all, the Piazza di S. Pietro—admittedly one of the most impressive things in Rome—the Piazza del Popolo, the magnificent steps in the Piazza di Spagna, and the monumental approach to the Capitol. There are many other places we might mention of the same type; there were schemes of an equally wild nature (such as Carlo Fontana's for forming a great piazza behind St. Peter's) for opening up (the Borgo), but if the rococo style in Rome is to be criticised, we who are again studying the problems of town planning remember how large a part the greatness and the peculiar fascination of Rome is due to the genius of some of her builders in the XVIIIth century. M. S. B.

AN OLD KINGSTON INN.

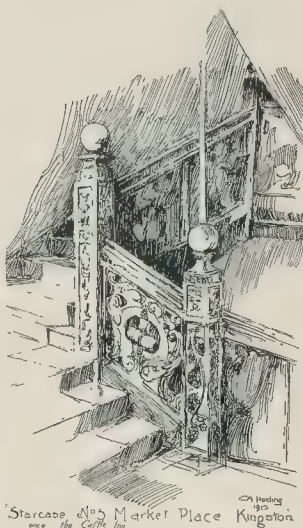
KINGSTON-ON-THAMES, a town of note in the past, possesses many interesting memorials of other days. Memories of Roman and Saxon, Saxon and Tudor, Cavalier and Roundhead cluster round its name, and it is the purpose of this note to recall one of the old inns, the "Castle," the last traces of which are now disappearing before the housebreaker. Kingston always had a reputation for its inns, and a goodly number they were, too, most of them standing on the market-place. The subject of our sketch, known latterly as No. 5, stood between two others, the "Sun" and the "Griffin," on the western side. The three were of ancient foundation, the "Griffin" dating from the times of Edward VI., and were much used as posting inns. The "Castle" dates back before 1626, for in that year the valuation of the tithes of the vicarage shows the inn paying 3s. 4d. The building at one time must have presented an interesting appearance with its courtyard and galleries, and no doubt founding in relics of the past, for during the Civil War the soldiers of Cromwell and of Fairfax were quartered there, and many stables of all periods have rested from their turnings in the inn. In the middle of last century it was converted into dwelling-houses, and then into a furniture store to make way for modern accommodation for which the old buildings have been recently destroyed.

The chief glory of the house, however, was the fine oak staircase, which dates from the end of the XVIth century. It is extremely old, and shows the fanciful spirit of the age in its vigorous and heavy carving.

Of the familiar novel type, it is remarkable for the elaboration of all its features. The newels are square and solid, with small carved panels in the upper portions above the massive handrails in which are placed masks of bacchanals. The lower portions of the exposed newels are enriched with a vigorous grape-vine ornament. The strings are boldly moulded and carved with laurels, while in place of the usual beaded balustrade, common at the period, the richly-moulded handrail is supported on carved panels, in which allusions to the hospitality of the house in the form of barrels, etc., are prominently placed. The finials to the newels

are mostly balls on pedestals, but on one or two they are replaced by small Bacchus-like figures riding upon tuns.

A curious series of initial letters is inscribed upon the upper parts of the newels; for instance, one bears the letters I O R P G V P, another C B, E B, S B and A B. These two last pairs, by the way, are also found with the dates 1651,



1656 (? 1636) stamped upon the bricks of which the back portion was built.

Such, then, is all that now remains of the old "Castle" inn, and it is to be hoped that in the future the old staircase will be as accessible as it was in the past, and that its quaint carving and solid construction will preserve it for time to come as an important specimen among the now rapidly-vanishing examples of our ancient domestic architecture.

BRITISH MUSEUM.

In the annual report on the British Museum, just presented to Parliament, it is stated, *inter alia*, that during the year 1911 excavations were conducted on behalf of the Museum at Jerabab, on the Rupbrates, the site of the ancient Hittite town of Carachemish. Sculptures and inscriptions of considerable interest were found, together with a large amount of pottery, which will be of great assistance in fixing the dates of other Hittite sites. The excavations, which promise to be of considerable importance for ancient history, are being continued this year.

Recent accessions in the Department of Egyptian and Assyrian Antiquities include a mastabeh door bearing the very rare cartouche of Psammetichus III., and a very fine seated statue of a scribe and architect named Senmut, about 1550 B.C. The Department of Greek and Roman Antiquities has been unusually fortunate, having obtained at least three accessions which may be counted as of first-rate importance. One of these is a very fine sepulchral relief of the IVth century B.C. of exceptional size, another being a bronze chariot of the VIth century B.C., found near Orvieto, and now restored on a modern core of wood—an object of a very rare class, in a good state of preservation. The Department of British and Medieval Antiquities has, as so often before, owed a very large number of its accessions, including some of the most important, to the generosity of private benefactors. A beautiful set of church plate from the Hospital de la Vera Cruz, near Burgos, in Spain, was presented by Mr. J. Pierpont Morgan. A very important collection of Late-Keltic antiquities, of about the 1st century B.C., found at Welwyn, Herts, and acquired by the late Mr. G. E. Derang, was presented by his daughter, Mrs. A. J. Neall. It would be impossible, the report adds, for the Museum to maintain the

opposition which general opinion, both at home and abroad, assigns to it if the purchase grant voted by Parliament were not largely supplemented by the enlightened liberality of many benefactors, great and small. The number of desirable objects which come into the market annually is so large, and the money value of the more important specimens has risen so greatly, that no Parliamentary grant could be expected to suffice to meet all demands, and it is therefore all the more satisfactory to know that private individuals, rich and poor, are now recognising the claims of this form of national service.

BUCKINGHAM PALACE.

UNDER the directions of the Office of Works a firm of contractors is making a complete "measuring up" of the fronts of Buckingham Palace, and several travelling cradles have been adjusted in position. It is understood that the operations are intended to provide data upon which to base estimates for an entire renovation, or alteration, of the Palace façades. On July 13, 1837, Queen Victoria first occupied the Palace, built, at a cost of nearly 500,000*l.*, by Nash—the drawings were made by his pupil, Charles Mathews, the comedian—to take the place of Buckinghamshire House, built in 1703 by Captain Wyndham or Wynne, for John (Sheffield), Duke of Buckinghamshire and Normanby, on the site of Arlington, formerly Goring, House, which he had bought in 1689 of Isabella, Duchess of Grafton, daughter and heir of Lord Arlington. Sir Charles Sheffield in 1761 sold the mansion, which was settled upon Queen Charlotte as the "Queen's House" in lieu of Somerset, or Denmark, House in the Strand. In 1847 Blore added to Nash's palace the east front, 350 ft. long, facing the Mall, and set forward the railings. Nash designed also the entrance into the Queen's Mews, which cost nearly 64,000*l.* Blore's estimate of 150,000*l.* for the new works included an extensive rearrangement in the north and south wings, new kitchens, guard-house, etc., and the park gates at Buckingham Gate; the south ballroom was added subsequently. A view of the "Queen's House" is given in our issue of July 6, 1901; in the Grace Collection is a valuable set of plans, copied by Frederick Grace from the originals, of the Goring Estate and Sir Charles Sheffield's land, the Mulberry Garden—now the palace grounds—as planted, *temp.* James I., by William Stallenge for cultivation of silkworms. In Weale's "Designs of Ornamental Gates, etc., of the Royal Parks" are illustrated Vanbrugh's designs of gates, in or about 1737, for Buckinghamshire House.

HISTORICAL NOTES.

Quarr Abbey Church, near Ryde.

ON October 12, the feast of St. Wilfrid, Patron of the Isle of Wight, the Right Rev. the Bishop of Portsmouth will consecrate the completed permanent church of Quarr Abbey, erected in close proximity to the site of the original mediæval one. Monastery and church are all in brick, and the church walls inside, having no plaster, are consequently very effective, and the treatment of arches and window-heads and the curious feature of interior arcing in front of the transept window lights is very original. The whole practically of the monks' choir and the chancel are included in a huge square lantern with corner turrets, and a small space for the public is placed at the west end of the part for the monks, divided therefrom by a low arch, over which, on the eastern side, will be the organ, invisible to the public. The west front has a very wide entrance, with the springing about at the ground level, and no west window. A lower south-west corner turret will contain some of the bells, for it hardly looks feasible to crowd the four into it; the north-west corner turret has a circular upper staging closely pierced with narrow openings whose heads are treated in the same curious way as the minor arches in the church—that is to say, by overlapping brick-ends. A high conical roof of flat tiles crowns this turret. When the church has been consecrated the present iron one will be pulled down, and on its site the south walk of the cloister will be erected. The monastery and church are very conspicuous from the sea and also from most of Ryde Pier.

Ruthven Castle.

THE historic Castle of Ruthven, now known as Huntingtower Castle, which stands on a ridge between the rivers Tay and Almond, near Perth, and forms a landmark in the surrounding country, has been transferred to the State under the terms of the Ancient Monuments Act, and its repair and preservation is being taken in hand by the Board of Works. The portions of the medieval structure now standing are two massive battlemented towers which are connected by a building of later date, containing a wide oak staircase. For a century or more the castle has been divided up into tenements and inhabited by a number of families, but only the two dwellings in the western tower are now habitable, the rest of the interior and the exterior generally being in an almost ruinous condition. The pointing and grouting of the walls has been begun after the removal of the creepers and even trees, which grew upon them, and where necessary missing and decayed stones are being replaced, and the roofs made weather-tight. In the upper story of the eastern tower a finely-painted oak ceiling, discovered a few years ago, is being cleared and cleaned, and the fine groined vault of the room below, which has for some time been used as a parish room, will also be cleared of its many coats of yellow ochre.

The British Association and Megalithic Monuments.

AN interesting discussion which took place at the British Association on the origin and mode of construction of megalithic monuments revealed wide divergences of opinion among the savants who took part in it. The President of the Section, Professor Elliot Smith, maintained that the origin of such structures was dependent on the use of metal tools, that with their help the megalithic tomb architecture of Egypt was evolved some 4,000 years B.C., and that it spread from Egypt in the course of the succeeding millennia along the Mediterranean basin to Western Europe, and through Asia to America, in some cases outstripping the knowledge of metal working. With this view Mr. T. Eric Peet on the whole agreed, and added that it involved great racial movements. Professor Boyd Dawkins objected to the inclusion of the cut stone monuments of ancient Egypt in the term "megalithic," and maintained that there was no evidence that the Egyptians were the first to use metals.

Professor Flinders Petrie denied any necessary connexion between the use of metals and megalithic building, and pointed out that in Egypt all the harder stones were dressed with stone hammers. The long passages of Egyptian tombs represented the type of habitation of a people fighting with the cold, and must have originated elsewhere.

Professor Bosanquet contended that the fashions of stone architecture were not carried so much by racial migration as by wandering craftsmen, and in some cases by sailors. Dr. Ashby also remarked that in Cornwall the conclusion now being reached was that the arts of building were introduced by individual immigrants, adding that the houses of the living and the dead were not the principal megalithic monuments.

THE annual report of the Tintern Abbey. Commissioners of Woods and Forests makes some reference to the steps undertaken for the preservation of Tintern Abbey. It is stated that the whole of the west front has been cleared of ivy and other growths which were damaging the structure; the stonework of the gable and walling generally has been secured and the gable protected and pointed with cement; the stonework of the large window was found to be in a very dilapidated condition, some of the mullions being much bent and out of the perpendicular, cracked and shaled and burst with the iron bars fixed therein, etc. Saddle bars of copper, instead of iron, have been introduced between the mullions in suitable positions to steady them; the tracery has been secured, where necessary, with copper clips and bands; all points where water could lodge have been carefully filled in, and the whole has been grouted and pointed. The south-west buttress has been reset to a sufficient height to meet and strengthen the broken and dangerous part of the south side of the gable. The whole of the clearestory on the south side of the nave is in a bad state, and a scheme has been prepared to deal with it.

Old Jordans Farm, Bucks.

PASSING by Milton's cottage in Chalfont St. Giles, and ascending the Dean, or rather Dene, way to the hamlets of Three Households and Twitchells, we enter, near the Grove, into the heart and shrine of "Puritan Buckinghamshire." For at the foot of the steep decline we see Old Jordans Farm, and in the leafy hollow the adjacent burial-ground and meeting-house, whilst beyond are Stone Dean, and the woods of Wilton Park upon the opposite hill. The farm buildings have just been restored and readapted to what Jordans, or Jourdans, was more than two centuries ago—the Quakers' "Guest House." There, in William Russell's homestead, would forgather the Penns from Ruscombe, the Ellwoods and Peningtons from Bottrills and the Grange in Chalfont St. Peter, and many of the community from Coleshill, Penn, and round about. Russell sold in 1671 to Thomas Ellwood for the Quakers the graveyard that nestles in the hollow almost hidden by the trees; the meeting-house, so plain and simple, is itself an emblem of retreat and peace. Three rows of small modern headstones near the wicket-gate mark the graves of the founder of Pennsylvania (1718) and Hannah, his second wife (1726), Mary Ellwood (1708) and Thomas Ellwood (1713), John Penington (1710), Springett, Penn's eldest son (1696), Guilielma Maria, Penn's first wife (1693), and their daughter Guilielma (1689), Mary (1632) and Jane (1679) Penington, and "5 children of William Penn." The upper slope is an addition made in 1748 by Samuel Vandewall, whose family vault is beneath the limes. The meeting-house of temp. James II., replaced for that purpose the Grove whence Sutton, founder of the Charterhouse, led his wife, Elizabeth Dudley, daughter of John Gardvner.

The Treaty House, Uxbridge.

IN the course of next month the carved oak wainscot and panelling of the principal two rooms of the "Crown and Old Treaty House" will be removed, having been sold by Messrs. T. Wethered & Sons, brewers. The house has suffered many alterations since it was built near the bridge across the Colne, by one Bennet, in 1575; it was afterwards occupied by an Earl of Northumberland, and then became part of a well-known coaching-house by the sign of the Crown, on the road to Oxford, Worcester, and Birmingham. In February, 1644-5, negotiations were opened therein between King Charles I. and his Parliament—the Royal Commissioners choosing the then Crown Inn, and the Parliamentary Commissioners the George Inn for their respective headquarters. The two parties met in the large front room, since subdivided into two; the Treaty Room, commonly so-called, is the finely-fitted apartment on the first floor, and has a handsomely carved chimneypiece. There are drawings of the two inns in the *Mirror*, November, 1831, and by Prout and others in the Guildhall (City of London) Library collections.

Segedunum, Walsend.

IN the course of excavations made at Walsend on the site of the Roman camp of Segedunum have been discovered parts of the east rampart of the eastern gateway, together with a wall of the north guard-chamber in the gateway, and parts of the garrison quarters. Traces of a gravel road traversing the camp between the eastern and western gates and of a cross-road have also been laid bare. Segedunum was so named as being an emporium for corn; it was garrisoned by the first cohort of the *Lepi*, who were quartered there, at the east end of the wall of Severus, to protect the shipping in the Tyne, and it was an important trading colony of the Romans.

Old Paris.

THE Passage du Pont Neuf and an old house in the Rue Mazarine will disappear in a clearance which is being made for extending the Rue Guénégaud to the Rue de la Seine. The house is that which in the reign of Louis XIV. formed the Théâtre Guénégaud, which, in 1671-2, served for opera; it was used for the performances of the united Marais and Molière companies, and finally in 1680 became the home for several years of the Comédie-Française.

It is announced that the Baths of Bath. City Council have decided to adopt the principle of leaving the bathing establishment to the Bath Development Syndicate. The Syndicate propose to erect a new suite of baths and hotel; their scheme involves a dealing with Bath-street and the now vacant Grand P. Room Hotel, at a total estimated cost of 135,000.

Palace of Domitian, Rome.

AN excavation in the site of the Palace of Domitian the Palatine has revealed the bases of the columns which sustained the Throne Room, also an altar and a secret passage passing the Imperial apartments to the Lararium, a room, identified as the latter, wherein Penates were kept. There have also been found the foundation of the Golden Hall with pre-Roman remains, and, it is said, some ancient lifts. The clearing of the Altus will afford a view of the great Impluvium which the water was distributed from No. aqueduct in leaden pipes 15 ft. below.

A Blake Museum, London.

THE Blake Society, whose Sir William Blake Richmond is President, have in view to establish a "Blake Museum" in London. Of houses in London associated with his memory we may mention that in Hercules-buildings, Lambeth, and Nos. 17, South Molton-street, and 23, Broad-street, Soho. His home Fountain-court, Strand (south side), where he died, and Green-street, Leicester-square, have been pulled down, but one may yet see farmhouse, at North-end, Hampstead Heath where he visited the Linnells.

Hill House, Dunfermline.

THE Earl of Elgin is resolved to carry out an alteration and extension of Hill House, Dunfermline. The mansion, it is believed, built in 1623, and a designs by Inigo Jones, for William Montagu of Radcliffe, who obtained a charter for lands in 1622, having acquired them in previous year.

Maumbury Rings and Lake Villages in the West.

MR. H. ST. GEORGE GRAY, Taunton, and Dr. Bulmer have resumed for the Somerset Archaeological and Natural History Society their excavations of Meare Lake Villages, Somerset; and Mr. Gray, assisted by Charles S. Pridemore, will direct the investigations in Maumbury Rings, the site reputed of Roman Dorchester, which, begun in 1875, were suspended last year, under the auspices of the Dorset Natural History and Antiquarian Field Club and the British Archaeological Association. In the course of a recent excavation at Gillingham School have been found at a depth of about 10 ft., portions of an ancient bed of sand and pebbles, interspersed with stout oaken piles, together with broken worked flints, scrapers, and celts, comprising a red deer's skull, an antler, and the tooth-jaw-bone of some large herbivorous animal. The antler tines are in part sawn away, set singly with a jagged tool. These vestiges of lake villages are by some considered to be much more ancient than those found in the similar lacustrine settlements of Meare and Glastbury.

A London Watch-House.

A RELIC of the old days, the Watch-House of St. Botolph, Bishopsgate parish, has only been pulled down. It stood near the parish church and the line of City Wall, and was rebuilt in 1771. It was largely sixty years afterwards, and some cells were reconstructed. For about fifty years the watch-house has been occupied by a firm of tobacconists; it will be replaced with new business premises.

Solesmes Abbey.

RECENTLY it was announced that the French Government was unable to find a purchaser for the abbey, had decided to turn the building into a museum, but apparently the Fathers have heard nothing to that effect as yet, though the French Government might not have abandoned the idea. Certain a museum is a less objectionable fate for a splendid pile than sale to a possible vandal or to one who would demolish it. If it is already a *monument historique*, the Government would be well advised to make it so without delay.

THE BUILDING TRADE.

BOUR QUESTIONS AT THE BRITISH ASSOCIATION.

THE President of the Economic Science and Statistics Section of the British Association opened the proceedings by observing that the methods of speakers in this section differed from the methods of speakers on the political platform in that their object was to promote thought and not to lead people to action. So far as the addresses on labour questions were concerned we do not, however, know that they furnished any very definite matter for thought, and the President himself may have been aware of this, for he concluded the proceedings one day by saying "I am disagreed with the suggestion made in the course of debate that the employers should go to school with the professors, as he considered could be the other way about."

Professor S. J. Chapman, in discussing "the methods of industrial peace," summed up these methods as (1) arbitration by an impartial tribunal; (2) settlement by agreement of the parties through the mediation of persons appointed with the points in issue, i.e., conciliation; (3) the bringing of public opinion to bear. He considered conciliation to be the most hopeful method for conditions in this country, but intimated that in certain cases it might be supplemented by the third method. Conciliation we have always advocated, and in the last year considerable advance has been made in settling disputes by this method. In 1901 only twelve disputes affecting 6,479 workpeople were settled by conciliation, but in 1911 thirty-four disputes were thus arranged involving 163,668 workpeople, and in the intervening period between those dates the figures showed such a steady advance with the exception of the year 1908. We do not, however, agree that the invocation of public opinion is ever likely to facilitate conciliation. Public opinion is a jury that can rarely be appealed to calmly, and heated advocacy must be resorted to on both sides. Mr. Ramsay MacDonald referred to the question of conciliation and arbitration in connexion with the minimum wage, and he said he had come to the conclusion that the best means of establishing a minimum wage was by voluntary arrangements between employer and employed, and expressed himself opposed to compulsory arbitration. Under voluntary arrangements he said deposits could be given as security by both sides, but the only way that some employers would not enter into such arrangements, and by paying off wages undercut their rivals. He suggested that when such terms had been come to by the best employers they should be taken representative and applied to the whole industry.

It is this, however, lies the whole difficulty—such agreements can be enforced against employers; and it is somewhat curious that the solution moved at the Trade Unions Congress of 1911—rates of wages, the regulation of hours, and other conditions embodied in agreements between trade unions as representing the workers and the representatives of the employers in a given industry should be legally enforceable on all persons employing labour in that industry," was lost on a card vote by 42,000 to 484,000.

We referred to this question under the heading "Strikes—Collective Bargaining" (the *Builder* June 14), and pointed out the danger of creating federations of employers and workers which might only accentuate labour disputes. We may, however, point out that by conciliation many firms in one trade live at a fair rate of wages the danger from competition by "blackleg" employers is somewhat exaggerated. If the rate of wages be fair one and not a fancy rate the necessity of getting good workmen capable of competing in the market will soon compel all employers to offer that rate. The law of supply and demand, although it is nowadays much distorted, still exists, and inferior workmen on low pay cannot offer serious competition. To often the unions strive after a fancy rate of pay, and oppose any discrimination between good and bad workmen, and though

for a time certain firms may consent to pay fancy rates in order to complete existing contracts, the exigencies of trade prohibit this universal acceptance. The adoption of the principle of conciliation would, we feel convinced, produce standard rates of wages in different grades if it was only given a fair trial by both sides.

Sir C. Macara, who was unable to be present, wrote a letter, which was read, in which he stated that when perfect organisation exists on both sides disputes are settled usually without a stoppage of work, and he expressed the hope that an industrial federation might ultimately be formed on the lines adopted in Germany. The coal strike has shaken the premises on which this opinion is based. The coal trade is a highly organised industry, and yet the strike was one of the most prolonged experienced in this country. Sir C. Macara speaks with great authority, but we cannot agree with his opinion thus expressed. The more highly each side is organised the greater appears the risk of severe and prolonged struggles unless organisation means that greater authority be given to the leaders to control their followers. In the history of many of the strikes in this country the leaders who have started the strikes have proved incompetent to end them, and this has seriously affected any belief in collective bargaining which the unions used to claim as one of the great advantages attending trade unionism. One of the greatest drawbacks to successful conciliation has been the want of authority and lack of responsibility in the trade unions leaders. If the trade unions can control their own members the remarks we have made above on methods of securing fair terms by conciliation would apply with even greater force.

Space does not permit of our referring to all the subjects upon which addresses were delivered, but, having regard to the present tendency to advocate railway nationalisation, we may commend to the attention of our readers the paper read by M. Yves Guénot on the nationalisation of the Western Railway of France, which, he stated, was a complete failure.

L.C.C. SCHOOL OF BUILDING, BRIXTON, S.W.

THE London County Council, in erecting their School of Building at Ferndale-road, Brixton, had the object of improving the educational facilities for the building trade by establishing a separate special school devoted to one industry alone, so as to specialise and concentrate effort. Since it was established in 1904 the school has been steadily developing.

Four years ago a Day Technical School for Boys was established at the London County Council School of Building, having for its object the provision of a sound scientific and technical training for those preparing to enter the building trades and allied vocations, admission to the school being restricted to boys between thirteen and fifteen years of age. The curriculum includes history, geography, chemistry, physics, and mathematics, but these have a bias in the technical direction, for the history has special reference to industrial changes and the development of public and domestic architecture, the geography, the chemistry, and the physics have special reference to building materials, and the mathematics apply to the mechanics of building. The students have recently erected as part of their studies a small cottage situated in the large hall at the school, the architectural students preparing the working drawings therefor, and the artisan students constructing it.

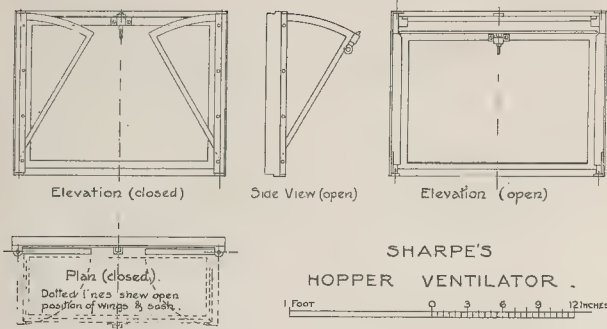
The policy is to be extended in the forthcoming session, beginning September 23, by the establishment of a Senior Day Technical School to provide instruction for students whose age and previous education are above the age and standard of education required for admission to the Day Technical School for Boys. This senior school will prepare students for professional work, and the instruction is arranged in the following sections:—(1) General Building, (2) Architecture, (3) Surveying,

(4) Structural Engineering. The curriculum will include instruction in Building Construction, Architectural Drawing, Architectural History, Freehand and Perspective, Geometry, Land Surveying, Reinforced Concrete and Structural Engineering, Mathematics, Mechanics of Building, Chemistry and Physics of Building Materials, and practical training in Brickwork, Masonry, Carpentry and Joinery, Plumbing and Sanitary Engineering, Painting and Decorating. The course has been arranged to meet the requirements of three grades of students—(1) those able to take the complete course (fee, three guineas per term); (2) those able to take part-time instruction only (fee, one guinea and a half per term); (3) those desiring to take up work in individual subjects (fee, half a guinea per term). The part-time course provides instruction on five half-days per week from 3 to 5 p.m. in the following subjects:—Quantity Surveying, Land Surveying, Mathematics, Reinforced Concrete and Structural Engineering, Mechanics of Building. The full course will extend over two years. It is anticipated that many men professionally engaged who are unable or do not care to attend evening classes will avail themselves of this opportunity of taking up special subjects separately.

In the evening classes at the school this next session several improvements will also be effected. The work of the school has been divided into five sections, namely, (1) Trade Subjects, (2) Building Construction and Allied Subjects, (3) Surveying, (4) Structural Engineering, (5) Architecture and Drawing. The third and fourth sections are newly created this year. In accordance with recent legislative changes the school is up to date in devoting special attention to Valuation and the Law of Landlord and Tenant, Fixtures, Easements, Riparian Rights and Copyholds, the other work of the section including Building or Quantity Surveying, and Land Surveying. The Structural Engineering section is an interesting departure. The City and Guilds of London Institute recently promoted an examination in Structural Engineering, and the Concrete Institute has also decided to hold an examination therein. New building laws for reinforced concrete and steelwork have recently been imposed in London, and these are subjects to which the school is devoting attention, being equipped with testing appliances, machinery, tools, and apparatus for practical work. The course in Structural Engineering includes, in addition to steelwork, reinforced concrete and masonry structures, instruction in heavy timber-work, fire-resisting construction and fire prevention, and architectural acoustics. The lecturer for these subjects is Mr. H. Kempton Dyson, Secretary of the Concrete Institute, M.Inst.Assn. Testing Materials, etc., who is assisted by Mr. R. Graham Keavill, A.M.I.Mech.E., M.C.E., and Mr. A. E. Crabbe. Further particulars are obtainable from the Secretary of the London County Council School of Building, Ferndale-road, Brixton, S.W.

WAREHOUSE, WARRINGTON.

The warehouse of Messrs. Gartons, Ltd., seed merchants, of Warrington, which was burnt down at the end of April, has been rebuilt. The contract was let to Messrs. Joseph Dolan & Son, of Warrington, who carried out the work in accordance with the plans of Mr. Robert Garnett, architect. The building contains seven floors, each about 135 ft. long by 60 ft. wide. The site adjoins the River Mersey. An installation of automatic sprinklers is fed from the town main and by an auxiliary supply from a high-lift turbine pump, automatically started and driven by a 58-h.p. electric motor. There is a large number of chain hoists and goods and passenger lifts, all of which are driven electrically. The machinery for cleaning and grading the seeds is also operated by electricity, and electric power is obtained from the borough supply to the extent of about 500-h.p. Messrs. D. T. Brown, of Liverpool, supplied and fixed between 300 and 350 tons of steelwork in girders, stanchions, etc. The other sub-contractors engaged on the work were Messrs. Winstanley & Son; the Warrington Slate Company, Ltd.; Messrs. Roper & Co.; and Messrs. Waygood, Ltd.



A NEW HOPPER WINDOW VENTILATOR.

It is often necessary to use a hopper ventilator at a level so low that when not in actual use for ventilating purposes it is desirable to be able to remove the projecting parts of the hopper. To attain this end a very simple and effective apparatus has been devised and patented by Mr. William Sharpe, of St. Ann's Works, Southend-on-Sea. It consists of a metal frame carrying, at the top and bottom, pivots upon which turn the triangular wings of the hopper. To the inside of each wing is affixed a projection carrying a small quadrant against which the upper corners of the moving sash impinge in the act of closing, the result being that the wings are drawn round into a position flat against the sash. The latch at the top of the sash secures the whole. To open the hopper all that is needed is to pull down the latch at the top of the sash, which then opens in the ordinary way, carrying the wings into their open position in doing so. The sash has the great advantage of being without hinges, and it can be lifted out of place if desired for cleaning, painting, or reglazing; this involves no insecurity, as removal is only possible from the open position. The water joint at the bottom is also simple and does not involve the use of any of those drain holes which so often become choked with paint and dirt. The diagram will make clear the general arrangement.

The ventilator has been but a short time on the market, but has already been supplied in considerable numbers to the Essex Educational Committee.

GENERAL BUILDING NEWS.

CHURCH, PAIGNTON.

A new church, to be known as St. Paul's, has just been erected at Paignton. The new building is intended to serve as a temporary purpose. The floor surface of the building is 38 ft. long by 37 ft. wide, and will seat nearly 400 persons. Of its kind the building will occupy a unique position in the neighbourhood, its walls taking the form of panelled sheets of asbestos, while the roof is covered with slate and boarded inside. North and south aisles are provided, and the building is entered by a porch. The nave has a clearstory resting on arcade posts, and provision has been made for the chancel, organ chamber, and vestry. The church was built by Messrs. R. F. Yeo & Sons, from the designs of Mr. J. C. Beare. The cost of the new church and parochial room is over 1,800l.

CHURCH REBUILDING, WINTON.

Messrs. J. & W. Hayward, of Bournemouth, are the contractors for the rebuilding of the Congregational church, Wimbome-road, which is being constructed of brick and stone at a cost of 4,000l. The building will seat 650, and will be lighted by electricity and heated with hot air. The architect for the work is Mr. J. Donkin.

COUNTY SCHOOL, HYDE.

A new county school has been erected at Hyde for the Cheshire County Council. The building is set back from the roadway, and is approached by a circular carriage drive through a pair of wrought-iron gates with terra-cotta piers. The principal facade faces Clarendon-road. Messrs. Samuel Robinson & Sons carried out the work from the designs

of Mr. G. H. Willoughby, architect, Manchester.

THE CITY TEMPLE, HOLBORN-VIA-DUCT.

A new copper dome is being placed on the tower of the City Temple, and the stonework of the building is being restored. The work, which is being done by Mr. J. A. Hunt, of Highgate-hill, under the direction of Mr. Martin L. Saunders, A.R.I.B.A., has necessitated the erection of a great amount of scaffolding.

COUNCIL SCHOOL, WINCHESTER.

Mr. A. Heynes Johnson is the architect for this public elementary school, which has been erected at a cost of about 4,500l. The building provides accommodation for 300 scholars, and there are six classrooms, with central hall, cloakrooms, and teachers' rooms. The contract was carried out by Mr. S. Salter, of Southsea.

SCHOOL, ASHTON-UNDER-LYNE.

The new West-End Council School at Ashton-under-Lyne was opened recently. The school, which has been built on the Groby Hall site, will accommodate 1,200 scholars. The design of the new Council school is a modification of the corridor and verandah systems, in which the corridor is converted into a verandah during good weather and vice versa during inclement weather. The school has accommodation for 1,200 children in three blocks of buildings, and the total cost has been about 18,000l. The architect was Mr. Ernest Woodhouse, Manchester.

SECONDARY SCHOOL, HUNTLY.

Additions have been made to the Secondary School at Huntly. The new building will provide accommodation for about 200 pupils, and the estimated cost is between 5,000l. and 6,000l. The external walls are of granite, with freestone dressings, and the addition was designed to harmonise with the existing building. On the ground floor there are two classrooms for higher-grade subjects, two science laboratories, with the necessary storerooms, a library, and the requisite cloakroom and other accommodation. A well-lighted corridor connects the new with the existing building. The floor is laid with wooden blocks, while the entrance is tiled. On the first floor accommodation is provided for two classrooms and a room for instruction in art. The architects of the building were Messrs. Kelly & Nicol, Aberdeen, and the contractors were:—Mason work, Mr. John Mitchell, Huntly; carpenter, Mr. J. Pirie; slaters, Messrs. Milton & Son; plumber, Mr. J. Wilson; plasterer, Mr. Ballice Moir, Inverurie; heating, Messrs. McKenzie & Moncur, Edinburgh; asphalt, Messrs. Bannochie & Sons, Aberdeen; ironwork, Mr. Alexander Wilson, Huntly.

SECONDARY SCHOOL, HERFORD.

This school has been erected at a cost of about 10,250l. from the designs of Mr. Jack, the County Surveyor, and the contractors were Messrs. Wilkes & Son.

SCHOOL, LOFTUS.

A new school, provided by the North Riding Education Committee, has been erected just off West-road, Loftus. The new building has been erected at a cost of 3,400l., and has accommodation for 350 scholars. The main feature is the central or assembly hall, which is separate from the other rooms, access to it being obtained from a wide corridor, which runs the length of the school. There are seven classrooms, each capable of holding fifty children, off this corridor, as well as teachers' rooms, cloakrooms, and other rooms. The school has been built, says the *North Star*, to the designs of Mr. J. Bainbridge, the Inspector of Buildings under the County Council, and the chief contractor was Mr. T. Willoughby, of Northallerton.

TRAINING COLLEGE, DUNDEE.

The new training college for teachers being erected at a cost of about 60,000l., will afford accommodation for 400 students with all necessary classrooms, assembly lecture-rooms, gymnasium, and a practical school. The architect is Mr. T. J. Cappon, F.R.I.B.A., of Dundee.

COUNCIL SCHOOL, FELIXSTOWE.

Mr. J. Webb, Lic.R.I.B.A., is the architect for the new school which has been erected Langer-road at a cost of about 2,900l. Accommodation is provided for 200 children, the building contains an assembly hall, 4 by 22 ft., four classrooms, teachers' rooms, cloakrooms, etc. The building is of red brick with red Gunton dressings and tiled roof, the floors of the hall and classrooms are solid wood, while those of the cloakrooms and lavatories are of red tiles. The contractor for the work are Messrs. Parker Brothers, Felixstowe, and the clerk of the works Mr. C. A. Bennett.

MOORGATE-STREET IMPROVEMENT.

A new subway has been constructed at Moorgate-street connecting the stations at the underground railways which converge there. The subway is for passengers wishing to go from one station to another have been obliged to mount to the street level and cross Moorgate-street, which is usually in a crowded condition, and then descend again but the new subway will greatly facilitate the movement of the passengers. The length of the underground connexion is about 80 yds. and estimated cost of construction is 12,000l.

RESCUE STATION, DINAS.

The Rhondda Miners' Rescue Station has been erected at Dinas at a cost of about 7,000l. and is the largest station in Great Britain. The architects were Messrs. Teather & Wilson, F.R.I.B.A., of Cardiff, and the contractor was Messrs. Niblets & Son, Ltd., Messrs. Ellis & Ward, of Cardiff, carried the electrical installation, Messrs. Musgrave & Co., of Belfast, the heating, etc., and Messrs. Proger & Co., Cardiff, the hot water supply.

WORKMEN'S INSTITUTE, LLANBADRACH.

This institute has been erected from designs of Colonel E. M. Bruce Vaughan, F.R.I.B.A., of Cardiff, and the cost is 5,000l. The building contains library, reading-room, billiard-room, retiring-room, and a large hall which will seat 900. The contractor for the work is Mr. Richard Jones of Caerphilly.

NEW BUILDINGS IN LONDON.

Church Schools, Walthamstow. N. Mr. F. G. Farnham, architect, 17, Oldbrook-road, Ilford. Cinema theatre, Clerwell, E.C.; Mr. F. Danby Smith, architect, Parliament-mansions, Orchard-st. S.W. Parish hall for St. John's, Peckham; Mr. A. C. Long, Avenue-road, Deptford. Albert Dairy, E.C. P.L.A.: Messrs. Shellabear & Son, build 1, Mutley Plain, Plymouth. Extensions Main Dock, Royal Albert Docks, E. P.L.A.: Messrs. Topham, Jones, & Rail contractors, George-street, Westminster. Rebuilding premises, Hanover-street, Regent-st. W. Mr. C. Kearsley, builder, Marlborough-street, W. Telephone exchange, Creed-place, East Greenwich, S.E.; E. Office of Works, Storey's-gate, Westminster S.W. Additional workhouse accommodation, Lambeth, S.E. (6,000l.); Mr. J. L. Goldspink, Clerk, Lambeth Guardians' Offices, Bridge-street, Kennington, S.E. Alterations to No. Loampit-vale, Lewisham, S.E., for Mr. W. Tucker, chemist, 1A, Loampit-vale; Mr. W. Kennard, builder, Lewisham Bridge, Catholic school and church hall; Mr. J. Gordon, architect, 5, Old Broad-street, W. Warehouses, etc., Seymour-place, N.; Messrs. Lovegrove & Papworth, architects, 374, street, E.C.

PEARL ASSURANCE COMPANY, HOLBORN.

The work of building the new head office of the Pearl Assurance Company is now active progress under the direction of Mr. H. Percy Monkton, F.R.I.B.A. Messrs. J. Brothers, Ltd., Islington, are the contractor the crane stabling has been erected by Messrs. Skelton & Co., of Catford; and Messrs. Moreland & Son, Ltd., are responsible for the steel construction. Early in 1914 is probable time of occupation.

DRILL HALL, BARRY.

The contract has been let to Messrs. D. Davies & Sons for the erection of a new drill hall at Barry, as joint headquarters for Territorial Forces, the tender being for 4, Messrs. Teather & Wilson, architects, Car with superintendent the work.

NEW BUILDING FOR THE SCOTTISH TEMPERANCE ASSURANCE COMPANY, GLASGOW.

The new offices of the Scottish Temperance Life Assurance Company, which have

oted at 109, St. Vincent-street, Glasgow, opened on the 9th inst. Mr. Frank Uphorn is the architect. The frontage of the building facing St. Vincent-street measures 10 ft. in height by 804 ft. in length. The ground story is faced with polished Peterhead granite, while the upper portion is built with warm-tinted stone from the Blackpasture quarry in Northumberland.

GOODS "CLEARING HOUSE."
It is stated that full details of the proposed clearing house in London for the purpose of collecting, sorting, and dispatching goods either by road or rail are to be considered by a conference of representatives of the leading railway companies, which is to be held in London at the end of this month. The scheme, which, it is said, will give employment to 1000 men, has been previously described in these columns.

BRIDGE, LUMLEY.
At a special meeting of the Chester-le-Street Urban District Council the Lumley Bridge Committee reported that at a joint meeting with the representatives of the Chester-le-Street Urban Council it was decided to recommend that the tender of Messrs. Brims & Company, Newcastle, amounting to 9,916*l.* for the building of the new bridge over the Wear at Chester-le-Street be accepted. The tenders, which were all in excess of the estimates, and the Engineer, Mr. D. Balfour, stated that this was due to the increase in the cost of material and labour during the last two years.

YACHT STORES, NORTHAM.
The new yacht stores at Northam for Messrs. J. G. Fay & Co. are now completed. They comprise about sixty separate lock-up compartments, all well lighted and ventilated, the building, which consists of three stories, over 200 ft. long, is erected of brick with proof floors, steel windows, and sliding doors, with outside galleries for access to the several stores. The work has been carried out by Messrs. Playfair & Toole, contractors, under the supervision of the architect, Mr. Walter Wheeler, A.R.I.B.A., of Southampton.

PICTURE PALACE, LEIGH.
A picture palace is about to be erected at Leigh, Lancashire, in a central position, to accommodate about a thousand people. Building operations will proceed at once. Messrs. C. Prestwich & Sons, of Leigh, are the architects.

TRADE NEWS.
Under the direction of Mr. Herbert W. Watney, architect, Coventry, Boyle's latest patent "air-pump" ventilators have been applied to Bablake Schools, Coventry. Mr. Messrs. E. H. Shortland & Brother, Ltd., of Wolverhampton, Manchester, have just supplied one of their warm-air ventilating patent Manchester grates to Llanyre Hall, Llanidno Wells.

The Titan Lift Company, Ltd., 18, Red Lion-square, London, C., are supplying to Messrs. Atkinson & Co., Ltd., of W.C. premises at 9-11, Eagle-street, Holborn, W.C. the premises have been installed with a Titan electric lift.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

AIRDRIE.—Reconstruction of tuberculosis hospital; Mr. H. Inglis, Surveyor, Burghall, Airdrie.
AINES. N.B.—Additions to Bridgend Schools (5,000*l.*); Messrs. E. J. McBeth & Co., architects, Queen's House, Inverness.
ALTRINCHAM.—Fifty-six houses (11,000*l.*); Mr. E. Brown, Surveyor, Urban District Office, Altrincham.
ASPALL.—Six houses, Cole-lane, for the Wigan Steel and Iron Company, Ltd., Kirkless Hall, Wigan.
AXMINSTER.—Drill hall; Messrs. Ellis Son, & Co., architects, Bedford-circus, Exeter.
AXMINSTER.—Business premises; Mr. W. McClelland, architect, 10, Cathcart-street, Axminster.
AXMINSTER.—Auchterlouch (3,000*l.*); Mr. W. Cowie, architect, Alloway-chambers, Axminster.
BALEFEST.—Alhambra Theatre (5,000*l.*); Mr. J. Moore, architect, 55, Royal-avenue, Belfast.
BALLHAVEN.—Parish hall; Mr. G. Cunningham, builder, Victoria-street, Dunbar.
BESWICK.—Premises, Phillips Park-road, for the Co-operative Society.
BISHOPSCOMPTON.—Rebuilding Londonderry public-house, Page-street, for Messrs. Vaux & Sons, Ltd., Castle Brewery, Harley-street, Sunderland.

BOSCOMBSWELL.—Enlargement of United Methodist church and Sunday-school; the Trustees.
BRIGHOUSE.—Baths; Messrs. Lister, Brook, & Co., builders, 49, Commercial-street, Brighouse.
BUCKSBURN.—Enlargement of two schools; Architect to the Newhills School Board.

CAUMARTHONSHIRE. Schools, Nantygrog, and extensions to school, Whitland; Mr. W. V. Morgan, Architect, County Offices, Carmarthen.

CHALVEY.—Schools; Mr. C. H. Riley, Architect, Education Office, Aylesbury.
COLCHESTER.—Construction of military aviation centre; H.M. War Office, Whitehall, S.W.
COLLEYWESTON (near Stamford).—Residence; Mr. H. J. Venning, architect, 5, Bedford-row, W.C.
MESSRS. THOMAS & EDGE, BUILDERS, 73, NEW-ROAD, WOOLWICH, S.E.

COMBE MARTIN (North Devon).—Jam factory; Mr. J. C. Southcombe, architect, Bridge-buildings, Barnstaple.

DEWABURY.—School (200 places); Governors of the Dewsbury Endowed Schools Foundation; architect to be appointed by competition.

DONCASTER.—Proposed works for Messrs. Craven & Speeding Brothers, colliery wire rope manufacturers, Monkwearmouth, Sunderland.

DUNDEE.—Alterations to premises, Burnside-street, for the Dundee and District Coal Supply Association, Ltd., 13, South Union-street, Dundee.

EASTINGTON.—Proposed two receiving homes; Mr. J. M. Longden, Clerk, Guardians' Offices, Eastington.

EDINBURGH.—Additions to Broughton Soap-works for Messrs. Taylor & Co. (5,000*l.*); Mr. G. Craig, architect, 85, Duke-street, Leith.

ELGIN.—Picture-drome (3,000*l.*); Mr. R. B. Park, architect, 110, High-street, Elgin.

FRASHER. (Worcester).—School (1,900*l.*); Messrs. Espley & Co., builders, 77, High-street, Evesham.

EXETER.—Children's homes (6,360*l.*); Mr. R. M. Challinor, architect, 14, Bedford-circus, Exeter; Messrs. Soper & Ayres, builders, Exeter.

GELLINGHAM.—Erection of Hart Inn (2,888*l.*); Mr. S. Williams, architect, Wharton-street, Cardiff; Mr. F. J. F. Howells, builder, Cardiff.

GORSINON.—Garden village (400 houses, 66,992*l.*); Mr. Bodley Rees, architect, Cardiff.

GRANHAM.—Alterations and additions to premises, Wharf-road, for Messrs. C. W. Dixon & Co., furnisiers.

HARWICH.—Police-station; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

HOCKBRIDGE.—House and garage; Mr. J. D. Coleridge, architect, 14, North Audley-street, W. Huddersfield.—Buildings, Salendine Nook, for the Co-operative Society.

HULL.—Gymnasium, Park Grove; Messrs. Lowther & Rigby, 22, Market-street, Manchester.

HYDE.—Public hall, police-court, offices, etc. Corporation-street (14,175*l.*); Messrs. S. Robinson & Sons, builders, Hyde.

INVERURIE (Aberdeenshire).—Extensions to auction mart; Mr. George Mare, Methlick, Aberdeen.

JARROW.—Catholic school; Mr. E. Walker, architect, Jesmond High-terrace, Newcastle; Mr. T. Lumsden, builder, 84, Albert-road, Jarrow.

KINLOSS.—Additions to school; Mr. C. C. Doig, architect, High-street, Forres.

KIRKCONNEL.—School (3,100*l.*); Mr. W. F. Crombie, architect, Union-chambers, High-street, Dumfries.

KIRKHAM.—Cottage homes (10,000*l.*); Mr. F. H. Brown, Clerk, Fyde Guardians' Offices, Kirkham.

LANGSIDE (Glasgow).—Baths, Calder-street (25,000*l.*); Mr. A. B. McDonald, Surveyor, Burgh Hall, Glasgow.

LARNE.—Alterations to premises, Bridge-street, for Messrs. McMeekin & Co., tea merchants.

LAW. N.B.—Drill hall (2,000*l.*); Messrs. Traill & Stewart, architects, 33, High-street, Lanark.

LEEK.—Proposed housing scheme; Mr. W. E. Beascham, Surveyor, Urban District Council Office, Leek.

LEICESTER.—School; Mr. W. G. Fowler, Architect, Education Office, Bowling Green-street, Leicester.

LIVERPOOL.—Alterations at St. George's Hall (2,557*l.*); Messrs. W. Tomkinson & Sons, builders, 33, Wellington-street, Toxteth Park, Liverpool.

LIVERSEDGE.—Offices, Queen-street, Marsh, for Messrs. Smith & Co.

LLANDILO.—Stores for the Farmers' Co-operative Society, Ltd. (1,348*l.*); Messrs. G. & J. H. Morgan, architects, 24, King-street, Carmarthen; Messrs. C. Thomas & Co., builders, Llandilo.

LONDONDERRY.—Picture theatre (2,500*l.*); Mr. J. Johnston, The Diamond, Londonderry.

LUTON.—Additions to premises, High Town-road, for the Luton Industrial Co-operative Society; Institute, Dallow-road, for the Davis

Gas Stove Company, Ltd., 4, Victoria-arcade, Deansgate, Manchester.

LYMINGTON (Hants).—Council offices; Messrs. Vincent & Smith, architects, Prudential-buildings, Above Bar-street, Southampton.

MAIDSTONE.—Workshops, Week-street, for Messrs. Jacobs & Sons, fancy goods importers. Printing works, etc., Barker-road, for Messrs. G. Foster, Clark, & Co., Ltd.

MARGATE.—School; Mr. F. J. Cornford, Town Hall-place, Westgate-on-Sea.

MARTINO (Dublin).—Proposed housing scheme (50,000*l.*); Mr. C. J. McCarthy, Architect, Town Hall, Dublin.

MIDDLESBROUGH.—Machine bakery for the Middlesbrough Co-operative Society, Ltd. (1,503*l.*); Mr. W. E. Haslock, architect, 11, Albert-road, Middlesbrough; Mr. M. France, builder, 3, Balmoral-terrace, Redcar.

MOLD.—Proposed 320 houses; Mr. W. R. Rowdon, Surveyor, Urban District Council Offices, Mold.

NAINA.—School (2,500*l.*); Mr. P. M. Cram, architect, 6, Albert street, Nainai.

NEATH.—Drill hall; Mr. Mansel H. Hunter, architect, Neath.

NELSON.—Workmen's dwellings; Mr. B. Ball, Surveyor, Town Hall, Nelson.

NEWBRIDGE (Mon.).—Institute; Mr. J. W. Aldis, architect, Victoria-place, Newbridge.

NEWCASTLE-ON-TYNE.—Picture hall, Biddlestone-road; Messrs. White & Stephenson, architects, Pilgrim-street, Newcastle.

NORTHFLEET.—Additions to works for Henley's Telegraph Works, Ltd.

NORTH SKELTON (Yorks).—Drill hall (2,000*l.*); Mr. W. Wardman, architect, 105, High-street, Redcar.

NORTHWICH.—Baths (7,860*l.*); Mr. T. Astles, builder, Northwich.

NOTTINGHAM.—Proposed refreshment house (550*l.*); Mr. F. B. Lewis, Architect, Town Hall, Nottingham.

PAISLEY.—Alterations to Glenfield Starch works for Messrs. Watherspoon, Ltd.

PARTICK.—Ten houses, Park-drive (5,000*l.*), for the Scotsdown Estate Building Company.

PONTYPRIDD.—Block of shops, Penrhosceiber, and twenty-nine houses at Thomastown; Mr. P. I. Jones, architect, Church-street, Pontypridd.

SEVEN SISTERS (Neath).—School; Messrs. W. & J. R. Watson, Ltd., builders, Neath.

SHEFFIELD.—Fifty-three houses and two houses and shops, High Winobank Estate (9,347*l.*); Mr. A. Waddington, builder, 85, Empire-road, Sheffield.

SHIELDHALL.—Additions to buildings for the Scottish Co-operative Wholesale Society, Ltd.

SOUTHWRAM.—Additions at Brookfoot Mills for Messrs. Turner & Wainwright, manufacturing confectioners.

SOUTHPORT.—Structural alterations to premises, Lord-street, for Messrs. C. F. Chinnery, Ltd., furnisiers.

SOUTHWICK.—Offices at shipyard for Messrs. Swan, Hunter, & Wigham Richardson.

STOCKPORT.—Probable re-erection after fire of portion of works at Offerton for Messrs. W. Batterley & Co., hat manufacturers (damage 20,000*l.*).

SUNDERLAND.—Extensions to school, Thomas-street; Mr. J. M. Wright, builder, Sheepfolds, Sunderland.

TARRADALE (Muir of Ord).—School (3,500*l.*); Mr. T. Munro, architect, 62, Academy-street, Inverness.

THIRSK.—Town Hall; Mr. W. H. Brierley, architect, Lendal, Yorks; Mr. W. Birch, builder, Barbican-road, York.

TORQUAY.—School; Mr. P. Morris, architect, 1, Richmond-road, Exeter.

TROODYRHIW.—School (6,900*l.*); Mr. A. J. Colborne, builder, Swindon.

TWICKENHAM.—A plan has been passed for alterations to Brandon's Brewery, London-road, for Mr. W. Simmons. Plans have been lodged for a motor-garage in Gould-road by Messrs. Brewer, Smith, & Brewer; also for alterations to St. Margaret's Laundry, Crown-road, by Mr. G. L. Alexander.

WAKEFIELD.—Extensions to infirmary (4,000*l.*); Messrs. Simpson & Firth, architects, Southgate-chambers, 9, Southgate, Wakefield.

WESTON-SUPER-MARE.—Picture palace; Mr. T. Gilmore, architect, South-parade, Weston.

WHITWORTH.—School, Millgate (5,000*l.*); Mr. F. Little, architect, 15, Ribblesdale-place, Preston.

WIDNES.—Water tower (6,000*l.*); Mr. Isaac Carr, Water Engineer, Town Hall, Widnes.

WIGTON.—Extensions to works for Messrs. Carr, White, & Co., jam manufacturers.

WIVICK.—Additions to Lancashire County Asylum; Mr. Thomas Chadwick, architect, 16, Princess-street, Manchester.

WORKSOP.—Institute, John-street, for the Primitive Methodist Trustees.

YARMOUTH.—Additions at factory for Messrs. Grout & Co., silk crape manufacturers, St Nicholas-road, Yarmouth.

* See also our list of Competitions, Contracts, &c., on another page.



National Nautical School, Portishead : The Chapel.

Mr. Edward Gabriel, A.R.I.B.A., Architect.

NATIONAL NAUTICAL SCHOOL, PORTISHEAD.

THE chapel to this Institution has been erected from the designs of Mr. Edward Gabriel (Messrs. Edmeston & Gabriel), who also designed the school buildings.

The chapel is built of stone from the Hart-ham Park and Four Hill Quarries. It is cruciform in plan; the nave with narthex forms the main western arm, and the sanctuary the eastern arm; while there are transepts north and south, the chancel being at the crossing. A clergy vestry (with heating-chamber under) adjoins the north transept.

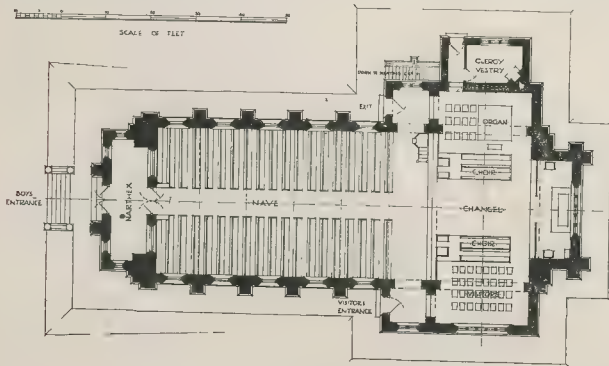
The nave and chancel form the main body, and, measuring 82 ft. long by 33 ft. wide, covered by one continuous roof reaching height of 50 ft. to the ridge. The roof is covered with Broseley tiles. The roof of the sanctuary is 5 ft. lower, and those of the north and south transepts are of the height of the nave side of the eaves of the main roof. The nave projects 10 ft. in front of the main west wall, and has a flat roof about 11 ft. high parapet above.

The nave is lighted from the sides by ten single-light windows with buttresses between, and from the west main wall, above the nave roof, by a large five-light transomed mullioned window. The transepts and the sanctuary have each a five-light transomed mullioned window.

Externally, the west window is set in the shadow of a large, arched recess and flanked by buttresses, the gable over being finished with an imposing bell-turret. The nave has a pedimented doorway with sculptured figures over.

A visitors' entrance is in the south transept and an emergency exit has been provided in the north transept. The western main hall has a stone screen internally, dividing the nave from the narthex, double swing-doors being the means of communication.

The stonework internally, with the exception of the sanctuary, is left exposed. The sanctuary walls are panelled out, as also is the nave vaulted ceiling. The sanctuary and transepts are divided from the main building by three-centred arches the full width of the openings.



National Nautical School, Portishead : The Chapel.

Mr. Edward Gabriel, A.R.I.B.A., Architect.

An open timber roof extends from the eastern main wall to the eastern main wall, the masses resting on moulded stone corbels between windows.

The floors of the nave and transepts are paved with wood blocks; those of the narthex and vestibules are paved with red tiles. The chancel steps and floor and the sanctuary steps and floor are all of marble.

The nave is fitted with fixed oak seating of simple design, accommodating 350 boys and floors. The choir is provided with seating of a more elaborate design in Austrian oak on the side of the chancel and facing north and south. Accommodation for visitors is provided in the south transept, with a separate entrance. The north transept will contain the organ.

Two handsome reading-desks with carved canopies are provided for the Chaplain and Captain Superintendent respectively on either side of the chancel, and form part of a screen, which it is intended to erect later on.

The pulpit, designed in harmony, is on the north side, with provision for a lectern on the north side.

Looking towards the sanctuary, the rich velvet dossal, executed by Messrs. Watts & Co., forms a fine background to the beautiful carved oak communion-table, the latter being a gift of the Captain Superintendent in memory of his son, the late Captain Egerton Still.

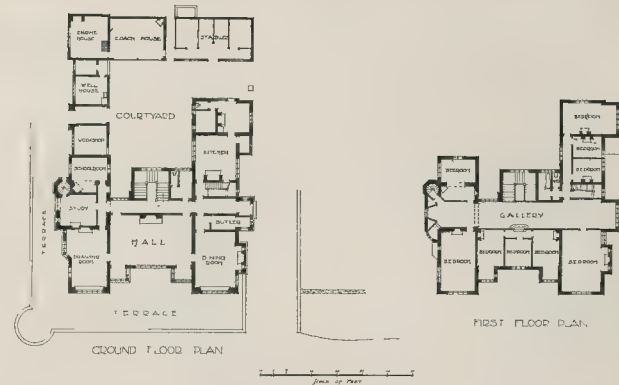
The traditions of the old training-ship, H.M.S. *Formidable*, have not been forgotten, and some of the old ship's oak has been incorporated in the new fittings.

The general contractors for the building and the seating were Messrs. Samuel Marten & Co., Bristol; and the chancel fittings, pulpit, communion-table, and reading-desks were executed by Mr. F. B. Bell, of College Green, Bristol, from Mr. Gabriel's designs.

The following sub-contractors were employed:—Marble work, the Art Pavements and Decorations, Ltd.; wood block flooring, the Acme Wood Block Flooring Company; tone panelling, Messrs. Gilbert Seale & Son; all Messrs. Llewellyn & James, Bristol; bronze communion railing, Messrs. Spital & Clark; gates and fencing, Messrs. Priest & Son, Bristol; seating apparatus, Messrs. J. Jeffreys & Co.; glazing, Messrs. J. Hall & Sons; sculpture, Mr. Wm. Smith; electric light and fittings, Messrs. Buchanan & Curwen, Bristol.

MANCROFT TOWERS, OULTON BROAD.

MANCROFT TOWERS, the residence of Colonel Philip E. Back, stands in a commanding position on an eminence overlooking Oulton Broad and the Waveney Valley, whence



Mancroft Towers, Oulton Broad.
Mr. George J. Skipper, F.R.I.B.A., Architect.

views many miles in extent can be obtained across the surrounding country. The building has been designed according to instructions in a simple and plain manner, after the style of Tudor brickwork, of which there are many good examples in East Anglia. No stone has been used for decorative purposes; the mullioned windows and all other features have been carried out entirely in brick. The interior has some interesting features, of which the hall on the ground floor, carried up higher than the rest of the ground-floor rooms, and the long gallery on the first floor extending the entire length of the building are examples. An electric plant has been put down for the purpose of supplying the building with water and the whole of the establishment with electric light. A lodge designed in the same style adjoins the entrance gate. Messrs. J. Youngs & Son, of Norwich, were the general contractors, and the architect was Mr. George J. Skipper, F.R.I.B.A., of Norwich, with whom at the time Mr. F. W. Skipper was in partnership.

MIDDLE TEMPLE HALL, E.C.

CONSIDERABLE alterations are being carried out at this building under the direction of Sir Aston Webb, R.A., and Mr. H. J. Wadling, the Architect and Surveyor to the Middle Temple.

The floor of the hall is constructed with binders of oak and chestnut 16 in. square in

section, which are carried by the north and south walls and were also supported by a central wall in the basement running east and west. These binders had in several instances become unsound where the ends were buried in the walls and had been supported by timber posts against the walls. The spaces between the binders have fir joists, several of which had decayed.

The basement under the hall was devoted to cellars, rooms for various purposes, and lavatories, etc., divided by brick walls, and these cellars and rooms were vaulted in brick.

The whole of the old basement interior has been cleared away and new walls have been erected to form barristers' robing-room and lavatories, heating chamber, wine and beer cellars, strong-rooms, and sundry domestic offices. A central corridor has been built running east and west and giving access to these various rooms. By the construction of false ceilings space has been obtained above for air-ducts conveying warmed air from the heating chamber to the hall floor above.

Brick piers have been built to support the floor binders, and they have been otherwise strengthened with fitch plates.

The formation of the central corridor above referred to has involved an alteration of the east elevation in Middle Temple-lane and the formation of a new doorway and new windows. In doing this the detail of the old work is strictly followed.

The new corridor also involved the cutting of a large opening in the main east wall of the hall and the insertion of large steel



Mancroft Towers, Oulton Broad.
Mr. George J. Skipper, F.R.I.B.A., Architect.

stanchions and girders with a grillage foundation under; as the old work shows traces of several settlements, this was a work involving considerable difficulties, which have been successfully surmounted.

The fine old screen at the east end of the Great Hall had shown considerable settlement. This work has been strengthened and pinned up.

In consequence of the settlements in the main east wall the architect deemed it desirable to underpin the wall on each side of the new opening described above, and in the excavation for this underpinning a number of blocks of sandstone were found (imbedded in the clay), which had formed part of some Norman building. These are now in the office of the clerk of works.

Entirely new lavatories, sanitary fittings, sinks, ranges, etc., are provided, and electric light has been installed.

The general contractors are Messrs. George Trollope & Sons and Colls & Sons, Ltd. The sanitary work is by Messrs. Dent & Hellyer, the kitchen work by Mr. J. Edwards; the electric light by Messrs. Strod. The clerk of works is Mr. Horser, who is Clerk of Works to the Middle Temple.

LEGAL COLUMN.

London Building Act: Dangerous Structures.

THE case London County Council v. Jones, reported in the *Law Reports* for August, raised one or two interesting points under the London Building Act, 1894.

Summonses were taken out under sect. 106 of the Act in respect of two houses in Queensland-road, Islington, alleging the structures to be in a dangerous state and requiring the owner to execute certain work thereon. Notices had been given to the owner, and, as no work had been carried out, the County Council had caused the said buildings to be shored up.

The defendants contended that the premises were not in a dangerous state, because there was no danger to persons in them, as they were uninhabited, neither was there danger to the public, since there was a garden space between the houses and the public pavement. It was also contended that, even if they had been in a dangerous state they had ceased to be so at the time the summonses were issued, because the Council had then shored them up.

The magistrate found that the premises were not dangerous, but the Council appealed. The judges of the Divisional Court reversed this finding, sending the case down again to the magistrate. It is hardly necessary to say that neither in the Court below nor in the Divisional Court was any importance attached to the contention that the houses were not dangerous because they had been temporarily shored up by the Council; that would be an absurdity, and render the Act nugatory.

The magistrate, although the houses were ruinous, had found them not to be in a dangerous state because there was no danger to any inhabitant nor to any of the public lawfully near them; but the judges of the Divisional Court held that in the case of houses in a row such as these this view could not be maintained, as there might be danger to the persons in adjoining houses or to the adjoining houses. There is one feature in the case which is somewhat curious. It appeared that in December, 1910, proceedings had been taken under sect. 115, which relates to dilapidated and dangerous buildings, and that the owner of the houses had then carried out certain work upon the houses to the satisfaction of the Council. Those proceedings were held not to be a bar to the present summonses under sect. 106.

The Lord Chief Justice pointed out that, first, there was a distinction between dilapidated houses and houses dangerous, and, secondly, that under sect. 107, if the owner desired to question the requisition made upon him under sect. 106, he should have applied for arbitration. In such an arbitration, no doubt, the question could have been raised as to whether what had been done in 1910 was adequate, and whether, in fact, the houses were dangerous, whereas in the absence of objection by the owner the only question was as above stated, whether danger to some occupier or to the public was necessary to support the summonses.

Sect. 115 relates to structures unfit for habitation or in a structural condition prejudicial to the property or inhabitants of the neighbourhood, whereas sect. 106 only relates to their dangerous condition.

The Light Railways Act.

IN the case of Rex v. Barton and Immington Light Railway (current *Law Reports*) a point of procedure has been settled under the Light Railways Act, 1896, which is by no means clear from the statutes relating to the subject. The Lands Clauses Consolidation Act, 1845, by sect. 121, provides certain procedure where lands are being acquired and the interest of persons having no greater interest than tenancies by the year or from year to year are affected. The Light Railways Act, by sect. 13, varies this procedure, substituting a single arbitrator, or, in the absence of agreement by the parties, the Board of Trade as the tribunal, which shall determine the amount of compensation, and, subject, 3 enacts that the Arbitration Act, 1889, shall apply to arbitrations under this section. In the case in question the Light Railway order incorporated the Lands Clauses Act, and the above procedure was adopted, a single arbitrator being appointed under sect. 13 of the Light Railways Act; but the Light Railway Company refused to take up the award when delivered by the arbitrator under sect. 35 of the Lands Clauses Act on the ground that as by subsect. 3 the Arbitration Act was applied and the procedure for enforcing awards under that Act was applicable. The Court held that the provisions of the Light Railways Act only extended to the method of assessing compensation, not to the methods of enforcing awards, and a mandamus would issue to compel the promoters to take up the award, that being the procedure under the Lands Clauses Act.

LONDON COUNCILS.

Bermondsey.—The Borough Surveyor has been instructed to get out plans and estimate for the erection of a convenience at the entrance to the Joiner-street arch. In connexion with the extension of the tramways in Tooley-street it has been decided to repave the roadway from the present terminus, westwards, with wood, and, if prices can be arranged, the County Council's tramway contractors (Messrs. Dick, Kerr, & Co.) are to undertake the work. The following plans have been passed:—Messrs. G. H. Walgrove & Co., 6, Willow House, Willow-street, Bermondsey, buildings, Jamaica-road, for Mr. J. Harradine, 45, Grosvenor-road, Wallington; Messrs. J. Greenwood, Ltd., 12-14, Arthur-street West, London Bridge, S.E., warehouse, Bermondsey-street, for Messrs. M. Welch & Co., 15-30, Moor-lane, E.C.; Messrs. J. E. Whiter & Co., 89, Newington-butt, S.E., factory, St. Helena-road; Messrs. William Moss & Sons, Ltd., Queen's-road, Loughborough, S.E., sugar warehouse, near Drummond-road, for Messrs. Peck, Frank & Co., Ltd.; Messrs. J. Garlick (1910), Ltd., 23, Sloane-street, S.W., girls' club, Jamaica-road; Mr. W. G. Wells, jun., 49, Brunel-road, Bermondsey; houses in Clarence-street for Messrs. E. Wells & Son, Ltd., Oak Cottages, Clarence-street, Bermondsey.

Bethnal Green.—The question of the establishment of a public library has been referred to the General Purposes Committee for consideration and report.

Hemel Hempstead.—A plan submitted by Mr. E. Darer for the erection of a cinematograph hall at Marlowes has been approved.

Hendon.—Plans have been passed by the Rural District Council for Mr. W. H. Pettit for the erection of five houses in Surrey-road, Pinner.

Heston and Isleworth.—At the last meeting of the Urban District Council the Building Sub-Committee were instructed to proceed with the preparation of plans for the construction of a school to accommodate 800 children in Alexandra-road.

Kingston.—The Guardians have accepted the tender of Messrs. Jarman & Co., Richmond, at £800, for carrying out repair works at the infirmary. At the last meeting of the Board the Chairman of the Building Committee presented a Report on the result of the dispute between Messrs. Weibking and the Board. In August, 1910, the Guardians entered into a contract with Messrs. Weibking for certain additions and alterations to the buildings at Norbiton Common Farm for the sum of £554. From time to time various sums were paid in respect of the work amounting to £500, and, according to the measurements of the

Board's Architect the final sum due to contractors was £20, 2s. 1d., against a claim made by the firm of £234, 2s. 3d. After much correspondence the Architect measured the whole of the work again, and would not at his decision. The contractors subsequently wrote offering to accept a sum of £200, settlement of the dispute, which the Guardians refused. At the request of the contractors matter was referred to arbitration, and Guardians appointed a Mr. Stonor to represent them. This gentleman measured up the whole of the work and agreed entirely with the figures of the Board's Architect. As the surveyor appointed by Messrs. Weibking would not agree with him, the matter was referred to an independent arbitrator pointed by the two professional gentlemen representing the contractors and the Board. The umpire eventually made his award, which was taken up by Messrs. Weibking. The amount of the award was £175. This included the fees of Mr. Stonor, the surveyor, for the builders, and the umpire's costs.

Malden and Coombe.—A plan submitted by the Surveyor for the construction of a new road, to be known as Coombe-hill-road, has been approved, subject to certain conditions. The tender of the Strand Building Company has been accepted, at £91, for carrying out extensions at the Mortuary.

Richmond.—At the last meeting of the Town Council a resolution to the effect "that the Council consider that a *prima facie* case has been made out for the treatment of tuberculosis, to be carried out in the borough of the Town Council," was approved. Plans have been passed for Messrs. Brewer Smith, Brewer for alterations to the "Bungalow" Manor-road, and for the erection of a house in North-road, also for Mr. R. L. Pearce, the erection of three shops in George-street.

St. Pancras.—The Borough Council has granted the application of Mr. James C. Michael, 331, Trinity-road, Wandsworth, S.W., to construct vaults at Messrs. Voile & Worle factory in Bidborough-street.

Stoke Newington.—Electricity mains are to be extended at an estimated cost of 1901. The tender of Messrs. William Griffiths & Co. Ltd., has been accepted for wood-paving portion of Brownswood-road.

Watford.—The Clerk to the Guardians has been instructed to write to the Watford Urban District Council, asking them if they will consider the question of erecting suitable women's dwellings in the town. The Rural District Council have received sanction from the Local Government Board to borrow £75 for making up Shire-lane, Chorleywood.

West Ham.—The Education Committee have received a letter from the Managers of St. Francis School, Stratford, announcing their intention to enlarge the school. No objection is to be raised. It has been decided to install hot-water heating apparatus in lieu of present hot-air plant at the Holbrook-road School, at an estimated cost of £51. Plans prepared by the Architect for the enlargement of the handicraft centre at St. Harold-road School have been approved. The estimated cost is put at £500. Various alterations are to be carried out at the Union Girls' School at an estimated cost of £92.

OBITUARY.

Mr. G. Hay, R.S.A.

THE death, on August 31, in Edinburgh, of Mr. George Hay, aged eight one years. Mr. Hay, until lately Secretary of the Royal Scottish Academy, was a native of Edinburgh, and began his career as an architect, but after some years devoted himself to painting. In 1869 he was elected an Associate, and in 1876 a Member, of the Royal Scottish Academy, of which he was Secretary, November, 1881–January, 1907. He was chiefly distinguished for his pictures of subjects taken from Sir Walter Scott's novels.

Mr. A. Marks.

THE death, on September 1, at Deal, of Mr. Alfred Marks, aged seven years. Mr. Marks, a brother of H. St. Marks, R.A., was formerly London Manager of London City and Midland Bank; he retired from business some years ago. Mr. Marks was distinguished for his researches in the field of archaeological and topographical history, in respect of which, and particularly as regards London, he was a frequent contributor to the columns of the *Athenaeum*, *Notes and Queries*, and other journals. For years ago he brought out the standard work upon the chronicles of Tyburn and the gallows, and with Mr. Herbert Sieveking, succeeded in determining the precise site, and period of the permanent gallows there; as founder of the Society for Photographic

(Continued on page 312.)

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xviii.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

SEPTEMBER 30.—**Dublin.**—UNIVERSITY COLLEGE: NEW BUILDINGS.—Limited to architects in Ireland. Assessor, Mr. H. T. Hare, F.R.I.B.A.

SEPTEMBER 30.—**Llanelli.**—SCHOOL, ETC.—The Llanelli Education Committee invite competitive designs and estimates for school buildings and domestic subjects centre at Stabonheath-terrace. Assessor, Mr. G. E. Halliday, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.

OCTOBER 7.—**Beckenham.**—PUBLIC ELEMENTARY SCHOOL.—Mr. A. W. S. Cross, F.R.I.B.A., assessor. Selection and estimate for school buildings.

OCTOBER 14.—**Baham.**—SWIMMING BATH.—The Wandsworth B.C. invite designs for a Public Swimming Bath. See advertisement in issue of August 13 for further particulars.

OCTOBER 23.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnett, assessor. Deposit, 11. 1s.

OCTOBER 31.—**Huddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100gs., 50gs., and 25gs. Deposit of 21. 2s. See advertisement in issue of August 2 for further particulars.

OCTOBER 31.—**Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

DECEMBER 1.—**Bulgaria.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basingstoke, E.C. (see p. 173, August 9).

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS.—Mr. J. H. B. the City Surveyor, 36, Fisher-street, Carlisle.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Rangoon Municipal Corporation invite designs for the new Municipal Buildings. Honorary of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in issue of August 2 and 30 for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnett, assessor. Premiums 100l., 50l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 21.—**Depwade.**—BRIDGE.—For reconstruction of the old Hall Bridge, between Tibenham and Carleton Road. Plans seen, and specifications at the office of the Depwade R.D.C., at Fulham, Yorkshire. Hareston.

SEPTEMBER 23.—**Barrow.**—SHOP, ETC.—Erection of a confectionery shop, etc., in Abbey-road, Barrow, for the Barrow Co-operative Society, Ltd. Plans and specifications seen, and quantities from Mr. Henry T. Fowler, A.R.I.B.A., 6, Cornwall-street, Barrow-in-Furness.

SEPTEMBER 23.—**London.**—HUTS, ETC.—For a residence for the medical superintendent, and four workmen's cottages, on the grounds adjoining Isolation Hospital, White's End, Winculston Hill, N. Drawings and specification seen, and information from Mr. Richard Collins, Public Offices, Enfield, Middlesex.

SEPTEMBER 23.—**Perry Barr.**—SCHOOL.—For the erection of a new Council school at Perry Barr, near Birmingham. Quantities, on deposit of 11. 1s., from Mr. J. Balfour, Director of Education, County Education Offices, Stafford.

SEPTEMBER 24.—**Leap.**—ADDITIONS.—For additions to Union Hall National School, Leap, Co. Cork. Plans and specification at the school, and at the District Office of Public Works, Cork.

SEPTEMBER 24.—**Treorchy.**—HOUSES.—For erection of four houses and one shop at Park-road, Cwmpar, Treorchy, for the Ton Industrial Co-operative Society, Ltd. Plans and specification with Mr. W. D. Morgan, M.S.A., architect, 104, Ystrad-road, Pentre, Rhondda.

SEPTEMBER 25.—**Dover.**—POST-OFFICE.—Erection of a new Crown Post-office at Tunn, Co. Galway. Plans and specification at the Post-office, Galway. Forms of tender and quantities, on deposit of 11. from Mr. H. Williams, Secretary, Office of Public Works, Dublin.

SEPTEMBER 25.—**Bargoed.**—PREMISES.—Erection of three shop premises in High-street, Bargoed. Plans and specifications with Mr. G. Kenshole, M.S.A., Station-road, Bargoed.

SEPTEMBER 25.—**Dover.**—POST-OFFICE.—For the erection of Dover new Post-office. Drawings, specification, and copy of the conditions and form of contract at Dover Post-office. Quantities and form of tender at H.M. Office of Works, Storey's-gate, London, S.W., on deposit of 11. 1s.

SEPTEMBER 25.—**Llanelli.**—THEATRE.—Erection of an electric theatre, Steep-street, Llanelli. Plans and specification seen, and quantities from Mr. O. P. Bevan, P.A.S.I., architect, Merthyr Tydfil.

SEPTEMBER 25.—**Manchester.**—EXTENSIONS.—For extensions to the Moss Side and Rusholme Branch Libraries. Drawings seen, and specifications and quantities from the City Architect, Town Hall. Deposit of 11. 1s.

SEPTEMBER 25.—**Manchester.**—STABLES.—The Lancashire and Yorkshire Railway invite tenders for the fitting-up of arches as stables at Oldham-road Goods Yard, Manchester. Plans seen, and quantities and specification at the Engineer's Office, Hunt's Bank, Manchester.

SEPTEMBER 25.—**Ormskirk.**—BUILDINGS, ETC.—The Lancashire and Yorkshire Railway invite tenders for the construction of platforms and an electric depot, Steep-street, Llanelli. Plans and specification seen, and quantities and specification at the Engineer's Office, Hunt's Bank, Manchester.

SEPTEMBER 25.—**Ormskirk.**—STATIONS.—The Lancashire and Yorkshire Railway invite tenders for the erection of buildings at Ormskirk. Plans seen, and quantities and specification at the Engineer's Office, Hunt's Bank, Manchester.

SEPTEMBER 25.—**Salford.**—ALTERATIONS, ETC.—For alterations and additions to the Town Hall, police department, and Sessions Court. Plans and quantities, etc., from Mr. J. H. Broadbent, A.R.I.B.A., 4, Cooper-street, Manchester, on deposit of 21. 2s.

SEPTEMBER 25.—**Berriew.**—SCHOOL.—For erection of new Council school at Brooks, Berriew. Plans, specifications, and conditions at the County Education Offices, Newtown, Mont. Deposit of 11. 1s.

SEPTEMBER 25.—**Burley.**—ROOM, ETC.—For erection of an additional classroom and store-room, alterations to cloakroom, and regrading, graveling, and tarpaving playground at Burley Council School. Plan, specification, with conditions of contract, at the office of Mr. A. L. Roberts, Architect to the Education Committee, The Castle, Winchester. Deposit of 21. 2s.

SEPTEMBER 26.—**Edinburgh.**—BUILDINGS.—For the second portion of the new laboratory buildings at the Royal Botanic Gardens, Edinburgh. Drawings, specification, and a copy of the conditions and form of contract at H.M. Office of Works and Buildings, Edinburgh.

SEPTEMBER 26.—**Burley.**—ROOM, ETC.—For erection of an additional classroom and store-room, alterations to cloakroom, and regrading, graveling, and tarpaving playground at Burley Council School. Plan, specification, with conditions of contract, at the office of Mr. A. L. Roberts, Architect to the Education Committee, The Castle, Winchester. Deposit of 21. 2s.

SEPTEMBER 26.—**Edinburgh.**—BUILDINGS.—For the second portion of the new laboratory buildings at the Royal Botanic Gardens, Edinburgh. Drawings, specification, and a copy of the conditions and form of contract at H.M. Office of Works and Buildings, Edinburgh.

SEPTEMBER 27.—**Halifax.**—STAIRCASE.—For the erection of a staircase at the Council secondary school, and wood fencing at Christ Church School. Specifications seen, and form of tender from Mr. J. Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax, on deposit of 11. 1s.

SEPTEMBER 30.—**Great Yarmouth.**—EXTENSIONS.—For extensions to the fire-brick and pottery works, Middlegate-street. Plans and specifications seen, and quantities, with form of tender, from the Borough Surveyor, Town Hall, Great Yarmouth.

SEPTEMBER 30.—**Huddersfield.**—POST-OFFICE.—For the erection of Huddersfield new Post-office. Drawings, specification, and a copy of the conditions and form of contract at Huddersfield Post-office. Quantities and form of tender, on deposit of 11. 1s., from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.

SEPTEMBER 30.—**Plymouth.**—BLOCK.—The reconstruction of chaplain's range block, as 20 A "manned" soldiers' quarters (in flat) at Plymouth Citadel in the Southern Command. Plans, specification, and conditions of contract at the Office of the Director of Works and Construction, 39, Pall Mall, London, S.W., or at the Barrack Construction Office, Fort Bovisand, Plymouth. Deposit of 10s.

SEPTEMBER 30.—**Sheffield.**—PULLING-DOWN.—The Midland Railway invite tenders for the pulling-down of several old cottages at the junction of Cricket Inn-road and Broad Street-lane, Sheffield. Plans and specifications seen, and particulars at the Estate Agent's Office Derby Station.

SEPTEMBER 30.—**Torquay.**—ALTERATIONS.—Alterations and improvements to Swiss Café, Victoria-parade (electric lighting, furnishing, decorating, ironwork). Mr. F. G. Moore, A.M.Inst.M.E., 910, Fleet-street, Torquay.

OCTOBER 1.—**London.**—COLLEGE, ETC.—The London C.C. invite tenders for erecting a training college and one hostel, and also adapting an existing house for a hotel on the Fuzesdown estate, Tooting, S.W. Drawings, specification, quantities, form of tender, etc., at the Superintending Architect's Department (Room 74), 19, Charing Cross-road, W.C. Deposit of 51.

OCTOBER 2.—**Catton.**—ADDITIONS.—For the alterations and additions to Catton Council School. Contract, plans, specification, and form of tender at the School, Mr. J. C. Wrigley, Secretary, County Education Offices, Northallerton.

OCTOBER 2.—**Redcar.**—ROOM.—Erection of a cookery and manual instruction room at West Dyke Council school, Redcar. Plans, specification, and form of tender from Mr. Mennell, Cleveland District Education Office, Redcar.

OCTOBER 3.—**Holbrook Ford.**—BRIDGE.—The Herta C.C. invite tenders for constructing a bridge across River Beane at Holbrook Ford, situated on the main road between Aston and Bennington. See advertisement in this issue for further particulars.

OCTOBER 4.—**Brecon.**—CINEMA.—For erection of new cinema. Plans and specification seen, and particulars from Messrs. Henton & Lewis, architects, 22, Cardif-street, Aberdare.

OCTOBER 4.—**Grimsby.**—ENLARGEMENT OF TELEPHONE EXCHANGE.—The Commissioners of H.M. Works and Public Buildings invite tenders for enlargement of Telephone Exchange. See advertisement in this issue for further particulars.

OCTOBER 4.—**Middlesbrough.**—ENLARGEMENT OF POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for enlargement of post-office. See advertisement in this issue for further particulars.

OCTOBER 5.—**Millbank, S.W.**—NEW BUILDINGS.—The Crown Agents for the Colonies invite tenders for new buildings, Millbank, S.W. See advertisement in this issue for further particulars.

OCTOBER 5.—**Altrincham.**—CONVENIENCE.—For the erection of a public convenience in Kingsway. Plans seen, and quantities and form of tender from Mr. H. E. Brown, Surveyor, Town Hall, Altrincham.

OCTOBER 7.—**Tidworth.**—BATH-HOUSE, ETC.—The Secretary of State for War invites tenders for erection of bath-house, and formation of ducts for heating pipes from boiler-house to dining-rooms at Moolton Barracks, Tidworth, Hants. See advertisement in this issue for further particulars.

OCTOBER 10.—**Furley.**—TELEPHONE EXCHANGE.—The Commissioners of H.M. Works, etc., invite tenders for erection of new Telephone Exchange. See advertisement in this issue for further particulars.

OCTOBER 21.—**Child's Hill.**—ARTISANS' DWELLINGS.—The Hendon U.D.C. invite tenders for fifty artisans' dwellings. See advertisement in this issue for further particulars.

OCTOBER 21.—**Hendon.**—FIRE-STATION.—The Hendon U.D.C. invite tenders for central fire-station at The Burroughs. See advertisement in this issue for further particulars.

NO DATE.—**Belfast.**—VILLAS.—Erection of semi-detached villas, Divis-drive, Belfast. Plans and specifications from the architects, Messrs. Connolly & McAvoy, M.R.I.A.I., Oxford House, Oxford-street, Belfast.

NO DATE.—**Christchurch.**—LAUNDRY.—Erection of a laundry at Workhouse, Christchurch. Quantities from Mr. A. Drutt, Clerk to the Guardians, Christchurch, Hants, on deposit of 51. No Date.—**Torquay.**—ROOM.—Erection of a parish-room for the Council of Holy Trinity Church, Torquay. Quantities and form of tender, on deposit of 51. 2s., from Messrs. Watson & Watson, architects, 36, Torwood-street, Torquay.

ENGINEERING, IRON, AND STEEL.

SEPTEMBER 23.—**Dundee.**—LIGHTING.—For the fitting-up of electric lights in Carrola-shed, for the Dundee Harbour Trustees. Plan seen, and specification and form of tender at the office of Mr. J. H. Thompson, M.Inst.C.E., General Manager and Engineer.

ENGINEERING, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 26.—**Glasgow.**—**EMBANKMENT, ETC.**—For constructing an embankment on the south side of the River Clyde, between M'Neil-street and Govan-street, also repairs on the present embankments on the north side of the River Clyde, between Dalmarock Bridge and Rutherglen Bridge; and malleable iron fence on the south bank of the River Clyde, between M'Neil-street and Govan-street. Specifications and forms of tender at the Office of Public Works, City-chambers, 64, Cochrane-street.

SEPTEMBER 27.—**Shortlands.**—**SEGMENTS.**—The Metropolitan Water Board invite tenders for the supply of cast-iron segments, etc., for a well at the Shortlands pumping-station of the Board. The Drawing, conditions of contract, and specification may be inspected at the Offices of the Board (Chief Engineer's Department), Savoy-court, Strand, W.C. Deposit of 5l.

SEPTEMBER 28.—**Nelson.**—**BRIDGE.**—Construction of a brick skew arch bridge, with stone facings, over the river in Carr Hall-road. Plans and specifications seen, and forms of tender obtained, on deposit of 2l. 8s. from Mr. W. Shuckleton, A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Nelson.

SEPTEMBER 30.—**Aberdeen.**—**VIADUCT.**—For the removal of the existing cast-iron superstructure of the viaduct carrying the company's main line over the River Dee at Aberdeen, and construction of a new steelwork superstructure, for the Caledonian Railway Company. Drawings at the office of the Company's Engineer, Buchanan-street Station, Glasgow. Specification and schedule on deposit of 2l. 2s.

SEPTEMBER 30.—**Herne.**—**WORKS.**—Construction of sewage-disposal works (comprising grit chambers, sludge beds, humus tanks, contact beds, effluent ponds, stormwater tanks, stone-ware pipe drains, and other contingent works) in connexion with the sewerage and sewage-disposal scheme to be carried out in the parishes of Herne and Reculver, near Herne Bay. Drawings seen, and specifications, quantities, and forms of tender from the Council's Engineer, Mr. P. A. Ward, Roseneath, Riddington, Herne Bay. Deposit of 2l.

* SEPTEMBER 30.—**London, W.C.**—**CASEMENTS AND SASHES.**—The Commissioners of H.M. Works and Public Buildings invite tenders for supply and fitting of steel casements and sashes at the Museum Telephone Exchange, W.C. See advertisement in this issue for further particulars.

OCTOBER 5.—**Exmouth.**—**GENERATOR.**—For erection at electricity works of a 500-k.w. turbo-generator, with surface condenser and switch-gear, etc. Specifications and forms of tender from the Electrical Engineer, Electricity Works, Exmouth.

FURNITURE, PAINTING, MATERIALS, etc.

SEPTEMBER 20.—**Hull.**—**PAINTING.**—For painting required at the East Park. Forms of tender and other particulars at the City Engineer's Office, Guildhall, Hull.

SEPTEMBER 21.—**Glasgow.**—**PAINTING.**—For cleaning and painting work required at Rushill Hospital. Specifications and forms of tender at the office of Public Works, City-chambers, 64, Cochrane-street.

SEPTEMBER 23.—**Carlisle.**—**PAINTING.**—For painting and decorating the chapel at Fushell Workhouse. Specifications seen, and information from Mr. George Armstrong, architect, 24, Bank-street, Carlisle.

SEPTEMBER 25.—**London.**—**PAINTING, ETC.**—For painting, etc., at the Workhouse, 77, Bridport-road, Upper Edmonton. Specifications, conditions of contract, and forms from the architect, Mr. J. C. S. Mumery, 13, Fitzroy-square, W.

SEPTEMBER 27.—**Cardiff.**—**PAINTING, ETC.**—For painting and renovating Canton Police-station and seven cabmen's shelters. Specifications and forms of tender at the City Engineer's Office, City Hall.

SEPTEMBER 28.—**Ynysybwl.**—**PAINTING.**—For painting the exterior woodwork and ironwork of 100 cottages at Ynysybwl, near Pontypridd. Specification from Messrs. Thomas & Harding, L.L.C.R.I.B.A., architects, Queen's-chambers, Cardiff.

OCTOBER 1.—**Manchester.**—**POINTS, ETC.**—The Tramways Committee invite tenders for the supply of permanent-way points, longones, and hardened steel centres. Specifications and forms of tender from Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester, on deposit of 1l. 1s.

ROADS, SANITARY AND WATER WORKS.

SEPTEMBER 23.—**Blaina.**—**MATERIALS.**—For the supply of road materials. Samples to Mr. W. J. Davies, the Council's Surveyor, Blaina, Mon.

SEPTEMBER 23.—**Colwyn Bay.**—**SEWER.**—For the construction of a 15-in. stone-ware pipe sewer. Plans and specification seen, and quantities from Mr. W. Jones, A.M.Inst.C.E., Engineer and Surveyor, Council Offices, Colwyn Bay.

SEPTEMBER 23.—**Feltham.**—**GRANITE.**—For supply of granite. Particulars and forms of tender from the Surveyor, Mr. G. Stevens, 10, Hall-chambers, Feltham.

SEPTEMBER 24.—**St. Neots.**—**MATERIALS.**—For supply of broken granite, coarse, medium, and fine. Form of tender from Mr. J. Eder, Surveyor, Corn Exchange, St. Neots, Hunts.

SEPTEMBER 24.—**Southampton.**—**SEWERS.**—For the supply of 100 tons of 14-in. broken granite, Mr. Frederic Gregson, Clerk, Alexandria-street, Southend-on-Sea, Essex.

SEPTEMBER 24.—**Southampton.**—**SEWERS.**—For constructing soil and storm-water sewers Shirley-avenue, St. James's-road, and district. Plans and specification seen, and quantities from the Borough Engineer, Market-chambers, High-street, Southampton. Deposit of 1l. 1s.

SEPTEMBER 26.—**Redditch.**—**SEWAGE.**—For providing and laying 630 yds. of 15-in. and 187 yds. of 24-in. pipe sewers. Plans, specifications, and quantities from Mr. A. J. Dickinson, A.M.Inst.C.E., Engineer and Surveyor, Council Offices, Redditch.

SEPTEMBER 27.—**Great Clifton.**—**SEWAGE.**—For the cutting of about 4,300 lin. yds. of trenches, etc., and the construction of manholes, flushing tanks, ventilators, sedimentary tanks, porous filters, sludge filters, storm-water tanks, and sewerage disposal. Plans and specification with the Engineer, Mr. J. B. Wilson, A.M.Inst.C.E., Grecian Villa, Cockermouth.

SEPTEMBER 30.—**Faversham.**—**GRANITE.**—For supply of 600 tons of granite or basalt broken 14-in. gauge, and 50 tons broken to 14-in. gauge. Mr. Russell, Town Clerk, 20, West-street, Faversham.

SEPTEMBER 30.—**Preston.**—**ROAD.**—For repair of roads in the Preston Cemetery. Specifications with Messrs. Myers, Yeovers, & Myers, 15, Chapel-street, Preston.

OCTOBER 1.—**Baling.**—**ROAD.**—For making-up Tenterden-road for the Town Council. Drawings and specification seen, and forms of tender with bill of quantities, from Mr. C. Jones, M.Inst.C.E., Borough Engineer, Town Hall, Baling. W. Deposit of 10s. 6d.

OCTOBER 2.—**East Grinstead.**—**SEWAGE.**—For the construction of sewage-disposal works, comprising detritus tanks, settling tanks, storm-water, stand-by tanks, filter beds, and humus tanks. Plans seen, and specifications, quantities, and form of tender at the office of the Engineer to the Council, Mr. C. Turton, 6, High-street, East Grinstead, on deposit of 3l. 8s.

OCTOBER 15.—**Kirkby-in-Ashfield.**—**SEWAGEWORKS.**—The Kirkby-in-Ashfield (Nottingham) U.D.C. invite tenders for sewerage and extensions to the sewage-disposal works. See advertisement in this issue for further particulars.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*CITY ARCHITECT AND SURVEYOR	Calcutta Corporation	See advertisement in this issue	Sept. 28

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*DEALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall, Winchester House, E.C.	Churchill & Sim	Sept. 25
*OLD BUILDING MATERIALS, TULSE-HILL, 126, Norwood road, S.E.	Hooker & Webb	Sept. 26
*BUILDING MATERIALS, BATHAM—On the site	Feirce & Thorpe	Sept. 26
*FREEHOLD BUSINESS PREMISES AND LANDS, NORTHAMPTON—On the site	Strickland, Son, & Weall	Oct. 10
*FREEHOLD PROPERTY, HAREFIELD, MIDDLESEX—Chaqueurs Hotel, Uxbridge	Field & Sons	Oct. 17
*FREEHOLD SITES, SOUTHWARK—At the Mart		Oct. 22

OBITUARY—continued from page 340.

ing Relics of Old London he published, from twenty-five to thirty years ago, a valuable collection of views, and compiled the letter-press descriptive of each series; he was also much interested in the arts, and was the author of a book upon the life and work of Leonardo da Vinci, and of "Hubert and John Van Eyck: The Question of Their Collaboration Considered." He was latterly engaged upon the preparation of histories of sanctuaries and of the Chiltern Hills, but was unfortunately disabled by a paralytic seizure when he was in Algiers in the spring of last year. Mr. Marks leaves a widow, formerly Miss Hoppus, the authoress, and (by his first marriage) four children; of his two sons one is an artist, who resides in Paris, and the other an engineer.

Mr. G. Wilson.

Mr. George Wilson, architect of Messrs. Sydney Mitchell & Wilson, Young-street, Edinburgh, died on the 16th inst. at St. Andrews. He was long and honourably associated with the profession of architecture in Edinburgh, first in the capacity of assistant to Sir Rowand Anderson, and later as partner with Mr. Sydney Mitchell, with whom he co-operated in carrying out the numerous works undertaken by the firm. During the past few years he did not take an active part in business matters. Mr. Wilson was of a retiring disposition, and took practically no part whatever in public life in the city. He

was highly esteemed among his professional brethren.—*Scotsman.*

Mr. E. F. Jacob, C.I.E., A.M.Inst.C.E.

Mr. Edward Fountaine Jacob died, aged fifty-nine, on September 1, at Exmouth. He entered the Public Works Department of India in 1876, and retired five years ago; he was latterly manager of the Oude and Rohil-Kund Railway, and was made a C.I.E. in 1893.

Mr. G. B. Witts, C.E.

Mr. George Backhouse Witts, who died, aged sixty-six, on September 6, at Leckhampton, Banbury Railway, and was also employed by the Government. As a leading member of the Bristol and Gloucestershire Archaeological Society he conducted many researches in the Cotswolds district, and was successful in exploring several barrows containing pre-Roman remains, many of which are preserved at Oxford.

Mr. H. J. Davis.

The death occurred, on September 5, of Mr. Henry John Davis, Chairman of the Diamond Foundry Company, Ltd., London, and who was in his seventy-first year, was one of the founders of the firm of Messrs. H. & C. Davis & Co., Ltd., engineers and ironfounders, Mr. Harold N. and Mr. Cyril G. Davis, are connected with the latter business.

PATENTS.

APPLICATIONS PUBLISHED.*

19,041 of 1911.—Richard Henry Hillman Automatic closing apparatus for doors, casements, and the like.
19,867 of 1911.—Arthur William Rammage Concrete building construction.
19,945 of 1911.—Bartholomew Downey and Charles Haslow Combined door checks and latches.
20,152 of 1912.—William Edward Lake (Frank Parker Comins) Apparatus for controlling humidity.
21,571 of 1911.—Leonard Percival: Locks or latches.
27,497 of 1911.—William Agnew: Oil burner for illuminating and heating.
27,852 of 1911.—Edgar Booth and Norman Russell Booth: Series systems of incandescent lamp lighting.
1,355 of 1912.—George Elwin Rabbit: Door for hopper bottom cars.
6,359 of 1912.—The firm of C. F. Schroeder & Co.
7,445 of 1912.—Otto Heidrick: Hollow bricks.
8,016 of 1912.—Société Anonyme des Manufactures des Glaces et Produits Chimiques de St. Gobain, Chauny et Cirey: Ornamentation of rolled plate glass.
*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

METALS (Continued).

IRON (Continued)—	Per ton, in London.	£ s. d.
Sheet Iron, Galvanised, flat, best	£ s. d.	
quality—		
Ordinary sizes to 30 g.	18 10 0	—
" " 22 g. and 24 g.	19 0 0	—
" " 26 g.	20 10 0	—
Galvanised Corrugated Sheets—		
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0	—
" " 22 g. and 24 g.	15 5 0	—
" " 26 g.	16 15 0	—
Best Soft Steel Sheets, 5 ft. by 2 ft.		
to 3 ft. to 20 g. and thicker	12 10 0	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	—
" " 26 g.	15 10 0	—
Best Soft Steel Sheets, 2 g. & 24 g.	11 0 0	—
Cut Nails, 5 in. to 6 in.	11 10 0	—
(Under 5 in., usual trade extras.)		

LEAD, &c.

LEAD—Sheet, English, 4lb. and up	£ s. d.	
Pipe in coils	28 15 0	—
Sol pipe	27 5 0	—
Comp pipe	30 5 0	—
Zinc—Sheet—		
In casks of 10 cwt.		
Vielles Montagne	33 15 0	—
Silesian	33 10 0	—
Zinc, in bundles, 1s. per cwt. extra.		
COPPER—		
Strong Sheet	per lb.	0 1 1
Thin	"	0 1 2
Copper nails	"	0 1 0
Copper wire	"	0 1 0
BRASS—		
Strong Sheet	"	0 1 0
Thin	"	0 1 1
Tr—English Ingots	"	0 2 3
Solder—Plumbers'	"	0 0 10
Timmer's	"	0 1 1
Blowpipe	"	0 1 3

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15 oz. thirds	2d.	26 oz. fourths
" fourths	3d.	32 oz. thirds
21 oz. thirds	3d.	" fourths
" fourths	4d.	Fluted Sheet, 15 oz. 3d.
26 oz. thirds	4d.	" 21 oz. 4d.

ENGLISH ROLLED PLATE IN CRATES OF

STOCK SIZES.*	Per Ft. Delivered.	
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1/4 Rough rolled and rough cast plate	2d.	Ditto, tinted
1/4 Rough rolled and rough cast plate	3d.	Ditto, tinted

* Not less than two crates.

OILS, &c.

Raw Linseed Oil in pipes	per gallon	£ s. d.
" " in barrels		0 3 0
" " in drums		0 3 1
Boiled	"	0 3 2
" " in barrels		0 3 2
" " in drums		0 3 5
Turpentine in barrels		0 2 7
" " in drums		0 2 9
Genuine Ground English White Lead, per ton	30 15 0	
Red Lead, Dry	27 10 0	
Best Linseed Oil Putty	per cwt.	0 10 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

Per gallon.	£ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottings	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

ASPATRIA.—For construction of sewage-disposal works. Messrs. Spinks, Pilling, & Rodwell, engineers, Leeds:—

No. 1 Contract.

Middleton & Hopper, 1, Elizabeth-street, Langholm, N.B.* £5,107

No. 2 Contract.

A. Arndel, East Ardley, Wakefield* ... 2,543

COTTINGHAM.—For erection of a parish hall Mr. A. C. Blackmore, architect, Hull. Quantities by Mr. H. Ashley Cooper:—

G. Houlton	£3,520	0	0	J. H. Fenwick	£3,110	0	0
R. Orwin	3,425	0	0	Simpe & Son	3,090	0	0
F. Singleton	3,440	0	0	R. Finch	3,078	15	0
J. T. Levitt	3,375	0	0	F. Bilton	3,065	13	0
F. Southern	3,345	4	0	P. T. Kettlewell	2,969	19	0
Holiday & Barker	3,173	7	3	W. Whitting, Hallgate, Cottingham†	2,939	10	5
W. Lison & Co.	3,187	15	0				
D. R. Robinson	3,122	0	0				

LONDON.—For cleaning and painting at the Greenwich Infirmary, for the Guardians of the Greenwich Union. Specifications and quantities by Mr. Louis Jacob, F.S.I., 32, Theobalds-road, Gray's Inn, W.C.:

W. W. Bickerton	697	0	10	E. Mills	£560	10	2
W. A. Townsend	898	16	0	E. Procter & Sons	496	8	4
F. W. Loasby	8	0	0				
W. Mills & Sons	698	0	0	E. Lowther & Co.			
Finch & Finch	694	7	2	48, East Dulwich-grove, S.E.*	475	0	0
J. Hocking & Co.	688	0	0				
Stokes & Sons	649	16	0				

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3634.

SEPTEMBER 27, 1912.

ILLUSTRATIONS.

ALEXANDER THOMSON TRAVELLING STUDENTSHIP, 1912: DESIGN FOR A BRIDGE. "SHAKESPEARE'S ENGLAND." VIEWS AND SECTIONAL SKETCHES OF TEMPORARY BUILDINGS AT EARL'S COURT EXHIBITION.
DESIGN FOR ST. GEORGE'S PAROCHIAL BUILDINGS, HORNSEY.
MR. H. KENCHINGTON, A.R.B.A., ARCHITECT.
DESIGN FOR A BRIDGE AND APPROACHES. ALEXANDER THOMSON TRAVELLING STUDENTSHIP, 1912. PLAN BY MR. JAMES BENNETT.
THE ROYAL OPERA HOUSE, MALTA. MEASURED DRAWING BY MR. J. H. COLLIS.

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IMPERIALISM AND ARCHITECTURE.

THE greatness of a civilisation declares itself in its architecture. Without the pyramids and colossi of the Egyptians, the temples and monuments of the Greeks, or the thermae, fora, and aqueducts of the Romans, ancient history would be to us mythical, legendary, and unreal. It is in the scattered remains of the architecture of these ancient peoples that we see them face to face, in their carvings that we feel their closest intimacy, and in their brick courses that we get the direct evidence of their strength. History teaches us that the endurance of a nation depends not so much upon its acquisitions of the arts of war as upon its accomplishments in the arts of peace. Once having conquered the world, Alexander the Great controlled it not by the marshalling of troops, but by the founding and establishing of cities of Greek design. Rome spread out her *castra* not as permanent military outposts, but as the precursors of her eternal *coloniae*. It is to the civilising influence of their cities that we must attribute the enduring greatness of Greece and Rome.

Colonies and dependencies may be acquired by conquest, but their retention demands a higher cultivation as well as a superior military strength. Power without the civilising influence of culture is ignorance ruling knowledge with a rod. A Roman poet wrote of Greece, "Captive Greece made captive her captor Rome"; and during the latter end of last century Germany, after an enforced isolation from her weaker but more artistic opponent France, lost immeasurably in art inspiration as the intangible price of her apparent success. If knowledge and culture have been the necessary accompaniments of successful imperialism in the past, they are its essentials to-day. Now we see not one imperial power but many, each eagerly pursuing its own policy of government throughout colonies, dependencies, and protectorates beyond the sea, vying with its neighbours in dispensing the benefits of civilisation, resenting interference, and jealous of established success. Great Britain, by reason of the wider extent of her realms, glories in responsibilities demanding pre-eminence not only in administrative ability, but also in the practice of the

arts. Incapacity in the latter is the precursor of weakness in the former. When Great Britain is incapable of setting an example of architectural achievement to her dependencies other nations more virile will slowly but surely take advantage of her relapse—step into the breach, undermine her prestige, and bring about an imperial disaffection more effectual in its consequences than the ravages of internal feuds.

Cosmopolitanism, that volatile medium which is so necessary to the fusion both of national and individual interests, is not antagonistic to imperialism. Imperial architecture is affected by cosmopolitanism, not in its parts, but as a whole.

Whilst within the confines of an empire there will ever exist climatic changes and racial differences, imperial character, adaptive, amenable, and elastic, will absorb and embrace these, remaining imperial and distinctive at the same time. The expression of imperial character through the medium of architecture is a policy which the Mother Country should encourage. Divergence from a course set by the parent which

is unattributable to the inherent demands of climate and location means imperial disintegration. Our rule and protection extends not only over aboriginal countries and continents which have gradually become immense colonisations, as in Australasia and Canada, but also over vast countries like India, whose native populations far outnumber the purely British section; or, again, it extends over countries like South Africa, original independent colonisations of settlers drafted from other European powers. If our imperialism is to be completely effective throughout the length and breadth of the Empire the Mother Country must see to it that her national character is expressed not only in the architecture of the cities she founds, but also in the public buildings of the cities she rules.

In Canada to-day there are but too evident tendencies to an appropriation of American ideals and methods of expression not entirely to be attributed to the natural influence of cosmopolitanism and opposed to imperialistic ideals. England as the hereditary exemplar is fast losing ground. The incompetence of the British missionary and the chaotic confusion of style in which our architecture has become entangled is largely responsible for this estrangement. In Vancouver, Toronto, and Montreal the largest and handsomest buildings are the works of American architects—McKim, Carrère & Hastings, and Burnham. England should take steps to recover this lost ground. In Australia the remoteness of any such civilising neighbours removes the danger of such an unnatural alliance; but even here we must remember that the eyes of the Australian are, by the spread of literature and the illuminations of the photographer, open to the architecture of the world. In South Africa, without interfering with the natural expression of imperialistic ideals, the homestead of the original Dutch settler supplies the motive for the same type of building erected in modern times. It is somewhat regrettable, however, to find that these rustic characterisations have been allowed to penetrate the more important monuments of the towns. Even so, whilst it may savour of presumption to enforce an imperial architecture upon countries like India, possessed of glorious native traditions, at the same time to attempt to emulate the native craftsman by a process of transmutation through British eyes would be as foolish as it would be weak. The recent erection of public buildings in Bombay in a pseudo-Indian-cum-English style is a distinctly retrograde step.

The confusion consequent on the attempt to combine the characteristics of a modern European and Indian building in one and the same structure, to erect for the native that which by tradition he alone is capable of erecting for himself, is to invite not only the scorn of the Imperialist, but also the ridicule of those whose own noble architecture has been so grossly caricatured. As a compliment in political diplomacy it is shallow, and from every point of view a grave error.

The Oriental is to-day interested and concerned in emulating the civilisation of the Western world. Our

architectural schools are training students from India, China, and Japan. Indian rajahs vie with one another in building houses based on English models. If we are to retain suzerainty in India this attitude is one to be encouraged. Before the Mutiny palatial residences and public buildings were erected in accordance with the understood traditions of the protectorate power. With the characteristic assurance and confidence enjoyed by our predecessors of the period we unhesitatingly expressed ourselves in our natural and straightforward way. This was not to be interpreted as showing any lack of appreciation of the glories of the Mogul Empire; it showed no disrespect for the unapproachable delicacy of the minarets and domes of the Taj Mahal, no disregard for the beauty of the coniferous spires of the city of Benares, no antipathy to the palaces of Agra, or distaste for the earlier rock-cut tombs. Indeed, such an attitude is one of submission, veneration, and respect; a conscious recognition that these things are the unattainable remains of a glorious past.

An empire can nurse no finer ideal than the cohesion of its dominions in cities erected in one style of architecture recognised throughout the world as the expression of its own imperial ideals. The encouragement of such an empire pervading style throughout colonies, dependencies, and protectorates will tend to annihilate distance and conduce to an imperial liberty, equality, and fraternity. Out of political it will create personal ties, and into closer relation will bring the ambitions of those whose destiny it is to excel.

ST. GEORGE'S HALL, LIVERPOOL.

HERE is to be made a last determined effort to save Elmes's masterpiece from partial stultification. A number of the more influential citizens and the Architectural Society of Liverpool have taken the extreme step of securing the services of Mr. Rigby Swift, M.P., to appear on their behalf at the Local Government Board inquiry, which must necessarily be held upon the Corporation's application for the loan of 2,500*l*. The money is required to pay for the mutilation of the podium and the introduction of a flight of steps, with three shallow landings, as an accompaniment to the proposed equestrian statue of King Edward—a statue that will, if erected, have the misfortune to balance an unoccupied pedestal, until some personage of sufficient merit can be discovered to share the honours of commemoration with his late Majesty.

We shall not weary our readers with a detailed recital of the history in all its lamentable phases of this attempt to make the erection of a memorial to King Edward an excuse for a costly alteration of a perfect building. The salient points must be familiar to all—the initiation of the idea by Sir Goscombe John; the advisory committee of experts with a majority of one in favour of its execution; the disagreement of Sir Aston Webb and Professor Blomfield with the decision; the national and world-wide

support which their attitude at once evoked in architectural circles, materialising in a storm of protest against threatened desecration; protests from Royal Academicians, from the Council of the Royal Institute of British Architects, from Presidents of provincial architectural societies, from the architect members of the French Académie des Beaux-Arts, and from the leading American architects; and the disregard of all this, and of the strongest local feeling by the Corporation Committee, who felt that their dignity was being impaired, and, therefore, proceeded to propose alterations of their own by way of demonstrating their confidence in themselves. It was nothing to them that the available and published evidence of Elmes's and Cockerell's actual intention show that both architects, after various experiments on paper and in practice arrived at the same conclusion—the conclusion embodied in the existing treatment of the south elevation. The Corporation authorities have indeed displayed remarkable ingenuity in refusing to face that fact; they have consistently evaded it, and by professing to regard Cockerell's tentative introduction of steps into the podium (soon abandoned on account of their disastrous effect on the portico) as his and Elmes's ideal solution have glibly claimed to be regarded in the light of pious restorers.

When that point was reached very little was needed to transform their part in the controversy into *opéra bouffon*, and the little was provided by the fatal suggestion that the site now occupied on the St. George's Hall plateau by the Beaconsfield statue would provide the most suitable position for the memorial, and that thus the podium might be left intact and no damage done to the fabric of the building. Instantly the promoters of the original scheme were able to count on the support of an increased number of Conservative members of the Council, and thenceforward at all general meetings when the matter was discussed the voting proceeded largely on party lines, a Tory majority of a third to a quarter settling every individual question in favour of the Memorial Committee—and this simply by reason of the suggestion to remove the Beaconsfield statue being construed as a covert attempt to insult the local Conservative party. Whoever was the author of that unfortunate idea we have never been able to discover, but he was unquestionably responsible for the temporary conversion of the issue into a political one with all the ludicrous consequences which ensued.

Now, fortunately, the blunder has to a large extent been repaired. The opposition have succeeded in demonstrating their freedom from political bias, and many of the most prominent Conservative citizens, who have at various times rendered distinguished service to the interests of Liverpool, are now working to preserve the Hall from violation. Throughout the struggle the *Liverpool Daily Post* and *Mercury* has given invaluable assistance, and has finally opened, and itself headed, a subscription list for those who wish to increase the fighting fund of the opposition. The response has been most satisfactory, and the tone of the covering letters

accompanying donations shows how profoundly the contemplated outrage is resented. From every point of view the list of subscribers is the best evidence of public feeling on the subject. The names include Sir William Lever, Sir Edward Russell, Sir William Forwood, Sir Edward Evans, Mr. W. L. Gladstone, Mr. A. Guthrie, Mr. A. A. Booth, Colonel J. P. Reynolds, Professor C. H. Reilly, Mr. Lawrence Holt, Mr. Rathbone, Mr. Sydney James, Dr. E. K. Muspratt, and a host of other notable Liverpool citizens. In addition to the proof which so influential an array of names assures as to the purity of motive inspiring the opposition, the fact that Mr. Chaloner Dowdall, M.A., B.C.L., a Conservative Lord Mayor, is acting with Mr. Rigby Swift for the opposition at the Local Government Board inquiry once and for all explodes the overworked theory that the political factor still counts. The plain truth is that, the Beaconsfield panic being over, men of every party realise with increasing clearness the folly of erecting a memorial involving an alteration of Elmes's design condemned by ninety-nine per cent. of expert opinion, national and foreign, and fiercely opposed by a large and distinguished body of citizens. A memorial to King Edward should, above everything else, be erected in a spirit of unanimity. To pretend that Liverpool is devoid of suitable sites is absurd. There are quite half a dozen admirable positions to be found, on any one of which Councillors more solicitous for the City's reputation than anxious to indulge a petty obstinacy could easily agree. The choice of one of these sites—say that by the Pier Head, for example—is the only way out of an intolerable impasse, the only escape from a situation of which everyone is weary.

It is too late now to urge the course that should have been taken by the defenders of Elmes's work. We think their stand should have been consistently that of "leave well alone." They should have insisted on the memorial being placed in some part of the city far away from St. George's Hall. By toying with adjacent sites they unwittingly created the dangerous impression that the Hall was not, after all, such a very sacred thing, that it might stand a little improvement here and there. And the enemies of the building were not slow to take advantage of that feeling and to profit by it to the fullest extent. However, we may safely trust to settle that delusion the expert evidence which some of the foremost architects in the country will give to the inquiry.

We have no desire to emphasise unduly the Liverpool Corporation's folly in attempting to amend such work as Elmes's and their publicly-proved incompetence to deal with æsthetic problems; but when the issues at stake are so vital it is essential that their ineptitude should be widely realised. The civic record in monumental work is catastrophic, and may be said only to have needed this last stupidity to render it unique. To take but one instance—the treatment of the area at the back of St. George's Hall, called St. John's-gardens. In so far as the majesty of the building can be affected by its surroundings, Elmes's conception

is damaged by the proximity of that grotesquely crude arrangement. Even Berlin's Sieges-Allee is a mature performance by comparison. Yet we had a thousand times rather that the Memorial Committee had added to the childishness of the "Stoneyard" (as St. John's-gardens are so aptly known) than have presumed to lay hands on the Hall itself.

Alas, we have learnt from bitter experience there is no hope that an appeal for them to retire from a position at once offensive and ridiculous will be treated otherwise than with an elaborate indifference! They have set their faces against retreat, continuing to pursue the policy they adopted at the beginning, ignoring all protest, however powerful, and all advice, however authoritative. But they may yet find that they are riding for a fall. It is one thing to render open spaces foolish and make great buildings suffer by proximity; it is another to seek the ruin of a masterpiece whose reputation is international, whose perfection and completeness are a precious heritage for all time. We shall be most profoundly surprised if the Government inquiry does not result in a refusal to sanction the provision of money for a memorial that will be a serious public inconvenience, do such irreparable mischief, and arouse feelings wholly alien to the memory of its subject.

NOTES.

Mr. T. G. JACKSON, R.A., writes to the *Times* on the subject of the condition of Sta Sophia, which he examined in 1910 at the request of the Ministry of the Efkat, which has charge of all the sacred buildings of Constantinople. The piers on which the four great arches abut are stated by Procopius to be built of solid stone run with lead, but Mr. Jackson, from what he saw, suspects they are largely built of brick. The outer buttresses on the north and south sides which resist the thrust of these arches are not so strong as they look, as they are honeycombed with chambers and stairs. The north-east pendentive is badly bulged, but the full extent of the damage can only be seen from the gallery which surrounds the dome, the plan being no longer circular but deformed, and the great arched ribs of the dome are similarly distorted and have in large measure lost their arch construction. Many parts of the building are, Mr. Jackson says, out of plumb, and some of the vaults in danger of collapsing. We join with him in hoping that means may be found to prevent "a catastrophe of unparalleled consequence," but the difficulties in the way of such help as would be efficacious being given, and received, seem to us very great if not unsurmountable. Were the church once more dedicated to "the Eternal Wisdom" and in the hands of the Greek Church it would be easier to approach the question of restoration.

The restoration works necessitated by the fire of October 19, 1906, which destroyed a large part of Selby Abbey, have been brought

to a conclusion by the completion of the rebuilding of the south transept, which was consecrated yesterday by the Archbishop of York. The cost, amounting to 8,000*l.*, has been defrayed by Mr. William Liversidge, a merchant and native of Selby, who has at various times since 1865 met the cost of restorations. These were carried out under the supervision of Sir Gilbert Scott and his son, Mr. Oldrid Scott, has acted as architect for the recent works. The damage done by the fire of 1906 was estimated at over 35,000*l.*, but so strong was the feeling that Selby Abbey was a national monument that funds for carrying out the restorations were almost immediately subscribed. Unfortunately as such destruction is, we may be thankful it did not happen in early Victorian days, since it would have meant the obliteration of all the interest and charm which our old churches possess, and which is usually retained under the more careful and scholarly hands of the architects of to-day.

THE awkward shape of the street connexions at Hyde Park Corner, which will not allow of the proper control of traffic, was indirectly the cause of a fatal accident on Wednesday, the 18th inst. A motor-bus proceeding up Piccadilly, whilst swerving to avoid a collision with a van crossing diagonally out of Hamilton-place, knocked down and killed an unfortunate pedestrian. The coroner, in summing up, said that these accidents would continue to happen so long as the traffic was allowed to thread its way in and out in this busy thoroughfare, and that it was a little surprising that more accidents did not occur there. He said that he thought it would be a good thing if there was a rule compelling cross traffic from Hamilton-place to Grosvenor-place to give way to the traffic going east and west. The jury returned a verdict of accidental death and exonerated the driver of the motor-bus from all blame. Such a verdict, however, is not entirely satisfactory; had they looked further into the cause of the accident they could not have done other than attach blame to the authorities responsible for the shape of the street. No city in the world possesses a finer force of police or better system for regulating traffic than London, but the police are powerless unless the street intersections are so designed that they can be controlled. In the days of the two-horse 'bus it was quite reasonable to expect vehicles crossing each other's routes to make way for one another and pass without accident, provided a spirit of forbearance existed; but to-day, when all sorts of traffic, from the private motor-car proceeding at high speed to the coster's barrow doing its four miles an hour, have to negotiate, not only police-regulated straight crossings, but also points where traffic is unregulated and proceeding diagonally, it is miraculous that more accidents do not occur. Together with the speeding up of modern traffic there must necessarily follow some alteration in the shapes of streets, and nowhere is this more necessary than at street crossings. The only intersection that can with safety be allowed in London to-day is that

which is at right angles, and the sooner the routes at Hyde Park Corner are reconstructed on these lines the better it will be for every one concerned.

Fire Inquiries and Loss of Child-life.

IN consequence of recent disasters, considerable public attention has been given to the consideration of possible means of reducing the loss of life at present suffered in connexion with certain widely-used commodities. Especially we refer to celluloid, of the dangers of which London has lately had a terrible demonstration, and flannelette, which has its almost daily victims, though it seldom provides tragedies on such a sensational scale as the former. One of the necessary preliminaries to efficient action is the accumulation of knowledge of the actual facts connected with fires, and the uninitiated would probably imagine that the causes and results of all serious fires would be carefully studied by some properly constituted public authority. But as a matter of fact this is not done, official inquiry being in most parts of the country restricted to cases in which death occurs in connexion with the outbreak. In Scotland powers exist to inquire into the causes of serious fires even though unaccompanied by loss of life, and in the City of London similar inquiries are held under the City of London Fire Inquests Act, 1888, with useful results. A Departmental Committee about two years ago recommended strongly that this system of inquiries into non-fatal but still serious fires should be extended to the whole country, and it is not easy to imagine why that recommendation is ignored. The *Manchester Courier* has been doing good work by a series of articles directing attention to these matters, and we trust that some reasonable legislation may result. In our issue of August 9 last we made some suggestions as to protection against the peculiar dangers attending the manufacture and use of celluloid articles. The precautions desirable in that case necessarily affect the arrangement and construction of buildings, but what our contemporary calls "the flannelette curse" can be dealt with to but a very limited extent, if at all, by regulations. We fear that flannelette or some similar material must be used until something better is invented, as the only possible substitute for that flannel or silk which, for obvious reasons of finance, must remain for the present almost equally out of reach of the very poor. To prohibit it would be to add largely to the suffering which winter brings and probably would involve a greater death roll from cold and its consequences than we now have from flannelette and other cotton fires. It should also be remembered that there are many cases of children being burnt by the ignition of woollen clothing as well as of cotton, and that if a child is left free to come into contact with fire nothing but fireproof clothing could give much safety.

Fire-guards in Tenement Dwellings.

It has been suggested that the duty of providing fire-guards should, in very poor tenements, be put upon the landlord, but we feel sure this

scheme would be a mistake. We have some knowledge of the treatment received by the landlord's property in many poor dwellings, and feel that in the long run the suggested additional duty of the landlord would come to be represented by an additional rent upon all accommodation which carried the new liability to provide fire-guards. The poor already (and unavoidably) pay a higher rent for given accommodation than do those who are a little better off, and we should regret to see any artificial addition to this inevitable misfortune. It might be possible for the building regulations to require the provision of a strong iron ring or socket in a standardised position upon each side of the fireplace in every living-room of a certain class of house and for the local guardians to keep a



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stock of guards, of a suitable character for hooking to the fixed rings, for loan to those too poor to buy their own. They would not be always or continuously needed, many would remain serviceable for more than one case, the public charge would not be great, and the scheme would probably work with less friction than the other and supply what is wanted with as little cost to the user as possible. That it is really false political economy to try to give any class something for nothing we are not concerned to dispute; we would urge that, having in so many things swallowed the camel, it is ridiculous to strain at the gnat, especially as the desirability of the end in view is one as to which we apprehend no discussion. We all agree that fire risks must be minimised.

Regent's Quadrant Committee.

WE learn with much satisfaction that a Committee has been appointed by his Majesty's Treasury to consider the design to be adopted for rebuilding the Regent-street Quadrant. This official recognition of the need for further consideration of the position will be welcomed by all who have taken part in the controversy, or who have followed the proceedings. We need scarcely repeat to the share taken by the *Builder* in the matter, culminating in the competition which provoked such widespread interest. The Committee consists of the Earl of Plymouth, C.B. (Chairman), Sir Henry Tanner, C.B., I.S.O., Reginald Blomfield, A.R.A., President of the Royal Institute of British Architects, Mr. John Murray, F.R.I.B.A., and the action of the Treasury in constituting the Committee has significance further than the discussion of the immediate question. It points to the acceptance by authorities of the principle advocated persistently by us, namely, that the erection of buildings should be subject to some sort of municipal control.

EXHIBITION BUILDINGS AT "SHAKESPEARE'S ENGLAND"

By A. O. COLLARD, F.R.I.B.A.

At one time people who were not practically associated with the architectural world of exhibitions were apt to regard it as sufficiently interesting for serious consideration. This was mainly due, no doubt, to academic dislike for anything in the nature of a sham, produced by a special form of construction not requiring thick walls, by kind of materials used, chiefly wood and plaster, and also owing to the limited period for which such work is required or assumed to be able to last. There has been of late years, however, a noticeable growth of tolerance in the matter, even extending to pronounced approval. It has taken about fifty years in the use of plaster externally to represent other materials to produce the feeling. It is realised that special circumstances may render such work desirable and necessary, as it certainly is, in many cases, attractive. The educational value, too, showing to modern city folk representations of old country and provincial buildings, a valuable means of arousing intelligent interest in architecture. Many charming results have been evolved since the Philadelphia Exhibition of 1876 by the employment of plaster out of doors, enabling clever designers to exploit their genius of originality or in reproducing old work not always accessible to the general public.

One might go further, perhaps, and add that occasionally an original plaster facade has been temporarily established which would give lasting satisfaction if translated into more permanent materials, though the conception would not have occurred had the possibilities of plaster been involved. For that matter, no one will deny that so-called permanent buildings would be objectionable were they constructed of imperishable materials than they really are. It is possible, too, to imagine that the stability of some better permanent building may be a source of anxiety when design of a minimum strength, under the Building Act, in order to approach as nearly as possible to a required accommodation within the narrow limits of an authorised expenditure.

The exhibition architect does not suffer so much as others from the difficulty of making accommodation and appearance tally with cost, yet even he does not often escape

the vital question of stability, in spite of the fact that he is not providing the future with ancient buildings, nor has to comply with the ordinary laws of construction. Stability in exhibition edifices is largely a question of wind pressure, a fact which becomes firmly impressed on the architect's mind when he comes to submit his plans for the approval of the authorities. Nothing will convince them that a proposed temporary structure, fondly supposed to be screened from the least breath of wind, is not exposed to every violent tempest that blows. To resist these assumed gales the main supports have to be buried deep in concrete, strutted and knee-braced; the roof principals have to be wind-braced and other provision made for complete security. This question of wind pressure cannot be evaded except when it is possible to build inside other buildings, as, for instance, is the case with some parts of "Shakespeare's England" which are sheltered within the protective areas of the Queen's Palace and Ducal Hall.

Though ordinary rules may be inapplicable, in London the requirements of the County Council and their District Surveyors have to be minutely studied and observed, for they naturally desire to protect themselves from the risk of passing anything of questionable safety. In the early days of public exhibitions, in London and elsewhere, apart from that mighty steel and glass structure, the Crystal Palace, the simplest forms of wood framing were used to receive the plaster covering, without much regard to the effect of the wind.

In speaking of exhibition buildings, it has to be borne in mind that the framework of those which are intended to last for a longer period than one season have, in London, to be certified annually by the District Surveyor as structurally fit for retention before the County Council will renew the temporary building licences. This class of building has gradually become comparatively expensive, much to the disgust of promoters who have to find the money. The authorities, anticipating their continued use for several years and the constant risk of fire, insist on steel framework, concrete flooring, and the elimination of wood and other inflammable materials in construction, even objecting to wood studding and battens to which fibrous plaster is most conveniently fixed, a method dear to the hearts of economical exhibition architects, who are expected to make a great display at a low cost. That objection to wood involves the use of plaster or cement on metal lathing or on concrete slabbing, which is, incidentally, a drawback to rapid construction, though obviously advantageous in arresting the spread of fire. Concrete slabs were used in the construction of the Globe Theatre at Earl's Court to assure sufficient stability in that case.

In this article it is not proposed to describe steel-framed buildings, nor the many curious kinds of structure known as joy wheels, gravity rides, and other mechanical devices which the public have been trained to expect and enjoy at exhibitions after they have sufficiently exhausted themselves by gazing at commercial exhibits. So strongly built are some of these steel-framed structures and devices that it would really not be unreasonable to regard them as permanent structures, thus dispensing with the annual fees for inspection and the renewal of licences.

The class of building to which attention is specially drawn here, and which is illustrated by some examples from "Shakespeare's England," is that intended for one or two seasons only, in which the use of wood framing is reluctantly permitted, covered inside and out with plaster or other approved fire-resisting material. Of all possible materials fibrous plaster is the cheapest and most adaptable, particularly when other materials have to be imitated. In thin slab form for flat surfaces, or cast in gelatine moulds for ornamental and

relief work of any description, it can be made and fixed by nails or screws with great rapidity. As to its durability, if painted annually with two coats of oil colour it will stand the weather for many years, as may be seen by the external plaster of the Imperial Arcade, a last remnant of the Indian Exhibition erected seventeen years ago. Its triumph was most definitely recognised in London when Mr. Imre Kiralfy opened that delightful exhibition, though Birch's old English Village at South Kensington a few years previously was a revelation to those who had not realised the wondrous virtues of fibrous plaster. Several kinds of vegetable fibre have been successfully adopted to reinforce plaster. In the plasterer's clause of an ordinary specification long cow-hair is usually demanded, but it is rarely supplied in sufficient quantity. It is an important means of reinforcement, the absence of which causes the failure of many ceilings in private houses. Cow-hair is too costly for use in the acres of exhibition plaster. In America the long thin grass of the prairie is often used. Nearly twenty years ago, at Earl's Court, a Dutch firm of plasterers had delivered to them a load of hay, supposed to be for bedding down their men, who were to sleep in the grounds. Instead of being used in that way it was chopped up as fibre for their plaster. Any misgivings on the subject were needless, for that plaster in the Empress Theatre is to-day as good as ever it was.

Mr. E. L. Lutyens, whose skill as an architect of permanent work has won for him the admiration of his professional brethren and other people of discernment, was commissioned by Mrs. George Cornwallis-West to design "Shakespeare's England" at Earl's Court on a portion of the exhibition grounds leased to her company by Earl's Court, Ltd. That distinguished and enterprising lady could not have chosen an English

period of greater attraction, nor one combining more happily architectural, historic, and literary interests. Mrs. Cornwallis-West succeeded in infecting all her workers with something of the spirit of those splendid Tudor days, and, in her own personality, seemed to revive certain characteristics of the Elizabethan period. In this connexion it may be noted that her own private administrative offices are on the ground floor of a fine old Tudor building, removed from the quay at Ipswich and re-erected next the Old Welcome Club in the Western Gardens of the exhibition.

The picturesque lay-out of that portion, formerly known as the Queen's Court of the exhibition grounds, with which Mr. Lutyens was chiefly concerned, if carefully examined, shows great ingenuity, not only in the ample footways left for public use, affording delightful vistas in all directions, but in the arranging, spacing, and scale of the buildings represented and in adapting them for the use of exhibitors. Several of the older plaster-faced buildings are completely hidden behind the present new façades, recalling many of the finest examples of architecture, both early and late Tudor, which adorned England when Queen Elizabeth, Leicester, Burleigh, Drake, Bacon, and Shakespeare were living realities. Among other sources of information Mr. Lutyens was able to avail himself of the measured drawings and photographs contained in Garner and Stratton's book on "Tudor Domestic Architecture," Gough's "Early Renaissance," and the Architectural Association "Sketch-books."

Accuracy of detail was evidently a strong point, and the plasterwork bears close inspection in that respect, partly due no doubt to the contractors, Messrs. Humphreys, Ltd., of Knightsbridge, who have an unrivalled experience in the technique of exhibition work. Great pains were taken to imitate closely what must have been the



Exhibition Buildings at "Shakespeare's England."

condition and colour of the buildings in those Tudor days, not merely as we see some of them now centuries later. This is a point which appeals to antiquaries but does not strike superficial observers, who have been heard to remark on the new appearance of some of the Elizabethan counterfeits, forgetting that at the time represented they actually were new. To complete the illusion thoroughly, the scenic artist has been carefully guided in his work, in order to produce correct impressions, and generally the colour brush has contributed the right tone and texture. Mention should be made, too, of the appropriate metal inn-signs and lanterns made by Mr. Starkie Gardner, of the wooden signposts and stocks, and the Tudor galley constructed by Messrs. Gill & Reigate, under the supervision of Mr. Seymour Lucas, R.A.

The framed wood construction used in the buildings is not particularly complicated. After making allowance for the temporary nature of these structures and the substitution of machine-cut deals of ordinary scantlings, the skeleton framing is not vastly different to the covered or exposed framing of old "half-timbered" buildings. Of course, experience, as in other building matters, enables the constructor to decide quickly what is best to be done, either beforehand or as the work proceeds. The height and area of each structure, together with the requisite rigidity and stability, are factors which influence the sizes of timbering used, which is, of course, not affected by the material that the plaster surface is meant to resemble.

The sectional-perspective views, given on one of our Plates in this issue, indicate, in a general way, one method of wood-framing, and show how flat plaster slabbing and ornamental and projecting plasterwork are attached to it.

The delicate oak tracery and the carving of the oak cornices and barge boards of such buildings as the Porch House, Potterne and Ford's Hospital, Coventry, are beautifully reproduced in plaster, such things as slender mullions being backed up by deal supports wherever liable to damage. The plaster "oakwork" is generally tooled over on the surface to imitate the texture of the original material, and is carefully tinted and grained flat. Where oak timbering is flush with the plaster, as at the Porch House and the Shakespeare's Head building, it has to be merely indicated by colour.

To obtain the nearest reality to an old wavy tiled roof, a mould in gelatine is made of some old roof tiling *in situ*, and the same process can be adopted for reproducing old brickwork. When the plaster in the mould is dry it is ready for removal and fixing in sections, and pointed to make good the joints. Another way is to construct some tiling to the desired appearance or build up a section of brickwork from which to obtain moulds. Merely to paint brickwork on a flat surface of plaster would not produce so good an effect, though that expedient may be adopted in cheap work or when situated at a considerable distance from the eye.

The examples reproduced at Earl's Court from Ashby St. Ledgers, Leicester's Hospital, the Trinity College Fountain, Ledbury Market Hall, Staple Inn, and Exeter Guildhall, besides others, show the plaster treatment of surfaces to represent stonework, helped as faithfully as the scenic painter can manage it in colour, the closeness of resemblance being, in skilful hands, largely a matter of price.

In reproducing old work or presenting novel designs and fitting them into the scheme of an exhibition the draughtsman plays an important part. Photographs, sketches, and visits to the originals assist him to prepare the necessary drawings, which expert plasterers can be relied upon to carry out sympathetically. The art of designing, constructing, and decorating exhibition buildings is, however, not a simple affair, so all connected with "Shakespeare's England" are to be congratulated on their successful achievement at Earl's Court.

PARIS NOTES.

PAINTERS will presently be no longer able to claim the distinction of having a picture in the Luxembourg. It has been ordained for some years that the present galleries shall be utilised for the accommodation of historical archives for the convenience of the Senate (it will be remembered that the old Palais du Luxembourg, of which the picture-galleries formed the Orangery, is now the Palais du Sénat). The permanent exhibition of works by contemporary artists which constitutes the Luxembourg collection is presently to be removed to the former Séminaire of St. Suplice, a building in the immediate neighbourhood of the present galleries. A movement meanwhile has been started among artists and others for the purpose of retaining the galleries of the Luxembourg for the exhibition of pictures and works of sculpture, the promoters of this scheme claiming that the galleries of the Grand Palais are insufficient for all the requirements of the annual art exhibitions.

The Paris authorities have at last set on foot a scheme for the lay-out in gardens of the ground on the borders of the Seine between the Pont des Invalides and the Pont d'Alma in the Cours la Reine, which has remained waste ground since the exhibition of 1900. The site is well known to students of French architecture, because it faces the famous François premier house which was transferred from Moret, near Fontainebleau, in 1826, to its present position in the Cours la Reine. François I., according to some authorities, caused this building to be erected for the reception of Diane de Poitiers; it is designed in the style with which the name of François premier is associated, with a suggestion of Venetian work—probably a reminiscence of the sovereign's predatory excursion into Italy. The new grounds are to be surrounded by an iron railing for the better protection of the plants and flowers, which suggests a somewhat unpleasant commentary on the conduct and manners of the Paris public. In our London parks no such protection is considered necessary.

Talking about gardens, it is interesting to note that the Société des Amateurs de Jardins is seeking to celebrate the third centenary of the birth of Le Nôtre by an exhibition of garden craft and art. It is proposed to hold the exhibition next year in the Pavillon du Marsan (by arrangement with l'Union Centrale des Arts Décoratifs). It will be largely retrospective in character, including plans and engravings of Du Cerceau, plans of Le Nôtre and his school, garden furniture of the same period, gardens of the XVIIIth century, and so on. It will also comprise vases and statues, examples of treillage, and the decorative features generally which have been employed in garden architecture by past masters of the art. In view of the fact that Le Nôtre was invited to England by Charles II., an invitation which it is generally believed he accepted, and that he may have been responsible for the disposition of the grounds of St. James's Park, for alterations at Hampton Court, and the gardens of other royal residences in or about London, the forthcoming exhibition should not be without historic interest to English visitors.

The classification of certain buildings, after proper and authoritative representation, as monuments of historic interest is one of the most useful regulations for the protection of past works of architecture which the French Government has at its command. The monastery of Chartreuse has, since the decree which disbanded the religious Orders in France, fallen into a state of dilapidation and disrepair. The present building, which superseded an older structure, and is of later date than 1676, does not possess many features of architectural interest, but what remains is worth preserving. Its recent classification by the Commission des Monuments Historiques will ensure the present stability of the buildings and their future preservation.

AN INTERNATIONAL COMPETITION.

THE conditions of a new international competition for architects have just come to hand. They present some interesting attractive features and some drawbacks. The buildings in question are a Royal Palace and a Palais de Justice at Sofia. So far the first building is concerned it is suggested that the style "Belvedere" should be adopted and to remove any doubt from the mind of any intending competitor what this style precisely represents a supplementary document provides the further information that by the use of the expression the style "Belvedere," the idea intended to be conveyed is that of a building *de belle apparence* with terraces, verandahs, balconies, etc., from which may be enjoyed a pleasant view of the surroundings. The term immediately brought to mind the little jewel of a palace in the Baroque style, with a touch of French Renaissance, at Vienna, although there are many other palaces of the Continent which bear this name. The Viennese type must have also suggested the term to those responsible for drawing up the conditions, for in the supplementary document to which we have referred this building is particularly indicated as an example of the style which it is desired to see chosen by the competitors. Probably the royal predilection entered into the matter of the choice of styles. For the Palais de Justice, on the other hand, *un style classique, sérieux et sobre* is recommended. Intending competitors will be provided on request with plans of the site and levels on which it is proposed to construct the buildings, as well as with photographs of their position and surroundings. In addition to these a list of the prices of materials and the cost of labour will be provided. The premiums are for the Royal Palace—1st prize, 10,000 francs; 2nd, 7,000 francs; 3rd, 4,500 francs; 4th, 2,500 francs. For the Palais de Justice—1st prize, 6,000 francs; 2nd, 4,000 francs; 3rd, 2,500 francs; 4th, 1,250 francs. The juries to be appointed for making the awards are variously constituted, but they include in each instance various high Ministers of State whose offices are associated either with the Royal Palace or the Palace of Justice, and three architects from the Ministry of Public Works, an architect appointed by the Bulgarian Association of Engineers and Architects, and three foreign architects. The foreign architects, who are to be chosen from Vienna, Paris, and Milan, are to be appointed by the architectural societies of these cities. Great Britain and Germany are not apparently taken into account. The conditions nevertheless seem on the whole, fair and reasonable, with some exceptions which are, however, of the utmost importance. They contain nothing to indicate the scale of remuneration for the architect who secures the work, or even that it shall be given to the winner of the first premiated design. Further, it is stipulated that all the premiated designs shall become the property of the Ministry of Public Works and that the jury shall have the option of purchasing any of the unpremiated projects, in the case of the Royal Palace, 4,000 francs, in that of the Palais de Justice 2,500 francs, which suggest points of interest that might be successfully utilised in carrying out of either scheme. These financial provisions will, we imagine, considerably reduce the number of competitors.

LAND TRANSFER.

At the annual provincial meeting of the Law Society, held at Cardiff this week, Mr. J. Rubinstein read a paper on "The Land Transfer Problem: Registration of Deeds and Registration of Titles." It was contended that the County Councils throughout the country should be empowered to establish local registries of deeds similar to the Deed Register now existing in the counties of Middlesex and Yorkshire, the profits of the registries to be applied, as in Yorkshire, in aid of the rates.

OLD HOUSES, CATHERINE-COURT, GREAT TOWER-STREET, E.C.

THESE illustrations are from photographs of houses and ironwork in Catherine-court, Great Tower-street, to be pulled down for the new offices of the Port of London Authority.

Catherine-court, which connects Trinity-square with Seething-lane, is situated just behind Mark-lane Station. It was built in 1723 and named after the Czarina of Peter the Great, who visited England 1716-17.

The Russian Embassy had their offices close by (in Muscovy-court). The houses of the court are typically Georgian, and were formerly used as dwelling-houses. They are now split up into offices in the heart of the wine trade. The present iron gateway of the court was erected about eighteen years ago; the remains of the original gateway are preserved on one of the walls inside the court.

Every Trinity Monday the Brethren of Trinity House, including the Prince of Wales, who is one of the Brethren, pay their annual visit to St. Olave's Church, Hart-street, and pass through Catherine-court.

Samuel Pepys lived for thirteen years near by, in a house in Seething-lane, connected with the Navy Office.

GENERAL NEWS.

Professional Announcement.

Mr. H. W. Ford, architect, has removed to new offices at 11, Old Queen-street, Westminster, and his telephone number will be Victoria 4474.

Appointment.

Mr. T. Herbert Whittaker, A.R.I.B.A., of Nottingham, has been appointed Chief Architectural Assistant to the county of Hereford.

Guildhall Improvement Scheme.

The Court of Common Council will consider on a special day the proposals to alter the buildings adjacent to the Guildhall. The scheme of Mr. Sydney Perks, the City Surveyor, which was illustrated in the *Builder* last week, is estimated to cost about 100,000l.

Victoria and Albert Museum.

The Department of Engraving, Illustration, and Design, of the Victoria and Albert Museum, has recently acquired, by purchase, a large number of original studies by the late Frederick Shields, for his well-known illustrations to Bunyan's "Pilgrim's Progress." When published, in the "Sixties," they received



Entrance to Catherine-court from Trinity-square, E.C.

high praise from Rossetti and other artists, as well as from John Ruskin. Two original pen-drawings by the late E. A. Abbey, R.A., have been given to the Museum by Mrs. Abbey; Mr. Stanhope Forbes, R.A., has given eleven etchings by the late Mrs. Stanhope Forbes.

Oxford Colleges.

Mr. B. T. Batsford will publish in November an important folio volume on "The Old Colleges of Oxford," by Mr. Aymer Vallance, M.A., F.S.A. The book has been in preparation for some years, and is dedicated by special permission to his Majesty the King. The author's scheme is to trace the architectural history of the University church, the old schools and the colleges, exhibiting them in the condition in which they stand at the present day, as well as many vanished features, depicted by famous contemporary artists from the XVIIth century onward. Care has been taken to include among the illustrations a large number of fine specimens of the splendid craftsmanship in ironwork, lead and plaster, in engraved brasses, painted glass, and figure sculpture, with which the ancient fabrics abound.

Medieval Figure Sculpture.

An "Account of Medieval Figure Sculpture in England," by Mr. E. S. Prior, the Slade Professor of Fine Art in the University of Cambridge, and Mr. Arthur Gardner, will be published shortly by the Cambridge University Press.

University Extension Lectures.

Among the courses of University Extension lectures which are now beginning, those to be given by Mr. Banister Fletcher, F.R.I.B.A., on "Ancient" and "Medieval" Architecture promise to be of special interest. The lectures will be delivered in the British Museum and in the Victoria and Albert Museum. Particulars may be had from the Hon. Secretary, 10, Woburn-square, W.C.

The Northampton Institute, Clerkenwell.

The new session of the Northampton Polytechnic Institute opens on the 30th inst. Day

and evening classes are held in a variety of subjects, full particulars of which are now published. Mr. C. E. Larard, A.M.Inst.C.E., is head of the mechanical engineering department, and Mr. R. Mullineux Walmsley, D.Sc., M.I.E.E., Principal of the Institute, directs the Electrical engineering department. The artistic crafts section is under the care of Mr. John Williams, with Mr. N. Vanderlyn as Chief Assistant.

The Polytechnic, Regent-street.

The Polytechnic School of Architecture and Surveying, which is recognised by the Board of Architectural Education of the Royal Institute of British Architects, and by the Board of Education, reopens on the 30th inst. The President of the School is Sir Aston Webb, R.A. Full particulars will be sent on application to the Director of the Polytechnic, Regent-street.

The day department is under the control of Mr. G. A. Mitchell, A.R.I.B.A., and the curriculum is based on the suggestions of the Board of Education and the recommendations of the Board of Architectural Education. The



Relic of Old Iron Gateway, now fastened to Wall of Catherine-court, Great Tower-street, E.C.



Nos. 3 & 4, Catherine-court, Great Tower-street, E.C.



Design for St. George's Parochial Building, Hornsey. By Mr. H. Kenchington, A.R.I.B.A.

full course covers a period of three years. The school has many successes credited to it during the last seven years, its past students including a Gold Medallist at the Schools of the Royal Academy. The evening school is intended for those preparing for the various professional examinations and for the craftsman in the various building trades. Mr. Charles Mitchell, M.S.A., is the Headmaster.

The Engineering School attached to the Polytechnic is under the direction of Mr. Henry J. Spooner, M.I.Mech.E., A.M.Inst.C.E., with Mr. Charles Hawksley as President.

DESIGN FOR ST. GEORGE'S PAROCHIAL BUILDING, HORNSEY.

This design was submitted in a recent limited competition by Mr. Herbert Kenchington, A.R.I.B.A.

The situation of the site at the corner of two important roads suggested an approach from each. By taking advantage of the rapid fall of the ground towards the north-east corner the kitchen and the retiring-room were planned on the ground floor and the small hall on the first floor without increasing the height of the roof above that of the main hall. Over the main entrance was placed the cinematograph-room, approached from the outside over the flat roof of the cloak-rooms.

The materials suggested were red bricks, with buff terra-cotta dressings, and the roof covered with Old Delabole slates.

BOOKS.

County Churches, Suffolk. By T. HUGH BRYANT. In two volumes, with illustrations. (London: George Allen & Co., Ltd., Ruskin House. 1912. 2s. 6d. each net.)

TO ANYONE making a survey of the churches of Suffolk these two little volumes will be welcome. They note the main characteristics of each church, and point out features of special interest in the fabric, and, where they have been allowed to remain the fittings, altar plate, and other objects of interest are noted. As some 530 old churches are described, the notes are necessarily condensed, but they are well arranged in alphabetical order under the rural deaneries as they exist at the present time.

Much the same was done for the diocese of Exeter as far back as "the forties." Many of the finer churches are illustrated by means of good photographs, and we notice with satisfaction that the illustrations only are printed upon calendered paper, thus making the books easy to handle and light to carry.

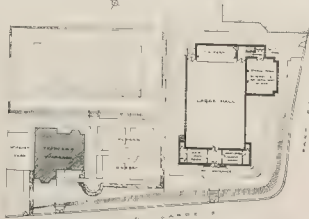
English Medieval Architecture. In two parts. By CYRIL E. POWER, A.R.I.B.A. (London: Talbot & Co. 2s. 6d. each net.)

THE subject-matter of these books, as the author points out, "was delivered originally as a series of lectures on Medieval Architecture." They contain a vast amount of information and over 400 diagrams and illustrations from line drawings in the text and eight plates from photographs, the whole bound in a handy and

compact form. In this respect we regard them as a marvel. Whether such an achievement has been accomplished without detriment to their usefulness is a question. As a synopsis to a course of lectures—and as such we must regard them—the subject-matter would fulfil a most useful purpose. Without the amplification which this matter no doubt received in the course referred to, we confess we find ourselves at a disadvantage when we endeavour to do justice to so painstaking an enterprise. Take an instance—not a very important one, but taken at random—a reference (on p. 495) to the little church of Clymington, Sussex—"In Saxon work, as at Bradford-on-Avon, the transept is little more than a porch. At Worth, and formerly at St. Pancras, Canterbury, the feature becomes much more important, yet built as adjuncts and subordinate to the nave. So also in the XIIIth century at Clymington and Achurch." No reader would gather from this that the "adjunct" on the south side is the tower of the church, which, belonging to the Norman period, is therefore not an adjunct at all. No attention is called to the unusual position of the tower, recalling the important example of Exeter, although a plan of the church is given some pages further on, an arrangement of plan and reference which we note to be inconveniently frequent. The reference we have quoted was no doubt made clear when extended in lecture form, but we cannot help feeling it to be inadequate and unconvincing as it stands. Information given in so condensed a form will, however, no doubt appeal to the student with examination tests in view and further means of reference at hand. The title, too, is somewhat misleading in view of the fact that the all-important developments of castellated and domestic building are not touched upon. English Medieval architecture embraces much more than church building, and the reader consequently puts the books down with an unsatisfied feeling. He also finds no acknowledgment of the sources from which the greater number of the illustrations are drawn.

Company Transfer Work: A Practical Guide to Share Registration and Transfer Work. By J. A. WHITE. (London: Effingham Wilson. 1p. 10s. 2s. 6d. net.)

THE author of this little work, who is the Assistant Secretary to the Associated Portland



Design for St. George's Parochial Building, Hornsey.

Cement Manufacturers (1900), Ltd., has compiled a guide, as the result of his own practical experience, on the subject of registration and transfer in connexion with limited companies, which, we should imagine, should prove useful to those concerned with this class of business.

British Standard Specifications for (1) Cast-Iron Spigot and Socket Soil Pipes, and (2) Cast-Iron Spigot and Socket Waste and Ventilating Pipes. Publications Nos. 58 and 59, respectively, of the Engineering Standards Committee. (London: Crosby Lockwood & Son. August, 1912. Price 5s. each net.)

THE Engineering Standards Committee have issued two further specifications dealing with soil and with waste and ventilating pipes.

In the Preface to each the Committee call attention to the desirability of making the internal diameter of the pipe agree with the nominal size. The departures from this rule which have been made from time to time for various usually quite insufficient reasons have led to much confusion and annoyance.

The specification in each case requires a slight reduction from the present London County Council allowance for caulking space in the sockets of pipes from 4½ in. to 6 in. diameter, which is decidedly an improvement. The thickness is kept uniform for all sizes, and agrees with the present London requirements, except in the case of the smaller soil pipes; these under the new standard will be ⅞ in. thicker than heretofore. This also is a desirable modification in view of the risk of slight eccentricity of the core in casting.

Each specification is accompanied by full details and tabulated dimensions for the various sizes of pipe, and for a number of the more usual fittings, including bends of various radii, access doors, swan-neck bends, branches, diminishing pieces, inspection pieces, collars, shoes, and holder bats.

In the body of the specification we notice what appears to be an oversight which might well be altered in the next issue.

It is required that the interior of the pipes and fittings be galvanised or "be coated with Dr. Angus Smith's . . . composition." It should be required that the pipes be "treated by Dr. Angus Smith's process," which is quite another matter, as it involves the heating of the pipes and much greater expense. The common use of the phrase now embodied in the new standard specifications has permitted the use of pipes which literally comply with its provision, and has, we believe, been the origin of a good deal of dissatisfaction. This, however, is the only point we notice which would be better altered; in all other respects we hope the standards laid down will meet with that general acceptance which their reasonableness would justify.

BOOKS RECEIVED.

REDRESS BY ARBITRATION. By H. Foulkes Lynch. (London: Effingham Wilson. 5s.)

ENGLISH AND WELSH CATHEDRALS. By J. D. Atkinson. (London: Methuen & Co. 10s. 6d. net.)

ILLUSTRATIONS.

Alexander Thomson Studentship.

HIS studentship, value £60, is offered triennially by the trustees, the Glasgow Institute of Architects. In the recent competition Mr. James Bennett was successful, and his design is illustrated on one of our Plates.

The Royal Opera House, Malta.

It is barely fifty years ago that the Opera House at Malta was built. It may seem premature, therefore, to place it in the category of those worthy to be measured, but it is an interesting building in a variety of ways, and seemed to Mr. Collis desirable that the opportunity should not be neglected to record its features. The architect was Edward Middleton Barry, R.A., who, like his more eminent father, was responsible for many important buildings in London and elsewhere. Like other successful architects before and after him, he found fault with his times and wished he had chosen another career. In spite of his undoubted genius for architecture, he found many of the problems of his profession very difficult to adjust. His failure to be chosen as architect of the Law Courts and the non-realisation of his design for a new National Gallery caused him much disappointment.

Born in 1830, Edward M. Barry was a student at King's College, London, and then entered the office of T. H. Wyatt. In due time he became assistant to his father, and remained employed until the death of Sir Charles in 1860 at his house on Clapham Common. Meanwhile the son had earned an independent reputation by his reconstruction of Covent Garden Theatre after the fire of 1856, and in consequence of the success of this work he was appointed by the Government to erect the Opera House at Malta. He was engaged on the Palace of Westminster from 1860-70 in succession to his father. Elected an Associate of the Royal Academy in 1861, he attained to membership in 1869. He was Professor of Architecture from 1874 till his tragic death at a Council meeting at Burlington House in 1880, and during the same period was treasurer to the Royal Academy, an office which has been held always by an architect, with the exception of J. C. Horsley, father to Mr. Gerald Callcott Horsley, F.R.I.B.A. The present Treasurer is Mr. T. G. Jackson.

The Opera House at Malta was illustrated in the *Builder* in 1863, when it was in course of construction, and the following extract from the accompanying article may be quoted:—

"The new Opera House at Malta is one of several important public works for the embellishment and improvement of the island which

have marked the rule of the present Governor, Sir Gaspard le Marchant, Bart. It is situated at the entrance of the Strada Reale, the principal street in Valetta, and has been designed by Mr. Edward M. Barry. The auditorium will contain ninety private boxes in four tiers, accommodating, with pit, stalls, and gallery, upwards of 1,200 persons. As land in Valetta is exceedingly valuable, the ground floor of the theatre under the side corridors, and also the lower part of the terrace in front are occupied by shops; and, according to Maltese custom, residences are provided in the building for the principal artistes. Special arrangements have been devised to withstand the heat of the climate, and fresh air will be conducted to all parts of the house. The saloon, or crush-room, is placed over the entrance hall, and has five windows, with balconies overlooking the terrace. The painting-rooms and the necessary workshops are in the roof, which is constructed of queen trusses of a span of 64 ft.; the queen posts are carried up to support an attic with louvre windows and bold projecting eaves. The building is being constructed of the excellent stone of the island."

"Shakespeare's England."

The interesting buildings which form an attraction to the present Earl's Court Exhibition, and of which we give illustrations on one of our Plates, are referred to in the article beginning on p. 348.

R.I.B.A. Problems in Design.

BOTH Mr. Prestwich and Mr. R. F. Dodd, whose designs were published in our issue of last week, were students at the School of Architecture of the University of Liverpool.

MEETINGS.

FRIDAY, SEPTEMBER 27.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. C. Porter on "Duties of a Sanitary Inspector: Offensive Trades and Trade Nuisances." 7 p.m.

SATURDAY, SEPTEMBER 28.

The Institution of Municipal and County Engineers.—East Midland District meeting at the Town Hall, Leicester.

MONDAY, SEPTEMBER 30.

Royal Sanitary Institute.—Dr. Charles Porter on "Infectious Diseases." 7 p.m.
University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Review of Medieval Architecture." 5 p.m.

TUESDAY, OCTOBER 1.

Royal Sanitary Institute.—"Methods of Disinfection," by Mr. J. Priestley, B.A., M.D. 7 p.m.

WEDNESDAY, OCTOBER 2.

Royal Sanitary Institute.—"Water: Composition, Pollution, and Purification," by Mr. J. Priestley, B.A., M.D. 7 p.m.

The Institute of Sanitary Engineers.—Opening seasonal meeting at Caxton Hall, Westminster. 7.30 p.m.

THURSDAY, OCTOBER 3.

University of London (British Museum).—Mr. Banister Fletcher on "Introduction to Ancient Architecture." 4.30 p.m.

FRIDAY, OCTOBER 4.

Royal Sanitary Institute.—"Elementary Statistics," by Mr. J. Priestley, B.A., M.D. 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 366.

Legislative Buildings, Winnipeg.

We learn by cable from Winnipeg that Mr. F. W. Simon, F.R.I.B.A., has been successful in this important competition. Mr. Leonard Stokes, the assessor, selected the authors of five preliminary designs to compete finally. The chosen competitors were Messrs. E. & W. S. Maxwell, Montreal; Messrs. Sharp & Murray, Toronto; Messrs. Brown & Vallance, Montreal; Messrs. Clemsha & Portnall, Regina, East; Mr. F. W. Simon, Liverpool.

The successful competitor is in practice in this country and is well known for his individual work and for his association with Mr. Huon A. Matear, F.R.I.B.A.

Fire Brigade Station, Cardiff.

The design of Messrs. E. Vincent Harris & T. A. Moodie, London, has been placed first by the assessor, Mr. A. Marshall Mackenzie, A.R.S.A. Messrs. Ivor Jones & Percy Thomas, Cardiff, have been awarded the second place (75%); Messrs. Mangnall & Littlewood, Manchester, the third (50%); and Messrs. Willmott & Smith, Cardiff, the fourth (25%). The designs will be shown at the City Hall, Cardiff, October 2-9.

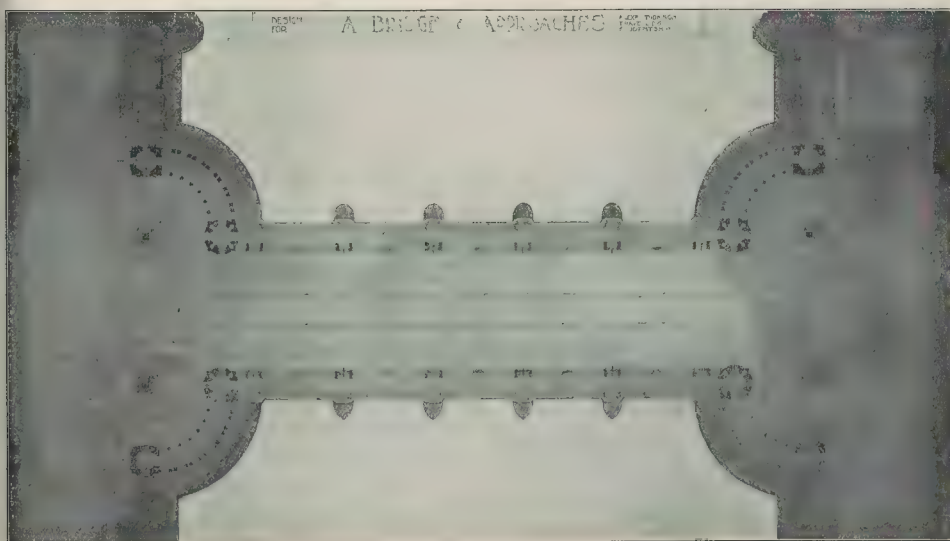
CORRESPONDENCE.

Architecture, Commercialism, and Public Rights.

SIR,—Your article on the above in last week's issue I read with interest and consider your views on the subject to be eminently sound.

The question of advertisement has grown to such an extent of late that we now have to treat it as one of the necessary evils of the modern business life. As regards the building itself as a means of advertisement, I think we generally find that attention is arrested by either a very good or a very bad design.

While agreeing that the bad design arrests attention, such attention is not that which the building owner desires, for it is never that of



Alexander Thomson Travelling Studentship, 1912. Awarded to Mr. James Bennett.

admiration, and I think this in itself will ere long bring its own reward. The thing that "lives" and bears the test of time is the only one that "pays" in its fullest sense.

I agree that "it would be often wrong to blame the building owner's architect for a bad design," though he should not always get off scot-free. Clients expect their architect to advise them, and when his advice is given in a tactful and proper manner, I have found by experience that it is generally of some use. The architect having planned his building to the satisfaction of his clients' practical needs should not be fettered on the question of design by his client, who cannot be expected to view the matter in the "broad" sense necessary to a good design.

Your remark as to the "unpleasing shop window used as a mark of distinction by a firm of restaurant proprietors," I am in entire accordance with, but can it be possible that, as a means of advertisement, it is more effective than the shop windows and fittings recently adopted by a well-known firm of booksellers and newsgaters? Yet the latter are by no means offensive; on the contrary they are a good solution of a very difficult problem.

So much for the "complaint," upon which we are at one, but what of the remedy? I agree with what you have to say as to the sympathy of the large landowner if we are to attain to a higher plane of street architecture, but your remark applies equally to the small landowner, for the remedy should be applied all round if it is to be effective.

We have, however, I think, to look further afield for our remedy of the present unfortunate state of affairs.

The approval of plans for buildings on land is at present generally restricted to the local authority and the freeholder's surveyor. The former views them from the point of view of its by-laws—often in themselves bad—and the latter from the point of view of their being a "commercial asset" to his client. Both are right in their respective spheres, but neither of them touch the point we want. We shall never, I think, get our street architecture into line until such new schemes have to be approved by an authority, to be set up, in the form of a "Tribunal of Art," which body would approach such new schemes entirely from the point of view of design in its broadest sense, i.e., in themselves good and appropriate to their surroundings; there should then be harmony, without which nothing but chaos can reign.

Such a tribunal might consist of, say, three architects and artists of repute, acting together and in co-operation with the local authority, who would then have the entire responsibility for, and interest in, its own district, which should belong to it by right. At present if any local authority be approached on the question, it will generally be found sympathetic, but reply, "We have no power over design."

If such a course were followed, another

section of the community would have become interested, and so by degrees the public generally would lend its sympathy and support, without which, after all, we cannot progress far. It would certainly take some time to accomplish a complete change from the present bad state of affairs, but not longer than it has taken us to get into it.

HERBERT A. WELCH, A.R.I.B.A.

INTERCOMMUNICATION COLUMN.

A Two-Story Building Defined.

SIR,—I shall be greatly obliged if you will kindly give me an answer to the following questions—What is a two-story building? How many floors does it contain, including ground floor (a non-basement house)? Thanking you in anticipation,
E. J. WEYMOUTH.

[*] We do not know if any subtle reason caused our correspondent to ask the above questions. While we do not wish to be involuntary parties to a betting decision or building dispute, we hope it is not indiscreet to offer the suggestion that, in a general way, a two-story building, without a basement, contains two floors, that is to say, a ground floor and a floor over it, which may be wholly or partly in the roof, or may have a flat roof. As the inquirer writes from an address in the Metropolitan area, the following definitions of the London Building Act, 1894, Part I, Clause 5, may interest him:—

"(11) The expression 'ground story' means that story of a building to which there is an entrance from the outside on or near the level of the ground, and where there are two such stories, then the lower of the two:

Provided that no story, of which the upper surface of the floor is more than 4 ft. below the level of the adjoining pavement, shall be deemed to be the ground story.

(13) The expression 'first story' means that story of a building which is next above the ground story, the successive stories above the first story being the second story, the third story, and so on, to the topmost story;

(14) The expression 'topmost story' means the uppermost story in a building, whether constructed wholly or partly in the roof or not." We assume the questions do not involve consideration of the height of the building, the heights of the stories, nor the thickness of walls, which are points dealt with in the first schedule of the same enactment.—ED.]

ENGINEERING SOCIETIES.

The Institution of Municipal Engineers.

At a meeting of the Council held on September 18 the following applicants were recommended for admission:—

To membership:—Mr. R. L. Price, Surveyor, Dawley Urban District Council; Mr. T. Rosbotham, Surveyor, Southport, Birkdale, and West Lancs Water Board; Mr. H. Plewes, Surveyor, Thorne Rural District Council.

To Associate membership:—Mr. S. F. Dean, Chief Assistant, St. Mellons Rural District Council; Mr. R. E. Miles, Assistant Engineer and Surveyor, Horbury Urban District Council; Mr. H. E. Morris, Surveyor's Office, Hereford Rural District Council; Mr. F. J. Felts, Borough Surveyor's Office, Cambridge; Mr. C. Thomas, Assistant Surveyor, Llanelly Urban District Council.

Transfer to membership:—Mr. F. Britton, Surveyor, Dore Rural District Council; G. E. Mathews, Engineer and Surveyor, St. Holland Drainage Trust.

Under the new by-laws these elections will be ratified at the next Council meeting if no written objections are lodged within fourteen days. The annual meeting will be held in London on October 11 and 12. Various papers will be read and visits will be paid to places of interest.

FIFTY YEARS AGO.

From the *Builder* of September 27, 1866.

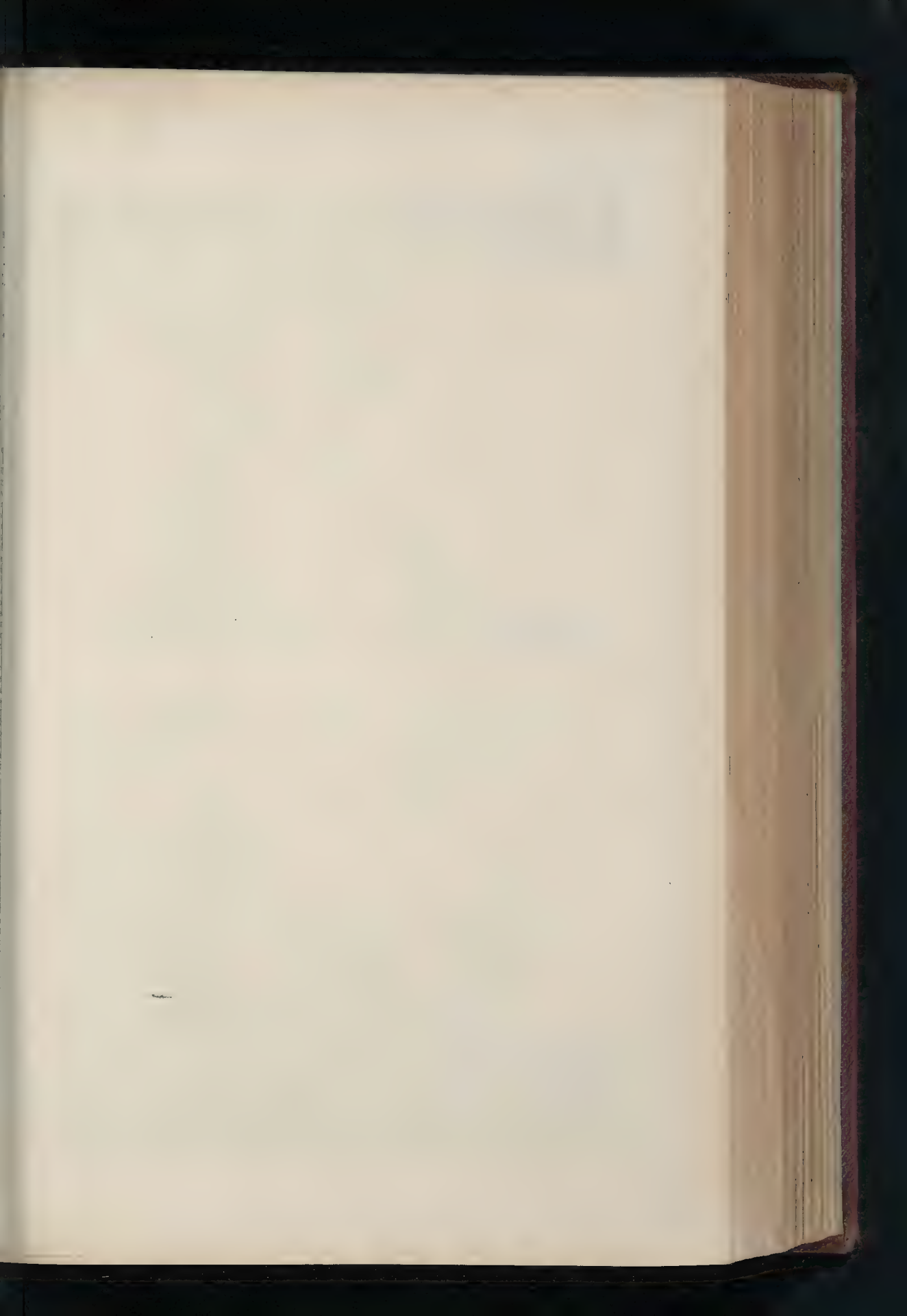
Our Bridges.

THERE is scarcely a city founded upon a navigable river, and occupying space both margins, that has not, according to extent, more free bridges than London. There are in a two-mile course of stream, from Houses of Parliament to the Customs, bridges for traffic, with one footway, peddled space; and of these only three are free to the public! Paris can boast of less than fifteen bridges in the same extent, and *without a toll*; and yet who would compare the amount of commercial intercourse required by either community? We have nearly the one-third portion of the metropolis on the southern margin of the river. In Paris, the Seine makes a narrow division; but the flow of the Thamez which describes an arc of a circle, requires yet more increased facilities of intercommunication. On the north bank the country from London to Westminster Bridge is scarcely a mile and a half. A stranger visiting the Surrey side, having taken notes from the Tower to Hyde Park, could hardly account for the dusky, gloomy, and staid aspect of Southwark and Lambeth. There appears to be neither unity nor community in these heterogeneous parts; but he who is a Parisian, he at once discovers that peculiarly English system of toll bridges is the cause of suspended animation.

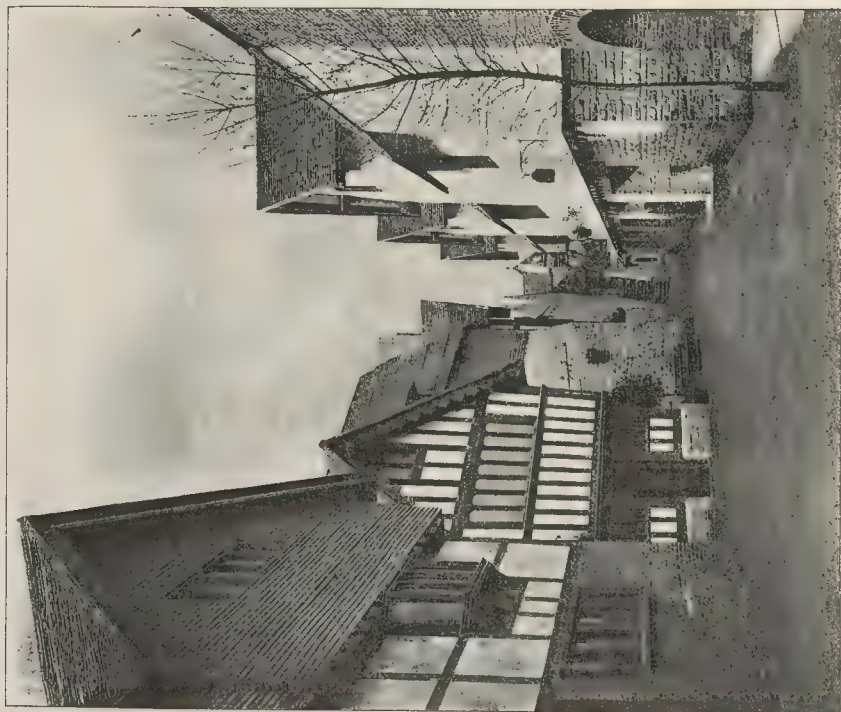
*** The "suspended animation" referred to in the above paragraph could scarcely refer to a matter of complaint with regard to the traffic, whether pedestrian or vehicular, of our London bridges. But since it is written the tolls have happily been done away with. The Metropolitan Toll Bridge Act of 1877 required the Metropolitan Board to extinguish the tolls on all the Thamez bridges. Within the last fifty years bridge accommodation across the Thamez has been largely increased either by addition of new bridges or the substitution of new and more ample structures for old. Blackfriars Bridge was opened in 1818, Albert Bridge in 1873, Wandsworth Bridge in 1880, Battersea in 1890, the Tower Bridge in 1894, and the new Vauxhall Bridge in 1906. Paris, within the same period, has not shown the same activity, because it has not had to meet the same necessities and partly because its river was already well supplied with bridges. The Pont Alexandre Trois, which was opened in 1901, easily eclipses anything that has been done either in London or any other capital in the way of beautiful bridge architecture. We are not inclined to agree with those who draw comparisons between the two capitals to the disadvantage of London, but it would be absurd not to acknowledge that in questions concerned with the improvement of Paris, the French authorities show in some respects, a more enlightened policy than that which prevails in this country.—ED.

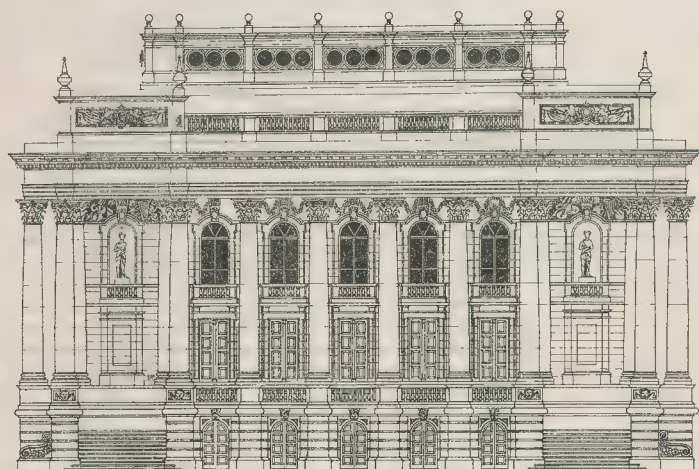


The Royal Opera House, Malta. (See page 353.)



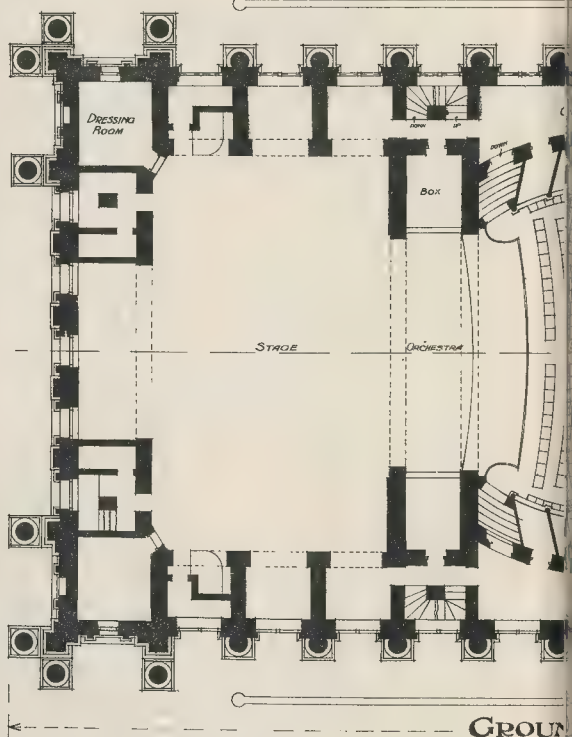
THE BUILDER, SEPTEMBER 27, 1912



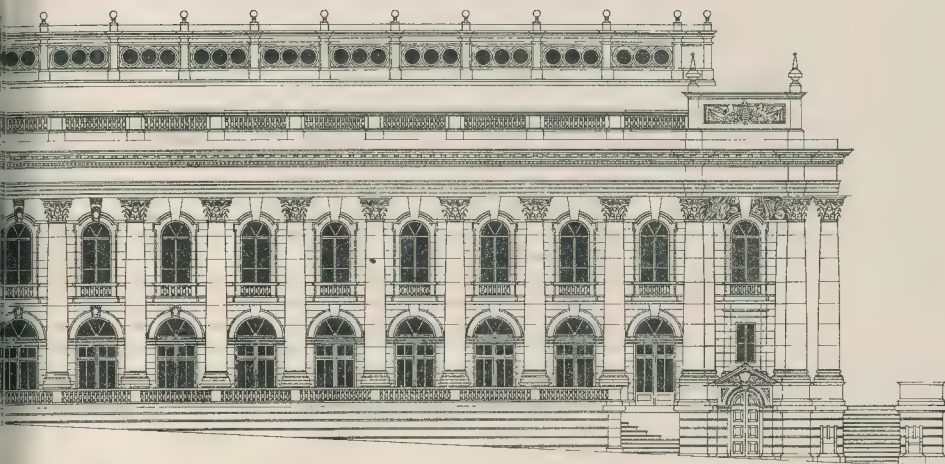


FRONT ELEVATION

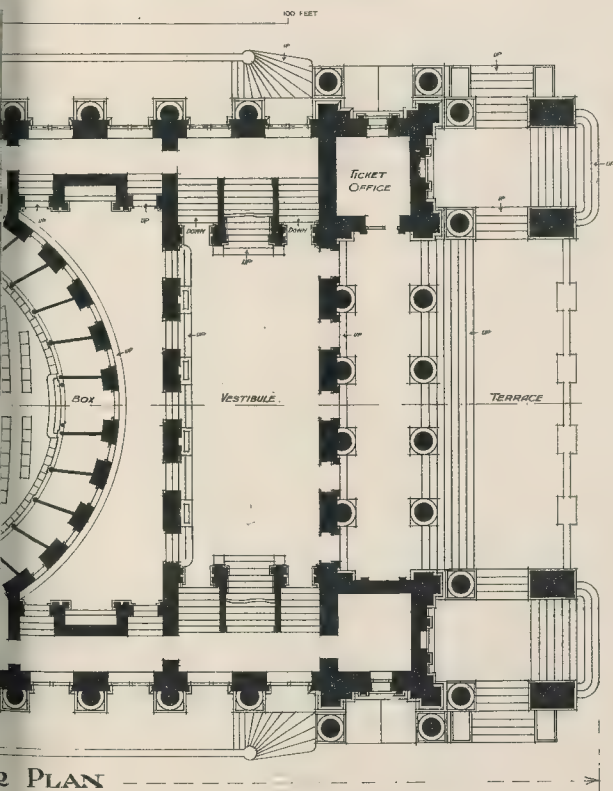
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GROUND



SIDE ELEVATION



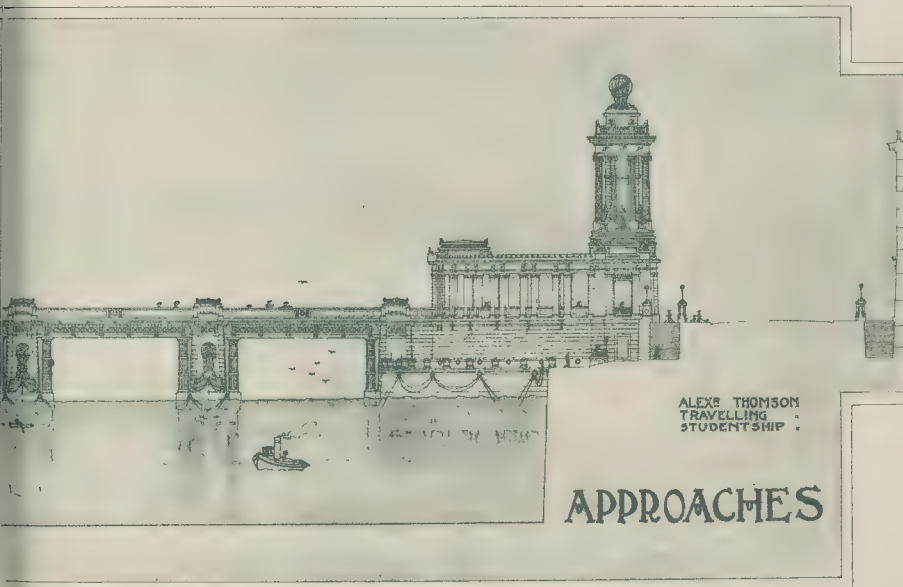
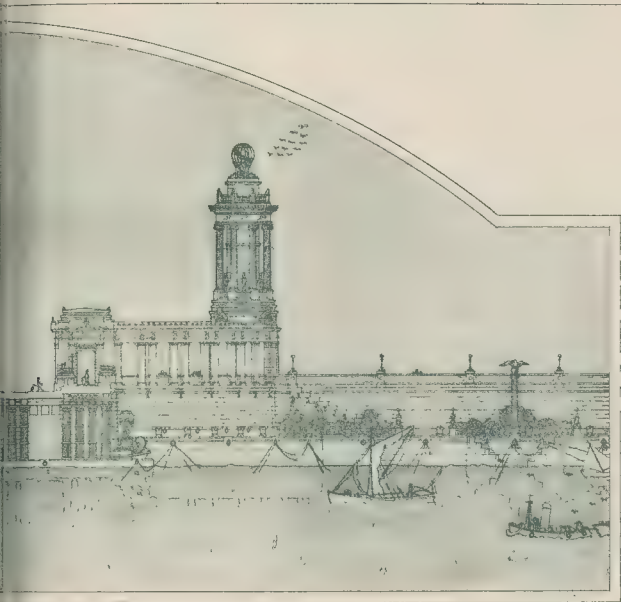
2 PLAN

MEASURED & DRAWN BY
J. H. COLLIS Oct. 1911.

PHOTO L. THO SPRABE & CO. L.T. 89 & 70, PLAN STREET, SOHO, W.



FEET



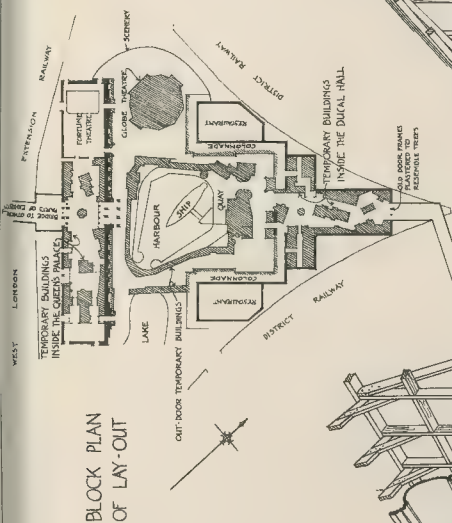
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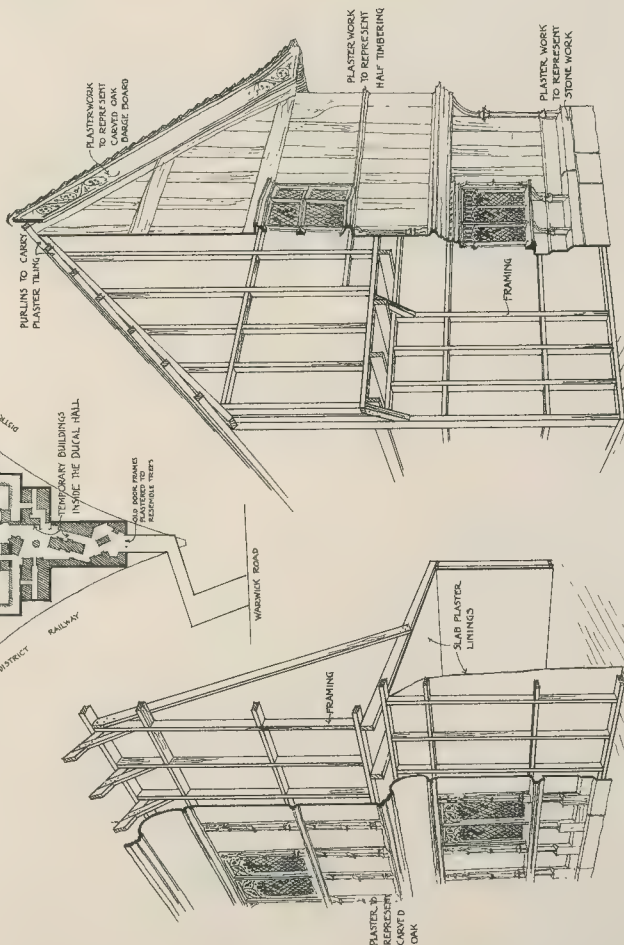
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SECTIONAL SKETCHES OF
TEMPORARY BUILDINGS AT
"SHAKESPEARE'S ENGLAND"
AT EARL'S COURT. 1912.

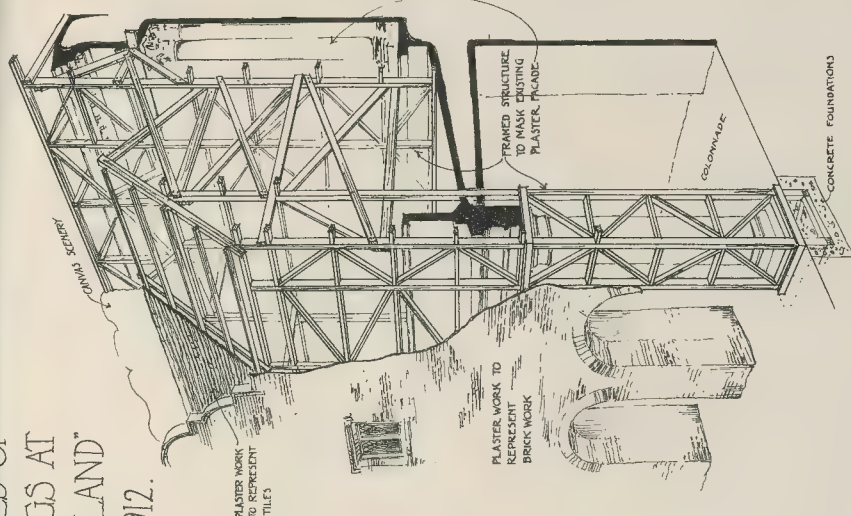


BLOCK PLAN OF LAY-OUT



FORD'S HOSPITAL, COVENTRY.

COVENTRY. THE PORCH HOUSE, POTTERNE
EXAMPLES OF TEMPORARY WORK INSIDE A BUILDING



BRICK FACADE WITH SHAPED GABLES
EXAMPLE OF OUT DOOR TEMPORARY WORK

PHOTO: JIM SPRAGUE & C. L. P. 89 & 70, DEAN STREET, SONO, W

MONTHLY REVIEW *of* ENGINEERING.

[Photo, by Colas.]

Fig. 1. Derricks in Operation in the Rue des Italiens, Paris.



[Photo, by Demoulin.]

Fig. 2.

CONJUGATE DERRICKS FOR THE ERECTION OF STEELWORK:
RUE DES ITALIENS, PARIS.

IN a previous issue (February 9, p. 153) we described and illustrated the structural and architectural features of the buildings erected on either side of the new street in Paris known as the Rue des Italiens.

The steel skeleton of the block at the left hand of the street has two façades, one of 28 metres on the Boulevard des Italiens, and one of 61 metres on the Rue des Italiens. The party wall separating the building from No. 32, Boulevard des Italiens is nearly at right angles to the line of the boulevard for a length of 36 metres, thence following an irregular polygonal contour causing the width of the site to diminish towards the upper end.

As most of the apartments in the new building had been let even before construction had been commenced, the time allowed to the contractors for erection was very short considering the large amount of work to be done, and it was indispensable that powerful construction plant should be installed for the erection of the steel skeleton within the stipulated period.

In order to obviate the employment of scaffolding or staging of the kind generally used in building construction, the contractors, Messrs. Baudet & Donon, arranged with Messrs. Louis Perbal & Cie., of Nancy, for the installation of two conjugate derricks, each capable of being rotated through a complete circle.

The type of derrick in question may be described as a perfected form of the ordinary derrick, the main objects of the inventor having been to provide facilities for commanding a maximum area and to avoid the necessity for the encumbrance of the building site by staging of the usual character.

Instead of being capable of angular movement to the extent of only about 200 deg., as in the case of an ordinary derrick, the new type of crane can be rotated through a complete circle, and turned round and round in either direction as often as may be desired.

As shown in Fig. 3, each derrick consists essentially of a vertical shaft pivoted at the top and bottom and carrying near the upper end a horizontal arm furnished with rails for a travelling carriage from which the loads to be hoisted and otherwise dealt with are suspended by means of wire ropes and the usual tackle.

The vertical shaft is a latticed steel structure tapering to a point at each end, the bottom bearing supported on a foundation block in the ground, and the top bearing carried by two latticed steel stays disposed at an angle of 60 deg. apart in plan so as to be capable of resisting either tension or compression according to the direction in which the rotating arm of the derrick is moved, and made of strength sufficient for withstanding flexure due to the action of the wind and the dead weight of the construction.

The stays are slightly inclined to the horizontal, the outer end of each being supported by a steel tower. In the case of a single derrick these towers are generally in the form of sheer legs with one vertical member and two inclined members.

The double or conjugate derricks of the type erected at the Rue des Italiens require only two supports for the four stays carrying the upper pivot bearings, as represented in Fig. 4, where it will be seen that the two stays

meeting over the Rue des Italiens are supported by a sheer leg tripod, and that the other two stays meeting near the party wall next to No. 32, Boulevard des Italiens, are carried by a light steel tower, triangular in plan. This tower was tapered to a point at the upper end so as to provide clearance for the passage of the rotating arms of the derricks.

As the top bearing of each rotating shaft is above the horizontal arm from which the loads are suspended, it will be readily seen that there is nothing to prevent the complete and continued rotation of the arm in either direction.

All forces acting upon the derricks, whether due to the loads suspended or to the pressure of the wind, give rise to resultant forces upon the upper stays and the points of support.

Consequently, according to the direction of rotation and of the wind each leg of the tripod and each main vertical of the triangular tower works alternately in tension and in compression.

Therefore it is necessary that the foundation blocks for the supports should be constructed so as to be able not only to distribute pressure on the soil at suitably reduced intensity, but also to withstand forces tending to lift them from their beds.

The form and general arrangement of the supports for the conjugate derricks employed at the Rue des Italiens was decided by the following considerations:—

1. The requirement that the new street should be opened to traffic, connected with the erection of the buildings, before the derricks

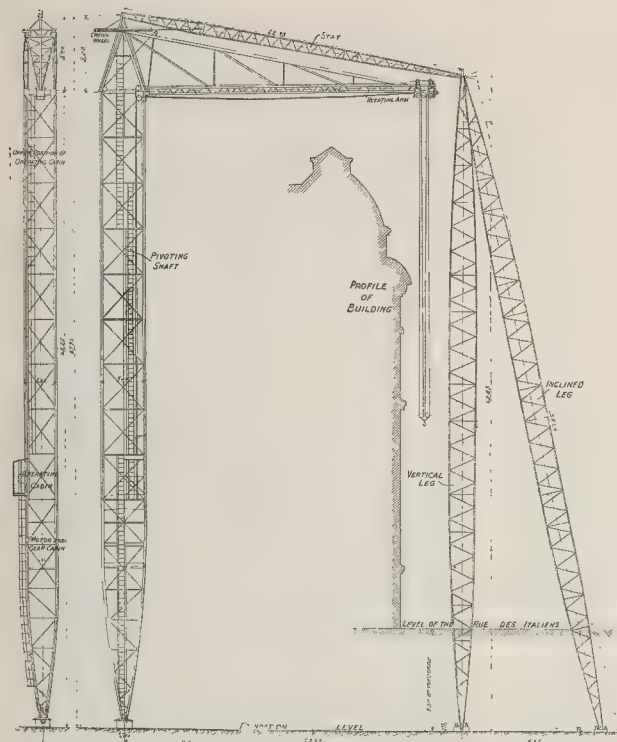


Fig. 3. Elevation of Derrick: Rue des Italiens, Paris.

(From Le Génie Civil.)

could be dismantled and removed from the site, and

2. The desirability of avoiding interference with the erection of steelwork on the site of the left-hand block of buildings.

The first consideration clearly indicated the shear-leg type of support as the most suitable, because the space between the vertical and inclined legs would permit the circulation of traffic on the new roadway, while the second consideration led to the adoption of a compact vertical tower offering far less obstruction to steelworkers than the wide spreading legs of a tripod support.

In selecting the positions for the three vertical posts of the tower and in determining the positions of the bracing members for the same structure, care was taken to place all of them between the stanchions and girders to form part of the steel skeleton, the bracings being placed as far as possible so as to come between the successive floor levels. Thus, after removal of the derricks the only permanent members of the skeleton to be fitted were a few floor joists.

Thanks to this arrangement, it was possible for the contractors to place all important members of the steel frame in position by means of the conjugate derricks, the result being a considerable saving of time and expense.

All the movements necessary for the operation of each derrick are controlled by one man from the operating cabin shown in Fig. 3. The cabin is fitted like the eagle of a lift on the rotating shaft and can be raised as work progresses to enable the mechanic to command a view of the entire site throughout the conduct of building construction. The motor and gear cabin is built inside the rotating shaft below the bottom position of the operating cabin.

The means of control provided in each of the latter enable the attendant to regulate the traversing movement of the carriage running backwards and forwards on the horizontal rotating arm, the rotatory movement of

the derrick, the hoisting and lowering movements, and changes of speed for the hoisting gear.

The traversing movement of the carriage on the horizontal arm and the rotation of the vertical shaft are effected by means of an electric motor of 6 kilowatts capacity supplied with continuous current at 220 volts pressure, and arranged so that the two movements can be performed separately or simultaneously as desired. The carriage is traversed by means of an endless wire rope proceeding from the motor and gear cabin to the top of the rotating shaft, passing over a guide pulley there, proceeding thence along the horizontal arm, making connexion with the carriage and returning to the cabin.

The rotation of the derrick is effected by another endless wire rope passing over guide pulleys and around the crown wheel at the top of the rotating shaft, this wheel being of 4 metres diameter and grooved for reception of the wire rope. The crown wheel is fixed to the shaft, which is moved in the required direction by the pull of the endless rope.

For hoisting purposes, a second electric motor of 9 kilowatts capacity is fitted in the cabin, where the hoisting cable is wound about a drum.

The following particulars will enable our readers to form an idea of the capacity of the derricks, and their convenience for the execution of structural work:—

Diameter of circle commanded by each rotating arm, 40 metres.

Height of rotating arm above ground level—Derrick No. 1, 42 metres; Derrick No. 2, 39 metres.

Time required for complete rotation of arm, 4 minutes.

Traversing movement, per minute, 20 metres.

Hoisting movement, length of cable on drum per minute—Quick speed, 40 metres; slow speed, 20 metres.

Lifting capacity of derrick, 5 tonnes.

The speed at which loads can be raised depends upon the weight to be dealt with and

the gearing employed, the average speed being as follows:—

Load.	Gearing.	Height Hoisted
Kilogrammes.		Metres.
2,500-5,000	Slow speed	5 per minute
Less than 2,500	Quick speed	10 per minute
1,250-2,500	Slow speed	10 per minute
Less than 1,250	Quick speed	20 per minute

The derricks installed at the Rue des Italiens were arranged so that they commanded not only the whole of the building site, but also considerable areas over the new street and a portion of the foot pavement in the boulevard.

Moreover, as the rotating arm of No. 1 derrick was 3 metres higher than the corresponding arm of No. 2 derrick, the two appliances were available for use at the same time without mutual interference, and as the zone of action of the derricks overlapped to the extent denoted in Fig. 4 part of the building site was commanded doubly.

The latter facility proved of great convenience during the early stages of construction before the Rue des Italiens was open to vehicular traffic. At the period in question the only means of access to the site for goods was by way of the unloading platform (Fig. 4) of the Boulevard des Italiens.

Materials there delivered by lorries were hoisted by derrick No. 1 and transferred to required positions on the front part of the site or to a point in the overlapping zones, where the materials were taken up by derrick No. 2 and thereby delivered to required positions on the back portion of the site.

Thus the conjugate action of the derrick enabled the contractors to handle materials mechanically over the entire area.

After the roadway of the new street had been completed and opened to traffic, the two derricks were employed independently for the reception and handling of materials.

Figs. 1 and 2 show the derricks in operation and also include a view of another type of crane supplied by Messrs. Perbal & Cie.

The latter, entitled the "Mât Grue," or mast crane, comprises four elements—a track for travelling motion, the mast, the crane proper, and the operating mechanism.

The track consists of two rails, one at ground level and the other 10 metres higher. The first is an ordinary railway rail, and the second a rail of special broad flange I-section, supported at intervals by channel bars with cast steel connexions. The track is usually constructed along the entire length of the building site.

The mast is a lightly built steel tower, usually

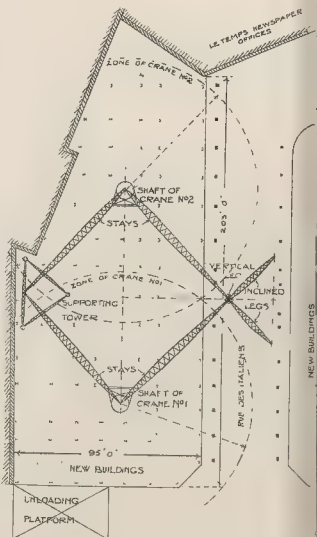


Fig. 4. Plan showing arrangement of Derricks.

it up to 40 metres high, composed of four uprights connected by bracing, and as the lower part of the mast is of reduced cross-section, the appliance reduces obstruction in the street to a minimum. The head of the crane is provided with a cantilever platform for the attachment of the crane, the platform projecting towards the building line in order to increase the radius of action of the crane.

The upper portion of the mast is square in cross-section, and is fitted with a fixed cabin for the motor and gearing, and a travelling cabin for the mechanic in charge, this cabin being arranged to move up the mast like the cage of a lift.

The crane jib projects 3.25 metres beyond the centre, or 4.55 metres beyond the axis of the mast, and can be rotated through a complete circle 6.5 metres in diameter. It is capable of dealing with loads up to 3 tonnes.

The operating mechanism includes a windlass for gearing for travelling and rotatory movements, preferably worked by an electric motor. An operating cabin is provided with means for controlling all the movements of the crane.

Although not taking the place of large derricks, the mast crane is of special value in erecting the façades of buildings. It occupies very little space outside the building line, and has the manifest advantage of obviating the employment of cumbersome staging as requisite for ordinary travelling cranes.

REINFORCED CONCRETE PONTON: MANCHESTER SHIP CANAL.

An interesting example of reinforced concrete construction is furnished by the pontoon recently launched at Islam for employment in connection with the dredging operations conducted on the Manchester Ship Canal. The structure given on this page is from a photograph taken on the occasion of the launch. The pontoon was designed by the late Mr. Robert Congreve, M.Inst.C.E., for whom details the reinforced concrete work were prepared the Hennebique system by Messrs. L. G. Nichol & Partners. The vessel measures 11 ft. long by 28 ft. wide by 8 ft. deep from the keel to the main deck, and is constructed with longitudinal and transverse bulkheads dividing the interior into a number of perfectly tight compartments. The framework consists of reinforced concrete columns and beams, the outer skin and the interior partitions being only 3 in. thick, except beneath the coal bunkers and boiler-house, where the thickness is increased to 4 in. An upper deck or part of the vessel provides foundations for the engines and pumping machinery.

The pontoon has been built for the purpose of pumping sludge from barges filled from the dredgers, and of discharging the materials through long delivery pipes over low-lying lands in the neighbourhood of the canal, thus facilitating the economical disposal of

sludge and at the same time raising the level and improving the soil of the areas selected. The vessel will be towed to the required points, and there moored for as many days or weeks as may be convenient, being moved from place to place as necessitated by the exigencies of dredging operations.

THE STRUCTURE OF GALVANISED IRON.

W. GUETLER, in the *International Zeitschrift Metallographie*, states that he has been investigating the structure of galvanised iron, and finds that sections cut obliquely through the outer layers of galvanised iron show that the zinc and iron are separated by an intermediate layer of crystals of the compound Fe Zn_2 . This compound is more electronegative than either iron or zinc, and thus accelerates corrosion if exposed. The zinc layer contains isolated crystals of the compound Fe Zn , which is also electronegative.

Zinc deposited from vapour by the dry process, or from solution by the electrolytic process, is porous, and also contains minute crystals.

Von Vegesack in 1907 (see the *Journal of the Society of Chemical Industry*, Vol. 28, p. 153) prepared an equilibrium diagram of zinc-iron alloys showing that iron dissolves in molten zinc to at least 24 per cent. Following up this fact Messrs. W. Arthur and Mr. H. Walker, in the *Journal of Industrial Engineering and Chemistry*, 1912, designate the crystals of unknown composition which first separate from the melt as "binding alloy." A number of samples of galvanised iron prepared by the hot galvanising, "Sherardising," and electrolytic processes have been examined micrographically in cross-section, a 0.5 per cent. solution of nitric acid in 95 per cent. alcohol being used for etching, with the following results:—

Hot Galvanised Iron.—In a section of ordinary galvanised iron four layers can be distinguished, viz., the iron, a very thin layer of the "binding alloy," a layer of the compound Fe Zn_2 , and a layer of zinc, which is permeated by minute crystals of the compound Fe Zn . If the immersion in the galvanising bath be prolonged, much larger crystals of Fe Zn are produced.

If an ordinary galvanised plate be treated cautiously with caustic soda, the zinc can be dissolved away so as to leave the minute needles of Fe Zn , visible against the darker polygons of zinc. The parting of the coating when a piece of galvanised iron is sharply bent takes place at the surface of the "binding alloy," but in the blistering and subsequent "flaking off" observed when galvanised iron is heated, the parting takes place between the zinc and the compound Fe Zn_2 .

Sherardised Iron.—According to the temperature, time, and composition of the zinc-powder mass employed, the coating may vary from a very thin layer of the alloy Fe Zn_2 with a

more or less distinct layer of the "binding alloy" to a thick coating of zinc iron alloys with a surface layer of zinc. In all Sherardised coatings numerous cracks running through the alloy can be observed.

Electrogalvanised Iron.—According to the conditions, coatings of very pure zinc or of zinc-iron alloys of widely varying composition can be obtained, but in all cases there is a very thin layer of "binding alloy."

Emile Vigonroux, F. Duccellier, and A. Bourbon have investigated the iron-zinc alloys by means of electromotive force, and their results are set forth in the *Bulletin Société Chimie* of 1912. A series of such were prepared by melting the two metals together in a current of hydrogen. The E.M.F.'s developed when the various alloys so prepared were opposed to poles of zinc in a twentieth-normal solution of zinc sulphate were measured.

Limits of Iron Percentages in Alloys.		Definite Compounds Deduced from E.M.F. in Volts.	
Lower.	Higher.	Formula.	Per Cent. of Iron.
10.9	21.0	0.115 Fe Zn_2	10.9
22.9	71.0	0.144 Fe Zn_2	22.9
73.1	80.0	0.35 Fe_2Zn	71.9
82.5	87.8	0.39 Fe_2Zn	81.1

The conclusion drawn from the results given in the table is that four definite compounds of iron and zinc exist, having the simple relations shown, and that the first two of these have been found previously by Von Vegesack (see above).

ANCIENT IRON BEAMS IN INDIA.

The best-known examples of large forgings in India are the iron column at Delhi, 23 ft. 8 in. high by 16½ in. to 12 in. in diameter; and the larger column at Dhar, now broken into three pieces and originally measuring 43 ft. long by about 10 in. to 11 in. square, the latter dimensions being only roughly approximate owing to the irregular form of the column.

At the Black Pagoda of Orissa, Kanarak, there are some very large forged iron beams, which although less generally known than the pillars mentioned are more interesting architecturally.

The two largest members, as described by Mr. H. G. Graves, of Calcutta, are 35 ft. long by 8 in. square, and 25 ft. 6 in. long by 11 in. square. The latter beam has one end broken off, so that its original length is uncertain, but the piece remaining weighs about 9,000 lb., its end indicating that the method of construction was by the welding up of billets.

The age of the temple has been discussed from time to time, the period of its construction being placed by some as early as the 11th century, and by others as late as the 13th century. It is probable that the earlier parts were commenced at the first-mentioned time, and that the building was completed three or four centuries later.

Bishan Swarup, in a work published by the Bengal Government in 1910, expresses the opinion that the ruin of the pagoda was caused mainly by the removal or the collapse of the heavy top of the corbelled-in roofs, which, in consequence, sank inwards and fell down.

The iron beams, of which many still exist and lie scattered around the building, were originally used as supports under the door lintels and in the roof corbelling. Similar beams on a smaller scale are to be seen in the Garden Temple at Puri, where the images of Juggernaut, Balabhadra, and Subhadra are taken on cars in June or July every year.

As the Kanarak Temple has been closed up and filled in with masonry and sand to prevent further falls, it is not possible to ascertain the original position of the beams or whether any are still in place.

Most of the beams exposed have been broken by the fall, some being seriously rusted and others very little affected, or having a thin and closely-adhering skin of oxidised metal.

Examination indicates that the beams were made by welding together small blooms of 3 lb. to 4 lb. in weight, and measuring 1 in. square, 2 in. square, or 2 in. by 1 in. In some places the blooms appear to have been welded together in strings to form short bars, which in turn were welded into place. No special care seems to have been taken to make the blooms



Reinforced Concrete Pontoon.

break joint either longitudinally or transversely, but the longitudinal welds are approximately of the lapped type.

The beams are nearly all of uniform size and square in section from end to end. The designers do not appear to have appreciated the advantage of making the depth greater than the width of the beams, which are so imperfectly welded that they could never have been of much structural value, although constituting remarkable examples of smith's work.

ENGINEERING NOTES.

A Large Elevated Reservoir.

THE extensive sanitary improvement undertaking now in course of realisation by the city authorities of Buenos Ayres involves the expenditure of some 3,500,000, one remarkable feature of the project being an elevated reservoir to be constructed at Caballito. This reservoir will consist of three tiers of steel tanks with the aggregate capacity of about 16,000,000 gallons, which is far greater than that of any metal reservoir hitherto constructed in any part of the world.

The tanks will be supported on cast-iron columns with concrete foundations. Water will be pumped into the reservoir from the River Plate.

ONE of the most important The Sara Ghat engineering works projected in Bridge, India. India is the new bridge designed to carry the Eastern Bengal State Railway over the River Ganges at Sara Ghat, nearly 120 miles from Calcutta.

The bridge will comprise fifteen lattice girder spans, each 359 ft. long by 52 ft. deep at the middle, and its width will be 32 ft. from centre to centre of the main girders, or 42 ft. 6 in. over all.

One end of each girder will be carried on fixed steel bearings, and the other end on similar bearings, with provision for expansion and contraction.

The bearings will be at the top of piers extending down to 60 ft. below low-water level and founded on steel caissons, measuring 63 ft. by 36 ft. sunk below the bed of the river. The caissons will be floated out to predetermined positions and sunk, additional sections being added and filled with concrete until the cutting edge of the caisson has reached the river bed. The foundations so formed are to be finished by a cap of concrete from which the masonry piers will be built up.

Considerable competition occurred among engineering firms anxious to obtain the contract for the steel girders, and the leading American bridge companies were especially active in this direction. Therefore it is particularly satisfactory to note that the work was allotted to two British firms of structural engineers.

The whole of the substructure and the erection of the steel girder spans will be undertaken by the Indian Government staff under the direction of Mr. R. R. Gales, in accordance with the designs of Sir Alexander Rendel, Consulting Engineer to the India Office.

By the completion of the new bridge the present necessity for ferrying across the Ganges will be obviated and direct railway connexion will be established between Calcutta and the Himalayas.

DURING the early part of last Canadian City it was decided by the Bench Marks, city authorities of Edmonton, Alberta, to establish a complete system of bench marks for survey purposes. The bench marks, installed under the direction of Mr. C. C. Sutherland, of the Roadways Department, were made by boring an 8-in. hole 7 ft. 6 in. below ground level, and filling it up with concrete mixed in the proportions of 1:2:5. The upper 18 in. of concrete is enclosed in a piece of 6-in. diameter cast-iron water-pipe, acting as a sheath, and allowing the top of the bench mark to project 6 in. above the surface. In the upper end a 1-in. square brass bolt is embedded to the depth of 8 in., passing through a number-plate of the same metal, the mark being protected by a wood cover. From the main system, secondary bench marks have been established to cover the entire area within the city boundaries. The secondary marks are of three kinds for undeveloped, residential, and business districts, respectively. In undeveloped areas the mark

simply consists of a railway spike driven into a telegraph or electric-light pole. In residential districts, the bench marks are similar to those in the main system, and placed where they can be seen from different directions. In the business area, the marks are similar to those in the main system, but provided with a cast-iron cap flush with the foot pavement level, and they are placed at corners, 3 ft. back from the curb, so that they may be seen from several directions, and be out of the way of telephone and electric-light conduits. The complete system gives a series of elevations throughout the city that are as correct as it is possible to make them with an ordinary engineer's level, and as shown by the closing error the elevations are nearly perfect.

Boulogne Harbour.

THE new Bassin Loubet, begun nine years ago, has recently been opened for maritime service. It provides quaysage of a total length of 1,000 metres, the west side being 200 metres, and the north and south sides 320 metres in length, with a mean water-depth of 13 ft. below low-water mark. The dock occupies a site, in part reclaimed from the sea, in the sand dunes of Capécure and Chatillon, on the south-west of the present harbour, and the outlay, including the new Douane, wharves, warehouses, etc., amounts to more than 503,000. Further improvements will shortly be undertaken, and will comprise a rebuilding of the Quai Gambetta, the Gare Maritime, and the Quai Chanzy (with extension and widening), and a new north-east pier, of stone, to cost 280,000, which will replace the existing wooden jetty of 1829, and afford an entrance into the harbour, widened from 70 yds. to 140 yds. The break-water is being extended by 600 metres to a total of 2,720 metres, at a cost of 490,000, and tenders are invited for completing the deep sea outer port at an estimated outlay of about 1,200,000.

Allahabad Bridge.

MESSRS. RENDEL & ROBERTSON, of Westminster, made the designs for the widening of the East India Railway Company's bridge across the Jumna, at Allahabad, for which all the steelwork is being supplied by Messrs. Head, Wrightson, & Co., Ltd., of Thornaby-on-Tees. The widening provides for a double railway line, and comprises fourteen double-deck and two approach spans, the latter being 45 ft. 7 in. long apiece. The upper deck is composed of cross-girders, rail-bearers, and plated decking; the lower is of pressed trough flooring laid on cross-girders and carries a roadway 13 ft. 3 in. in width between the kerbs. The plated decking is secured to cantilever brackets of the approach spans, which take a single line to the top deck of the main spans.

UNDER the direction of Mr. St. Ann's Well, F. Langley, the Borough Surveyor and Water Engineer to the Buxton Urban District Council, some alterations have recently been made to the pump-room at the famous St. Anne's Well, which is an important feature of the town of Buxton.

The exterior colonnade has now been taken into the pump-room by filling in the spaces between the columns with ashlar and windows, and the original outer wall has been removed, the opening being spanned by steel girders supported by two newly-built brick piers.

The enlarged pump-room now measures 50 ft. by 35 ft. 9 in., and has two entrances,

one at each end of the building, each with vestibule 8 ft. square under one of the dome. The back portion has been raised to height of the main building, and the formerly walled off for the accommodation of pumping machinery has been added to pump-room.

Two brick piers carry steel girders for supporting the roof in place of the wall which has been taken down, the piers being in line with those built at the front.

In the space added at the back of the pump room is the new well chamber, 29 ft. long, 14 ft. wide, with serving landing and marble balustrade along the front.

The well in the middle of the new chamber is elliptical in plan, the major and minor axes measuring 6 ft. and 3 ft. 9 in. respectively. The well is 1 ft. 9 in. deep, the waters rising through perforations in the bottom of the basin. The outer shell is of cement moulded with blue bricks and finished in white statuary marble, the upper edge having moulded channelled coping.

At the left hand of the well chamber the chalybeate spring room, and at the right hand a room for the use of attendants.

These rooms are separated from the pump room by a mahogany partition and from well chamber by a low marble balustrade.

The interior of the remodelled pump-room has been decorated in appropriate and pleasing style, and Mr. Langley is to be congratulated on the successful manner in which alterations have been carried out.

Portland Cement and Slag.

HERR C. SCHNEIDER, in *Mitt. kgl. Materialprüfungsamt*, 1912, gives a comparison of the effects of pure sand and standard sand mixtures of Portland cement and slag. materials used for the tests were (1) Rüders Portland cement, (2) blast-furnace slag which had been heated to a red-heat, (3) ground pumice, (4) Freienwald sand. Nos. 2, 3, and 4 were all passed through a screen of sixty mesh per centimetre.

The tests were made from two different starting points, namely, as to the ratio of slag to Portland cement, the mixture, and as to the use of several such mixtures respectively of Freienwald sand designated in the Table II "Standard"; and of the ground pure designated pumice sand.

The mixtures were compounded in percentages by weight of Portland cement and blast furnace slag as Table I:

TABLE I.			
Distinguishing Letter.	Portland Cement.	Slag.	
a	100	0	
b	80	20	
c	70	30	
d	60	40	
e	20	80	

Using one volume of "mixture" to five volumes of standard sand or pumice sand, tests were made of each compounding, average results of which are given in Table II. It will there be seen that the pumice sand takes up much more water than the standard; that the crushing strength of the blocks best for the former in mixtures d and e; while in mixtures a, b, c, and especially in a, standard sand was best.

TABLE II.—FIRST SECTION SHOWS TESTS USING STANDARD SAND, SECOND SECTION USING PUMICE SAND.

Mixture.	Water Added, Per cent.	Average Volume—Weight in Grams per Cubic Centimetre, after			Average Crushing Strength Kilogrammes per Square Centimetre, after	
		1 Day.	28 Days.	90 Days.	28 Days.	90 Days.
a	7.5	2,248	2,279	2,287	425	470
b	8.0	2,087	2,158	2,283	243	248
c	9.0	2,050	2,132	2,141	153	180
d	10.0	2,020	2,096	2,104	100	128
e	11.0	1,520	1,597	2,014	18	26
a	28.0	1,651	1,710	1,727	261	303
b	29.0	1,561	1,654	1,673	174	219
c	30.5	1,527	1,611	1,648	144	179
d	32.0	1,496	1,561	1,614	102	189
e	34.0	1,397	1,497	1,549	27	31

THE BUILDING TRADE.

LONDON BUILDING UNDER MODERN LAWS.

THE present system, or rather no system, under which the London Building Act of 1894 is administered has frequently the effect of rendering occupiers of buildings liable to prosecution for acts of illegality committed in ignorance. Often has a building, on change of ownership, been put to uses not contemplated at the time of its erection, uses which contravene the Building Act in ways that are far from being obvious to the layman. In such cases, when the facts become known to the authorities, proceedings may be taken against persons who are morally innocent.

In order to see how such cases may arise and what precautions would prevent their arising, we briefly trace the usual process of Building Act administration in London from the commencement to the completion of a building. The builder serves upon the district surveyor notice of his intention to build. If the notice, taken by itself, discloses an intention to do anything contrary to regulations, the district surveyor has to serve upon the builder a notice of objection referring to such matter. Usually, however, such a case does not arise. But in any case there are numerous matters in every building which are not specified in a builder's notice, and which cannot, indeed, be understood without reference to plans. Plans, except in the case of a public building, are not required to be deposited with a district surveyor, and he, as a rule, peruses the plans officially, pointing out in advance anything which objection would have to be taken. He then surveys the work during its progress, and sees that it is carried out in accordance with the Act or Acts and by-laws which are applicable. Upon the completion of the work he withdraws, leaving behind no record of his labours other than the building itself. Subsequently the building may change hands. The new owner usually sees no reason for seeking an architect's advice as to the manner in which his building should be occupied, and he lets it in the most profitable way open to him, and possibly it is mislet, with the result that it is used for purposes not contemplated by the original architect, and frequently in contravention of building laws.

For example, a building intended to be used wholly or principally as offices or counting-rooms may be sufficiently lighted and ventilated, without having an open space at the rear of the form and extent required by sect. 41 of the Act. Upon change of ownership the entire upper portion of such a building might be converted into residential chambers, without hardship or injury to any of its occupants, yet the owner would become liable to heavy penalties. Then there are the rules applicable to habitable rooms. Concerning these it might be argued that surely any person should be competent to judge whether a room is or is not fit for habitation. But, referring to sect. 45, can a layman be expected to know when a window looking into an internal court must have, and when it need not have, a right-angle of 2 to 1 from its sill to the top of the opposite wall? Again, referring to sect. 70, few will understand why in one case a room must have a window equal in size to one-tenth of its floor area, while in another case a dormer of which the whole can be opened, equal in size to only one-twenty-fourth, is sufficient. A building originally intended to be used wholly for purposes of trade, or partly for trade and partly as offices, may, after changing hands, be used partly for trade and partly as a dwelling-house, without having the fire-resisting separations required by sect. 74 (2). In any of the above cases the rules as to the conversion of buildings under sect. 211 would be infringed, and the offending parties would become liable to a penalty of ten pounds "and to a daily penalty not exceeding the like amount."

Under the Metropolitan Building Act, 1855, the prevailing method of procedure worked

well, because that Act was free from complex rules affecting the uses of buildings. But the Act of 1894 introduced such rules without providing for the change of procedure which now appears needed. We need something akin to the provincial system, under which buildings are carried out in accordance with plans approved by a public authority, and the plans remain as a record of what has been officially sanctioned. As regards London, the tendency of legislation seems to be in the direction of an approximation to such a system. In the Act of 1894 many things are prohibited, except with the consent of the County Council; and under such consent works have to be carried out in accordance with approved plans. Under the London Building Acts (Amendment) Act, 1905, means of escape in case of fire are required in certain cases to be provided, according to plans and conditions approved by the Council. Possibly, in future amendments of the London Building Acts, the principle will be further extended. In the meantime architects and builders may do much to preserve owners of property from the pitfalls that beset their path.

If the builder's notice to the district surveyor were always accompanied with plans showing clearly the nature of the intended work and the uses of the building in its several parts, such plans being referred to in the notice, many sources of subsequent error would be removed. The district surveyor would be obliged to take official cognisance of the plans and to serve upon the builder a notice of objection in respect of any matter seen to be contrary to the regulations; and in the absence of any such notice the plans could be deemed to be officially approved. But, even without serving plans upon the district surveyor, it is always possible for the architect, on completion of the building, to furnish his client with a set of plans indicating the uses to which the building can lawfully be applied. On disposal of the building these plans could be handed over to the new owner, who would thus be apprised of the limits of user and would be guarded against the error of converting the uses of his building without the necessary structural alterations.

IMITATION STONE FLOORS.

"STEINHOLES" or "stone wood" forms a connecting-link between the elastic vegetable fibre materials, artificial or natural, the stone deriving its qualities more from the magnesite or from the vegetable fillers of which it is made, according to the relative proportions of the two components. It is not advisable, says a German writer, to swerve too far from the proportions of 40 per cent. magnesite to 60 per cent. fibrous vegetable filler in the dry mixture. A floor which is practical from every point of view is made from 50 litres of wood flour, 16.5 kg. heavy spar (barite), 8.35 kg. of asbestos, and 15 kg. of mineral colouring matter, together forming 60 per cent. of the compound. For mixing there is used a 22 per cent. solution of magnesium chloride in water, to which is added a solution of 460 grammes of neutral tallow soap and 240 grammes of silver soap in 20 litres of hot water. Before use there is added to this soap solution 1½ litres of alcohol, and then 7 to 8 litres of the magnesium chloride solution. By adding 4 kg. of acetic acid to the last-named solution there is obtained the requisite liquid mixture to be added to the dry compound.

By omitting the vegetable fillers there are obtained a species of cement, the most usual of Paris. There are no longer differences of opinion as to the best manner of preparing this mixture. The general opinion is that only the slow-setting plaster is practicable, as stucco plaster, when rendered slow-setting by special additions, never makes a good floor.

In preparing the gypsum mix, the same rule applies as in general in handling "plaster of Paris," namely not to pour the water on the latter, but to shake the powdered plaster lightly into the water, and then stir the result being the avoidance of lumps.

The somewhat thin mixture is applied by pouring and travelling smooth. After hardening has begun, but before the setting is completed, the floor is beaten hard with wooden blocks, which permit reduction of the thickness of the layer by one-fourth.

Very often this floor is used only as a basis for linoleum; in which case the use of fillers such as ground coke is permissible; indeed, coke can be used even where no linoleum is to cover the floor proper. Where the plaster is not concealed by linoleum or other covering it is well to use colouring matter with it, or by means of wooden forms to make therein sunken patterns which can be filled with mass of another colour than the ground.

Besides gypsum there may be used lime and clay. Both were used in older times, and indeed clay has been employed quite recently in the country for barn floors and the like, and has the advantage over cement that it yields a very much more elastic floor.

If cement is used instead of gypsum, broken marble may be embedded therein in regular patterns, the result being called torazzo. When the cement has hardened the surface is rubbed down smooth. For the lower layers there may be employed a beton consisting of one part of cement, three to four of sand, and eight of gravel. Or this layer may be made of one part of slacked lime, one to two of powdered brick, and three to four of broken brick. This floor is especially adapted for engine-rooms and the like, having the advantage over slab floors that sunken places for the machines may be left and bolt-holes easily provided for.

Such floors are also especially adapted for barn floors over which heavy wagons are driven. Here the lower layer may be of a well-tamped mixture of one part of cement, three of sand, six of gravel, and nine of broken stone. The upper layer, say 1½ in. thick, may be of two parts of cement and five of fine granite spalls. An especially firm and even surface may be obtained by rolling in a thin layer of fine cracked granite. Of course, no rubbing down is here necessary.

To obtain a more elastic floor the under layer may be of one to ten beton, with a ½ in. to 1 in. thick top layer of "cork plaster," this being composed of sawdust, cork refuse, magnesite, and magnesium chloride, spread on thin.

The reverse of this procedure is attained in Dresden by spreading a layer of nine parts of cork refuse, two of cement, and two of a felt-like mass stirred in water, and bedding the pieces of marble therein. This floor is said to be a good insulator of heat and sound and also very resistant to wear.

ARTIFICIAL MARBLE FROM LIMESTONE.

A new process of making artificial marble is being practically employed by a Hessian firm. Whereas formerly the so-called artificial marbles imitated the natural only in appearance (as, for instance, in colour), veining, and polish, the present method makes use of a substance chemically and physically as near as possible to marble, namely, hard limestone, being an uncrystallised lime carbonate, whereas marble is the same material, only in crystallised form. The old-fashioned artificial marbles were usually made of powdered stone, sand, and a bond—usually lime or cement, or a mixture of these.

According to the new process, calcined limestone, such as is used for making lime mortar, is artificially retransformed into lime carbonate, and then artificially coloured to produce the desired patterned or veined effect. The calcined lime is subjected to the action of carbonic acid gas at about 110 deg. C., at which temperature a chemical combination takes place. No pressure is employed. The necessary carbonic acid gas is obtained from lime-kilns, breweries, or other cheap and plentiful sources. The only special precaution

necessary is to avoid the presence of watery vapour in the gas. The temperature should vary with the porosity of the material and the proportion of lime hydrate which it contains. The less porous the mass and the coarser the particles the higher the temperature necessary, but 110 deg. C. is seldom exceeded, as above this the action of the gas is diminished by the drying effect. The resultant mass is sawed into slabs and polished, just like natural stone; but the price (in Hesse) is only about one-half that of the latter, and, of course, even although a natural marble is at hand and available for use, the process has the advantage of delivering any desired colour or veining.

COST PRICES OF STUCCO WITH THE CEMENT GUN.

In previous issues we have described and referred to the uses of the so-called cement "gun," an appliance which is finding considerable employment both in America and on the Continent.

Therefore our readers will probably be interested in the subjoined data on the actual cost of work executed on the exterior of a two-story building constructed for the United States War Department.

The figures are given on the authority of Mr. R. C. Hardman, Superintendent of Construction in the Department, but for convenient reference we have converted the various prices to English currency.

The exterior of the building comprised 631 sq. yds. of surface, and fifty-six door and window openings, the cost items being as follows:—

	Cost.	Cost per sq. yd.
LATHING (Materials) —		
Cheese cloth, 631 sq. yds.	4 8 0	
Building paper, 568 sq. yds.	3 8 2	
Wire, 631 sq. yds.	16 2 7	
1 in. x 5/8 in. sq. yds.	0 10 7	
Nails, 10 lb.	0 1 8	
Staples, 250 lb.	1 13 0	
	26 5 0	0 10
LATHING (Labour) —		
Carpenters, 75 hours	7 14 0	
Carpenters' labourers, 144 hours	10 16 0	
Labourers, 33 hours	1 9 0	
Labourers (Mexican), 414 hrs.	1 6 0	
	21 5 0	0 8
Total for lathing.....	47 10 0	1 6
PLASTERING (Materials) —		
Portland cement, 65 barrels	44 11 10	
Sand (on site)	—	
	44 11 10	1 5
PLASTERING (Labour) —		
Nozzlemans, 98 hours	10 16 0	
Engineer, 100 hours	7 10 0	
Labourers (mixing), 212 hrs.	6 12 6	
Labourers (on wall), 156 hrs.	5 4 0	
Labourer (loose), 58 hours	2 11 9	
	32 14 3	1 04
FUEL —		
Gasoline, 97.5 gallons	4 5 10	
Lubricants	0 19 7	
	5 5 5	0 2
Total for plastering	62 11 6	2 71
Total cost	130 1 6	4 11

The time occupied in executing the work was twelve days. Although the total cost per square yard may appear to be somewhat high, it must be borne in mind that the stucco was at least 1½ in. thick, and that the building was not a particularly favourable one for the employment of the apparatus.

THE INSURANCE ACT.

The decisions given by the umpire under the Insurance Act, and reported in the *Labour Gazette*, now number over 1,000, and only such decisions are reported as lay down some principle or affect a class. This method of deciding the effect of legislation is without precedent, and it is to be hoped will not in itself create a precedent. To classify these 1,000 odd decisions is an impossible task, except for the expert, and laymen cannot be expected to know what workmen they are under liability to insure, yet a penalty may be imposed if the provisions of the Act are not complied with. Unemployed insurance was admittedly only introduced as an experiment, and it was understood that it

would be confined to a limited number of specified trades. A perusal of the decisions will show that this view of Part II. of the Act was erroneous, and that in practice there is far greater difficulty in determining who are insured persons under this part of the Act than under Part I.

At the risk of repeating ourselves, we must again point out that all this uncertainty and difficulty has been occasioned by subsect. 2 of sect. 107, which provides that in determining whether a trade is or is not an insured trade regard shall be had to the nature of the work in which the workman is engaged rather than to the business of the employer by whom he is employed. This provision was wholly incompatible with the idea of a limited experiment, and accounts for the numberless questions which are being submitted to the umpire for decision, and it should be repealed at the earliest possible opportunity. If the sixth schedule of the Act which specifies the trades to which Part II. of the Act was to apply be compared with the decisions now given by the umpire, it becomes apparent how very different in practice is the application of unemployed insurance from what it was announced to be when it was introduced, and how impossible it is for any employer to know whether his workmen are within this part of the Act or not. Where penalties are imposed the Legislature has always hitherto been careful to see that Acts of Parliament are specific and expressed in clear terms, so that the public should know whether they are complying with the law or are committing an offence by contravening it, but Part II. of the Insurance Act has already to be read in connexion with 1,000 decisions, and each day is adding to their number. We believe that no prosecution has been instituted at present under this part of the Act, and it remains to be seen how far these decisions of the umpire are binding or form part of the Act.

TRADE UNIONS AS EMPLOYERS.

THE Press is making merry over the dispute between the Amalgamated Society of Railway Servants and its clerical staff, and a trade union experiencing "peaceful persuasion" and picketing it must be confessed has its humorous side. All the same if the allegations are true that the men on strike have had their benefits confiscated and that new men are being compelled, when engaged, in contravention of the Insurance Act to join the union as an approved society, this is a serious matter. At the Trade Union Congress indignation was expressed because it was alleged that employers were exerting pressure to compel their employees to join certain societies, and it is to be hoped that this union is wrongly credited with having adopted any such course in regard to its own servants. The oratorical thunder that is rolled forth against employers in their relations towards their employees will, however, be discounted by the men in future if they find that the Trade Unions as employers consider it their duty to confiscate benefits and to compel men to join the unions as approved societies. With the militant attitude adopted by the unions and with the extraordinary powers conferred upon them we have never felt that they should have been created approved societies under the Insurance Act.

PRACTICAL TRAINING OF GASFIITERS.

THE Gas Light and Coke Company have just put into operation their scheme for the practical training of gasfitters. They give the necessary instruction in workshops upon their premises, and the London County Council will provide courses at the Westminster Technical Institute to extend over two years, in mechanical drawing, workshop arithmetic, composition, and précis. The boys, after passing six months in the shops, will go out with fully-trained fitters, whilst continuing to attend the Institute classes thrice a week. During the course the boys will receive 2s. 6d. wages in the first year and a maximum of 10s. in the second year; they will, it is anticipated, then earn from 3s. to 4s. as gasfitters' mates, and possibly from 4s. 6d. to 6s. a day. The boys must be fourteen and not more than sixteen years old when they take up the course, and possess some mechanical aptitude, together with an elementary school Standard VII. proficiency.

GENERAL BUILDING NEWS.

NEW CLOCK, MAULDEN CHURCH.

A large clock has just been erected at Maulden Church tower, Bedfordshire. It shows time on one large dial, plays the minister quarter chimes, and strikes the hour. The work has been carried out by Mr. John Smith & Sons, Midland Clock Works, Derby, who recently erected a similar clock at Silsoe Church in the same neighbourhood.

BRIGHTON AND HOVE HIGH SCHOOL FOR GIRLS.

The alterations and improvements which have been carried out at this school are complete, and the increased accommodation provides for 300 girls. The architects for the work were Messrs. Osborne Smith & W. House, of London, and the work was executed by Messrs. Field & Cox, of Brighton.

COUNTY SCHOOL AT HYDE.

New school buildings in Clarendon-road, Hyde, built for the Cheshire County Council, were opened on the 17th inst. The site of the building is on the side of a hill facing the town, and is somewhat irregular. The design of the school has been arranged so as to utilise the site to the best possible advantage. The school is set well back from the roadway and is approached by a carriage drive. The style of architecture adopted is a free treatment of "Georgian" materials, used being red stock brick facings with biscuit-coloured terra-cotta details of varying shades, and roofed with sea-green Westmorland slate. The building heated throughout with low-pressure hot water supplemented by open fireplaces was necessary; adequate ventilation also has been provided. The general contractors were Messrs. Samuel Robinson & Sons, of Huddersfield, who, with their sub-contractors, have factorily carried out the work from the design and under the supervision of the architect, Mr. G. H. Willoughby, F.R.I.B.A., of Manchester. Mr. E. Feneleau acted as clerk of works.

MOROCCO, CASABLANCA.

H.M. Consul at Casablanca (Mr. A. Madden, C.M.G.) reports that this year large and profitable import and export trade is being done. The great extension of business operations in and around the town of Casablanca has been a marked feature of the year and in consequence there has been a large import trade in all kinds of building material.

COMMERCIAL FAILURES.

According to *Kemp's Mercantile Gazette*, the total number of commercial failures recorded in England and Wales during the week ending Friday, September 29, was 112. The number the building and timber trades contributed thirteen, a high proportion.

TRADE NEWS.

Under the direction of Mr. Charles J. M. Inst. C.E., Borough Engineer, R. Boyle's latest patent "air-pump" ventilator and air-inlets have been applied to the Council House, Town Hall, Basing.

The Improved Wood Pavement Company, Ltd., 46, Queen Victoria-street, E.C., find that this has been a record year for creosoted paving. On their list of contracts are the names of many of the principal authorities in London and the provinces.

Messrs. Patman & Fotheringham, Ltd., 100 and 102, Theobalds-road, W.C., and P. Street, Islington, N., have received the painting and redecorating contract at Sessions House, Clerkenwell.

The Eastleigh and Bishopstoke Island Hospital is being supplied with Shorland patent exhaust roof ventilators by Messrs. E. H. Shorland & Brother, Ltd., of Farnworth, Manchester.

PORTLAND STONE AND ITS WEATHERING.

Dr. J. S. Owens read a paper to the British Association upon "Experiments on the Weathering of Portland Stone." Dr. Owens referred to the investigations conducted by the Coal Smoke Abatement Society, with the object of finding the connexion between smoke and the adverse sulphating of exposed stone that contain a large element of calcium magnesium carbonate. The stones are in course of being treated during periods ranging from 105 to 687 days in various conditions, namely: (a) broken without exposure; (b) broken after exposure to natural influences out of doors in London and the country; (c) broken after having been kept indoors in London and the country; and (d) broken after having been exposed, whilst embedded in soot, to air in the country and London.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Alterations at city hospital; Mr. J. Rust, Architect, Burgh Hall, Aberdeen.

ASHBY-DE-LA-ZOUCH.—Additions at Castle Lodge, South-street; Messrs. Orton & Sons, builders, Kilwardby-street, Ashby.

AVONBANK.—Messrooms at electricity works (2,671); Messrs. J. Perkins & Son, builders, 2, Lower Redland-road, Bristol.

BELFAST.—Additions to offices of Water Commissioners (1,097*l.*); Mr. S. Stevenson, architect, 83, Royal-avenue, Belfast; Messrs. J. & W. Stewart, builders, Ormeau-road, Belfast.

BISHOP AUCKLAND.—Baths; Mr. T. Collins, Surveyor, Urban District Council Offices, Bishop Auckland.

BLACKBURN.—Hall (20,000*l.*) for the Bolton Wesleyan Synod.

BLITH.—Proposed Town Hall (10,000*l.*); Mr. Robert Grieves, Surveyor, Urban District Council Offices, Blith.

BOGNOR.—Sixty-four houses; Mr. O. A. Bridges, Surveyor, Urban District Council Offices, Bognor.

BOURNEMOUTH.—Additions to club, Goldenhurst-road; Secretary, East Conservative Club, Goldenhurst-road, Bournemouth. Additions to the Endowed High School for Girls, Norwich-avenue, for the Managers.

BRADFORD.—Proposed branch library, corner of Undercliffe-street and Tennyson-place, and open-air baths, Fairweather Green; Mr. Reginald G. Kirby, Architect, Town Hall, Bradford.

BRIDGINGTON.—Club at People's Palace for the Secretary of the Bridlington and District Conservative Club.

BURY.—Nurses' home; Messrs. Thompson & Brierley, builders, Boundary-street, Bury.

CARDIFF.—Mobilisation store (1,194*l.*); Mr. J. Stephens, builder, Cardiff.

CARLISLE.—Post-office, Warwick-road; H.M. Office of Works, Storey's-gate, Westminster, S.W.

CARNARVONSHIRE.—Wireless telegraph receiving and transmitting stations; Marconi's Wireless Telegraph Company, Ltd., Marconi House, Strand, W.C.

CATHCART.—School, Craig-road, for the Cathcart School Board.

CIRENCESTER.—Enlargement of hospital (2,000*l.*); Mr. H. Fleetwood, builder, South Cerney, Cirencester.

COTtingham.—Tuberculosis hospital (15,000*l.*); Mr. J. H. Hart, Architect, Town Hall, Hull.

CROMPTON.—Extensions to Diamond Mill for Messrs. Hardman, Ingham, & Dawson, rope and twine manufacturers.

CREWE.—Alterations to premises for Woolf's Brewery Company, Ltd.

CROYDON.—Offices at Gas works; Messrs. Berney & Son, architects, 104, George-street, Croydon; Mr. D. W. Barker, builder, Church-road, Croydon.

DUNFERMLINE.—Alterations and additions to workhouse (550*l.*); Mr. T. Knight, builder, Craybrooke House, Sidecup-hill, Sidecup, Kent.

DARWEN.—Extensions to warehouse for the Greenfield Mill Company, cotton goods manufacturers.

DEWSBURY.—Additions at workhouse (505*l.*); Mr. J. Pease, Clerk, Guardians' Offices, Dewsbury.

DUMBERTON.—Additions to slaughterhouse (1,300*l.*); Mr. J. Briggs, Surveyor, Burgh Hall, Dumfries.

DUNFERMLINE.—Workshops, Castlehall Park, for Mr. John Rintoul, general dealer, Jig Burn House, Dunfermline; rebuilding Castlehall Linen Factory for Messrs. John Inglis & Co., Victoria Works, Grantsbank-street, Dunfermline.

FALMOUTH.—Twenty-two houses; Mr. H. W. Tressider, Surveyor, Town Hall, Falmouth.

GAINSBOROUGH.—Extensions to baths, Lea-road (1,450*l.*); Mr. J. G. Cooling, builder, Roperoy-road, Gainsborough.

GLASGOW.—Warehouse buildings for Glasgow and South-Western Railway Company; Mr. H. E. Clifford, architect, 225, St. Vincent-street, Glasgow.

GLASGOW.—Picture theatre, Sauchiehall-street (2,000*l.*); Mr. A. V. Gardner, architect, 164, Bath-street, Glasgow.

GLASGOW.—Headquarters, Cranage Lodge; Messrs. G. Arthur & Son, 85, Bath-street, Glasgow.

GLASGOW.—Cold storage warehouse, Hill-street; Messrs. J. W. & J. Laird, architects, 163, Hope-street, Glasgow.

GLASGOW.—Episcopal church and hall, Mile End; Mr. H. D. Watson, architect, 213, West Campbell-street, Glasgow.

HALL.—238, New City-road, for Miss E. Taylor, 182, Saracen-street, Postpark, Glasgow; alterations and additions to buildings at the Stobhill Hospital for the Glasgow Parish Council; alterations to premises for Messrs. W. P. Lowrie & Co., Ltd., bonded

warehousemen, 44, Washington-street, Glasgow; additions at works, Parkhead, for Messrs. William Beardmore & Co., Ltd., steel manufacturers.

GREENOCK.—Two hundred houses; Mr. A. J. Turnbull, Master of Works, Burgh Hall, Greenock.

HALIFAX.—Barracks for the Halifax Battery of the 2nd West Riding Brigade, H.M. War Office, Whitehall, S.W.

HAMPTON.—Cottage hospital (3,850*l.*); Mr. F. G. Hughes, architect, Ashley-road, Hampton; Mr. E. D. Hobbs, builder, Angel-road, Thames Ditton.

HASTINGS.—Proposed band enclosure near pier (13,000*l.*) and extensions at waterworks (50,000*l.*); Mr. P. H. Palmer, Surveyor, Town Hall, Hastings.

HEATHFIELD.—Diphtheria block at hospital (2,700*l.*); Mr. J. Young, Surveyor, Town Hall, Ayr.

HOVEWOOD.—Picture palace, Market-street, for the Hoveywood Picture Palace Company, Ltd.; Mr. G. E. Tonge, architect, 408, Lord-street, Southampton.

HUTHWAITE.—Library (2,098*l.*); Messrs. Valance & Blyth, builders, Duke-street, Mansfield.

INCE.—Offices for the Ince Wagon and Iron-works Company, Ltd., Lower Ince.

IPSWICH.—Memorial hall, Bolton-lane (1,968*l.*); Messrs. E. Catchpole & Sons, builders, 177 and 179, Princes-street, West, Belfast.

JARROW.—Convenience, Nixon-street; Messrs. Chorlton & Thompson, builders, Back Queen's-road, Jarrow.

KETERING.—School, Clover-hill (2,450*l.*); Messrs. Cooper & Williams, architects, 15, Market-place, Kettering; Messrs. Smith & Bunning, builders, Lancaster-road, Kettering.

KINGSTON-ON-THAMES.—Rebuilding "Three Tuns" Public-house, London-road, for the Isleworth Brewery Company, Ltd., St. John's road, Isleworth.

KIRKCALDY.—Extensions to generating station (2,195*l.*); Messrs. Smith & Son, builders, Kirkcaldy.

LAMBOURN.—Workmen's dwellings (380*l.*); Mr. G. Elms, builder, Stockcross, Newbury.

LANCHESTER.—Completion of two houses, Ormsley-hill (430*l.*); Mr. F. A. Coyle, architect, Front-street, Consett; Mr. F. Ward, builder, Anfield-plain.

LARNE.—Gardenmore Presbyterian Church, Victoria-street; Messrs. Hobert & Heron, architects, 7, Donegall-square West, Belfast.

LEIGH (LANCS).—Sunday-school (940*l.*); Mr. C. Simpson, architect, Bank-chambers, Railway-road, Leigh; Mr. J. Boydell, builder, Princess-street, Leigh.

LEIGH-ON-SEA.—Office, etc., at Gasworks (500*l.*); Mr. J. J. Galer, builder, Fairleigh-drive.

LENNOX.—Bakery and stables for Co-operative Society (4,000*l.*); Messrs. Boston, Menzies, & Morton, architects, 11, William-street, Greenock.

LINSLADE.—Alterations to St. Barnabas' Church; Mr. T. Yirrell, builder, Leighton-road, Linslade.

LINTHWAITE.—Additions to premises, Hoyle-house; Secretary, Hoylehouse Liberal Club, Lintshaw.

LISAWRYGLYN.—Alterations to school (560*l.*); Messrs. Jones & Sons, builders, Llanddilos.

MACLESFIELD.—Co-operative premises; Mr. Jabez Wright, architect, 27, King Edward-street, Macclesfield.

MAIDENHEAD.—Shops and business premises, Queen-street; Mr. H. Stanton-Webber, architect, 23, Queen-street, Maidenhead.

MEITHAM.—Additions at Spink Mire Mills for Messrs. Quarby & Sykes, Ltd., rag merchants.

MORPETH.—Workmen's dwellings (5,855*l.*); Mr. G. Douglas, builder, Newcastle.

NEWTON MEARNS.—Additions to school for the Mearns Parish School Board.

NORTHWICH.—Rebuilding constitutional club and new offices, Witton-street (1,655*l.*); Mr. J. Cawley, architect, Bull Ring, Northwich; Mr. C. W. Bostock, builder, London-road, Northwich.

WORKMEN'S DWELLINGS FOR MESSRS. BRUNNER, MOND, & CO., CHEMICAL MANUFACTURERS, WINNINGTON, NORTHWICH.

PEASEDOWN.—St. John (Somerset)—Three houses (575*l.*); Mr. W. F. Bird, architect, The Island, Midsomer Norton; Mr. W. J. Heal, builder, High Littleton.

PENDLEBURY.—Alterations and additions to offices, Bolton-road, for the Worsley Brewery Company, Ltd.

PERSHORE.—Cottage homes (1,200*l.*); Mr. A. E. Baker, Clerk, Guardians' Offices, Pershore.

POOLE.—Plans have been passed as follows:—Five houses, Hill-road, for Mr. C. H. Goater, on behalf of Mr. J. Lawford; three houses, Buckingham-road, for Mr. A. E. Hoare on behalf of Mr. T. Hopcroft; alterations to laundry, Norris-road, for Mr. W. J. Williams; eight houses, Wallis Down, for Mr. H. Kendall on behalf of Mr. D. G. Hewett.

PORTSMOUTH.—Boiler house, cold store, etc. (1,712*l.*); Messrs. Wallis & Sons, Ltd., builders, Broadmead Works, Maidstone.

RADOLIFFE.—Alterations and additions to technical school (7,540*l.*); Messrs. F. M. & A. Nuttall, builders, Whitefield.

READ (NEAR BLACKBURN).—Additions to mill for Messrs. J. Kemp & Brothers, Ltd., cotton goods manufacturers, 4, Chapel-walks, Manchester.

SHIPLEY.—Engineering works, Hirst-lane, for Messrs. Wigglesworth & Co., Ltd., Moss-street, Bradford.

SOUTHAMPTON.—Alterations and additions to Portwood Car Depot (879*l.*); Mr. J. Douglas, builder, Southampton. The following plans have been passed:—Additions to Eye Hospital, Bedford-place, for Messrs. Udall & Co.; six houses, St. Andrew-road, for Messrs. Weston & Burnett; seven houses, Norfolk-road, for Messrs. Jurd & Sanders; alterations and additions to the Gordon Arms, Portwood-road, for Mr. A. A. Barnett; additions, Bridge Foundry, Northam, for Messrs. G. P. Wilson & Sons. Plans have been lodged for four houses off Highfield-lane by Mr. W. F. Perkins; and for eighteen houses, Shirley-avenue and Wilton-road, by Mr. J. Smith.

SWANSEA.—Proposed hospital; Mr. Marcus Hoskins, Estate Agent, Town Hall, Swansea. Proposed buildings, Castle-street, for the Prudential Assurance Company, Ltd., Holborn Bars, E.C. The following plans have been passed:—Buildings, 3 and 4, Cambrian-place, for Messrs. Harries Brothers; buildings, 12, Castle-street, for Mr. Williams; four houses, Eaton-crescent, for Mr. W. H. Harding; additions to Glyn Vivian Mission Hall, Pentremawr-road, for the Trustees; three houses and bakehouse, Langland-street, for Mr. Richard Lacey; alterations, Empire Theatre, Oxford-street, for Messrs. Moss, Ltd.; cinema hall and shop, St. Helen's-road, for Messrs. C. H. Behenna & Co.

SWANWICK.—Drill hall (730*l.*); Mr. H. A. F. Smith, architect, Star-chambers, High-street, Gosport; Mr. G. Hackett, builder, Look's Heath, Swanwick.

WALLSEND.—Alterations to store, Frank-street, for the Industrial Co-operative Society; Mr. John A. M. Henderson, builder, Hebburn.

WALSALL.—The following plans have been passed:—Ten houses, Sneyd-lane, Bloxwich, for Mr. D. E. Parry; alterations and additions to premises, Park-street, for Messrs. E. T. Holden & Son; extensions to electric theatre, High-street, Bloxwich, for Mrs. Mountjoy; additions to shopping, Wolverhampton-street, for Messrs. J. Bailey & Co. A plan has been lodged for the erection of a warehouse, Greenlane, Leamore, by the Talbot-Stead Tube Company, Ltd.

WEST PENNARD.—Restoration of church; Messrs. Merrick & Sons, builders, Silver-street, Glastonbury.

WYCOMBE.—Bakery, stables, etc., Holly-road, for the Weymouth and District Co-operative Society.

WINDSOR.—Additions to premises, King's-road, for Messrs. Harrods, Ltd., Brompton-road, S.W. Additions to premises, Alma-road; Mr. E. Bamfylde, builder, 23, France-road, Windsor.

WITHNELL.—Offices for Messrs. Wiggins, Teape, & Co., Ltd., paper manufacturers, Chafford Mill, near Tunbridge.

WORTHING.—Pavilion and arcade at shore end of pier (3,261*l.*); Mr. F. Grace, builder, Southampton.

ECOTON CHURCH, NORTHAMPTON.

The east window erected in the above church in memory of the late Major-General Sotheby was designed and executed by Messrs. Percy Bacon & Brothers, of London. The work was supervised by Mr. E. de W. Holding, architect, of Northampton.

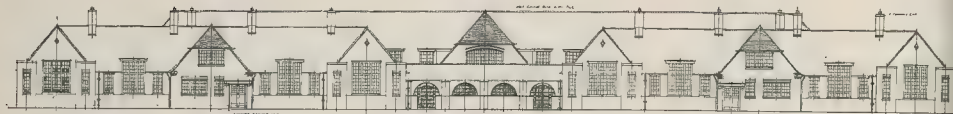
THE FIRE IN ST. PANCRAS.

We read that by the provision of the architect—who, we may state, was Mr. Keith D. Young, F.R.I.B.A.—the spreading of the flames from Mr. W. Burden's timber-yard, in the night of September 17, to the adjacent vast pile of St. Pancras municipal dwellings, known as Goldington-buildings, was arrested by the brick screen wall, with buttresses, which he required to be erected to the height of the timber store.

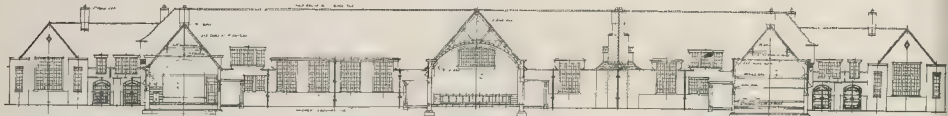
LONDON ASSOCIATION OF MASTER DECORATORS.

A meeting of the Executive Committee of the above Association was held at 52, Queen Victoria street, E.C., on September 9. Mr. T. S. Rowden occupied the chair, and there were also present:—Messrs. J. Anderson, J. H. Campbell, H. J. Honeychurch, Charles Saul, and A. Davidson (Secretary). The General Committee meeting is to be held on October 14 next, at 6.30 p.m., and the annual dinner on Thursday, October 17, at 7.30 p.m.

* See also our list of Competitions, Contracts, etc., on another page.



SOUTH ELEVATION



SECTION A

1 to 2

School for Boys and Girls, Ripley, Derbyshire.

Mr. G. H. Widdows, A.R.I.B.A., Architect.

NEW SCHOOL AT RIPLEY, DERBYSHIRE.

This school, which is to be erected at Ripley, Derbyshire, will accommodate about 1,200 children, and marks the latest developments in school planning in this county.

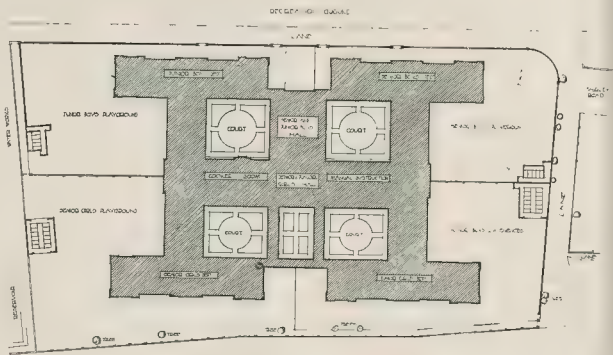
Hitherto it has been the custom to divide children into three groups—boys, girls, and infants. In this case the old grouping is done away with, and in place thereof the children are arranged as juniors and seniors. There will thus be two junior schools, one for boys and one for girls from five years of age up to nine; and there will be two senior schools for boys and girls from about nine years of age until the finish of their school life. By this means the departments are limited to 300 children, which is about the maximum that a head-teacher can supervise satisfactorily if the individuality of the child is to be considered.

Each department will accommodate 302 children, and, though the classes are large, there appears to be no alternative at the present day, owing to the dearth of teachers and the general cost of education. When smaller classes become the rule it will mean that children will have 12 sq. ft. per child instead of 10 sq. ft.

All the rooms are provided with direct through ventilation, all the corridors being open to admit of this. Continued experience tends towards the conviction that the only satisfactory way of ventilating a classroom is by means of windows on two opposite sides, communicating directly with the outside air. When this is the case rooms can be efficiently ventilated by means of hoppers only. Experiments have shown that with a breeze as light as 4 miles per hour the air can be changed by hoppers only ten times per hour. The courts which are necessary to arrange for this ventilation can be used for open-air instruction when the weather permits.

The halls, cookery-room, and workshop are also planned for through ventilation. One hall will be available for junior and senior boys, and the other for junior and senior girls; and halls, cookery-room, and workshop can all be made

reserved so that a science laboratory can be erected there in the future. The average cost of schools in Derbyshire is 11l. 7s. per head and it is not expected that the amount will exceed in this case.



School for Boys and Girls, Ripley, Derbyshire.

Mr. G. H. Widdows, A.R.I.B.A., Architect.

into one apartment by throwing back the movable partitions which divide them.

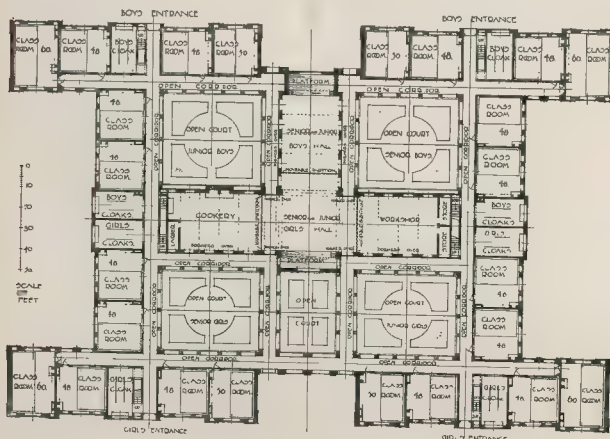
The schools will be heated by low-pressure hot water calculated at 30 sq. ft. per 1,000 cubic ft. of contents. The open court to the south of the hall and adjoining the platform has been

CITY HALL, HULL.

The Hall, which occupies one of the best sites in the city, forms part of a block of building, comprising the concert hall, capable of seating 3,000 persons, reception, crush, and retiring rooms, an art gallery, and twenty-seven shops. The main entrance abuts upon the west side of Victoria-square, and the other three sides of the block are bounded by important business streets. The work has occupied a considerable period, as it has been necessary to carry out the scheme piecemeal in order to avoid the disturbing of existing tenancies. The total cost of the building has been something like 100,000l. The work has been carried out under the supervision of the City Architect Mr. Joseph H. Hirst.

COUNTY COUNCIL ART SCHOOL AND TECHNICAL INSTITUTES.

DURING the past week exhibitions of student work have been held by the Central School of Arts and Crafts, Southampton-row, W.C., the Camden School of Art, Dalmeny-avenue, Camden-road, N., and the Paddington Technical Institute, Saltram-crescent, W. The order in which we have mentioned these three schools is one of convenience only; those who have visited each exhibition will probably have no difficulty in assigning to them their right positions in the ascending scale of comparison. The art activities of the Central School are legion, and it is not surprising that here and there some quite incompetent work is shown. Speaking generally, however, the work maintains a tolerable level of achievement, and occasionally brilliantly above mediocrity.



School for Boys and Girls, Ripley, Derbyshire.

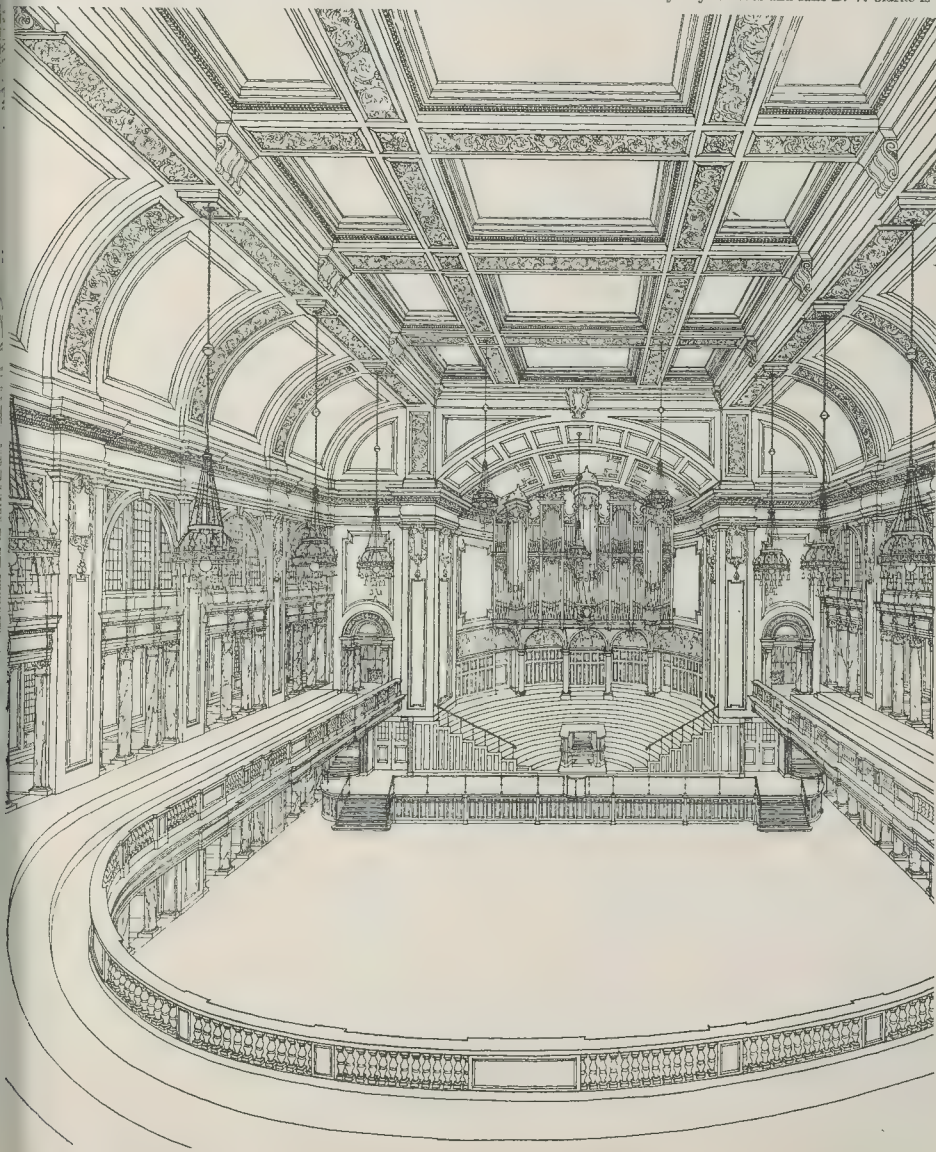
Mr. G. H. Widdows, A.R.I.B.A., Architect.

Architecture is poorly represented; as the work mostly done away and brought to the school criticism, it is practically impossible to select really representative drawings for exhibition. The stained-glass shown is fairly good, but the function of the leading in the completed picture has been in some instances perfectly appreciated, with the result that in some cases an otherwise well conceived figure of angel appears to be throttled by the leading. There is an excellently-studied shield, copied from wall-plate at St. George's Chapel, Windsor, but the cabinet class has turned out some good, if not original, work; a recessed corner-cupboard, covered with satin-wood, by Mr. A. T. Henderson is a soundly-constructed and capably-finished piece of furniture deserving of all praise. The art metal-work, shown by the Day Technical School, indicates talent of a high order; the appearance of the copper and silver vessels, most of which are of excellent design,

is, however, marred by the absurd affectation of leaving the hammer-marks on the surface—a spelling of Art with a capital "A" which cannot serve any useful end. Quite surprising ability, considering the age of the students, is manifested in the examples of die-sinking shown, and the Joan of Arc plaque, taken from the design of Boutet de Monvel, is particularly worthy of remark. The specimens of heraldic engraving exhibited suggest that the class would do well to turn for inspiration to the XVth century, when heraldry was yet a living art. The illuminating and lettering is a case of "crambe repetita"; the influence of the teacher, excellent in itself, represses all individuality, and in some cases, notably in the illuminated Litany, there is a total absence of congruity. Etching and mezzotint are well represented, and exceptionally good work is shown by Mr. H. Nelson in his little study of a London garret, and by Mr. George Rose in his composition entitled "The Elm Screen."

Wood engraving is so hopelessly dead that it would be well not to attempt its revival; if it is ever to compete with the process-block technique, as well as design, will have to be learned. Miss Ethel Lyne's embroidery is extremely pleasing both in colour and conception: her fire-screen, with its ably conventionalised finches and yew, may be noted. A burse, with the shields of the four English Saints, by Miss O. A. Noble, and a lectern-frontal, by Miss E. M. Lester, with the shield of All Saints, taken from Mr. Doring's manual on the heraldry of the church, are also noteworthy pieces of embroidery. Mr. L. Jacobs' studies from the moving model are very clever, and generally the studies from the life are entirely competent.

The exhibition of the Camden School of Art, though less catholic in its scope, shows great thoroughness in the work of its students. In modelling and drawing from the life, always a strong point of the school, the work of Mr. Sydney Greaves and Miss D. V. Clarke is of the



The City Hall, Hull: Sketch of the Interior.

Mr. Joseph H. Hirst, Architect.

first rank. The sound methods of teaching which have enabled them to attain their mastery of the structure of the human form are well illustrated by the brilliant anatomical studies of Mr. J. L. Barker and Miss D. A. Baines. A beautiful measured drawing of the pupil in St. Mary Abchurch, by Mr. E. H. Llewellyn, affords a strong contrast to the wretched design for a capital modelled by the same student, who would do well to seek his inspiration from the work he can portray so capably. Some clever animal studies are shown by Miss Lapthorne, whose designs for colour-prints are also excellent. Miss Tuck's design for an embroidered fire-screen shows the good use to which she has put her careful and accurate plant-studies.

The talent displayed by many of the students of the Paddington Technical Institute is astonishing. There are few architects' assistants who would not be proud of such work as Mr. H. G. L. Krüger's design for a carved and panelled room, which evidences remarkable powers of draughtsmanship, coupled with a sound grasp of style. For sheer brilliance it would be hard to surpass Mr. Smith's design for the decoration of a hall and vestibule. The painting and decorating class have carried into practical execution upon the wall of their classroom a carefully-conceived scheme of decoration; upon the frieze is this inscription:—"Truth is never learned in any department of industry by arguing, but by working"—a precept which might well stand for the motto of the school. Carving in stone and wood, metal-working, and cabinet-making all reach a high degree of excellence, and testify to the ability of the teaching staff in developing the best instincts of the practical craftsmen with whom they have to deal.

Some idea of the quality of the best work produced by the students of the schools under notice in every branch of the arts and crafts may be gained from the foregoing paragraphs; a word may now be said as to the facilities for instruction afforded to the architectural student. The school of architecture and the building crafts at the Central School holds classes every evening in the week during the session, which commenced here, as in the case of the other County Council schools, on Monday last. On Wednesday evenings a course of lectures on "The Growth of a House" is given, and on Saturdays there is a museum class at South Kensington. This latter, which was started last session, was attended also by sculptors, plasterers, mural painters, and general designers. The masters of the school are all practising architects. It will not be out of place here to draw attention to the prospectus and tiny table for the current session of the Westminster Technical Institute, Vincent-square, where excellent evening-classes in architecture and construction are held, one evening in the week being devoted to reinforced concrete design.

LONDON COUNCILS.

Barking.—Tenders are to be invited for sewerage of the road north of the Ripple School; also for making up same and the road on the west side of the school. The tender of Mr. W. E. Sharpless has been accepted for the erection of twenty-eight houses at 171s. each. The Surveyor has been instructed to prepare plans and estimates for carrying out street works, etc., in connexion with the above buildings. Plans have been passed for the erection of a factory for the Cape Asbestos Company, Ltd. Messrs. Lawes Chemical Manure Company, Ltd., have lodged plans for the erection of a Glover tower at Creekmoor.

Battersea.—Repairs are to be carried out to the carriageways and footways in four roads at an estimated cost of 622. Electricity mains are to be altered at an approximate cost of 480.

Berkhamsted.—Plans have been passed for additional buildings at Lower Chemical Works and for alterations to Nos. 80 to 86, High-street, for Messrs. William Cooper & Nephews; as have also plans for Messrs. Ayres & Farn for three houses at Gosson's-end.

Bushey.—The tenders of Messrs. W. Bailey & Sons, at 1,579s. and 690s., have been accepted for making up part of Grange-road and Nightingale-road.

Camberwell.—Pickwick-road is to be made up and paved as a new street. Plans have been lodged with the London County Council by Mr. W. C. Symes for the erection of a building on the site of Nos. 11 and 13, Sliyan-grove.

Deptford. A plan has been passed for Messrs. W. Cubitt & Co. for additions to Messrs. Scott's factory in Gosport-street.

East Ham.—Sanction has been received from the Local Government Board to the borrowing of £6,223s. for the erection of a fire-station and firemen's dwellings. The following plans have been passed: Mr. W. Cooper, five houses, Dersingham-avenue, and factory, Shaftesbury-road; Messrs. Clemens Brothers, two warehouses, Abbots-road; Mr. J. Smith, seven houses, Mafeking-avenue; Mr. J. Hurst, three houses, Mafeking-avenue; Mr. J. Clark, eight houses, Mafeking-avenue. Plans have been lodged by Mr. W. Harris for five houses, Station-street, North Woolwich; also by Mr. W. Stewart, for alterations to the "Albion" beerhouse, 104, Albert-road, North Woolwich.

Fulham.—The tender of Messrs. H. Windsor & Co. has been accepted at 18s. for carrying out alterations and repairs to the economiser buildings at the Electricity Works.

Hackney.—The tenders of the Strand Building Company have been accepted, at 1,151s. and 13,657s., for the construction of an underground convenience in Kingsland-road, and for carrying out extensions to the electricity generating-station. Various repair works are to be carried out at an estimated cost of 1,240s. Plans have been passed for Mr. M. Miller for the erection of a warehouse in Miller's-avenue, Stoke Newington, as have also plans lodged by Messrs. S. Haywood & Sons for the erection of four houses in Holly-street, Dalston.

Hammersmith.—The outer 18-in. margins of the London United Tramways Company's track in a portion of Uxbridge-road (approximately 2,000 yds.) are to be repaved with wood at 8s. 2d. per super yard. The Borough Surveyor has been authorised to complete the repaving with wood blocks of the west side of the Broadway. A plan submitted by the Surveyor for rebuilding 130, King-street has been approved.

Kensington.—Tenders are to be invited for making up the extension of Highlever-road as a new street, in accordance with drawings and specifications prepared by the Engineer.

Lambeth.—Plans lodged by Mr. T. H. Williams, for permission to drain ten houses proposed to be erected in Rosendale-road, West Dulwich, have been approved. Plans have been lodged with the London County Council by Messrs. Edwin Evans & Sons for the formation or laying-out of a new street to lead from Brixton-hill to Acre-lane.

Levensham.—Artificial stone in lieu of tarpaving is to be laid in a portion of Well-meadow-road at an estimated cost of 225s. The following plans have been passed: Messrs. F. & W. Abbiss, five houses, Barmby-road; Messrs. M. F. E. Rosser, six houses, Honor Oak-road; Mr. William Allam, twelve houses, Manwood-road; Messrs. Hill & Tyler, picture palace, Westdale-road; Mr. A. J. Roddis, six houses, Rushford-road; Mr. James Wallis, six houses, Arran-road; Messrs. G. E. Wallis & Sons, Ltd., addition to Pentland House, Old-road, Lee; Messrs. W. J. Scudamore & Sons, five houses, Newstead-road, and four houses off St. Mildred's-road; Messrs. Holliday & Greenwood, Ltd., cinema theatre, High-street; Mr. J. W. F. Phillipson, rebuilding Sunday-school, Stanstead-road.

Wandsworth.—Tenders are to be invited for repairing the carriageways of a portion of Wimbledon Park-road and Viewfield-road in Southfield. Plans have been passed for Mr. A. Dawkins for the erection of nine houses in Clarendon-road, seven in Hotham-road, and nineteen off Clarendon-road, Putney; as have also plans for Mr. J. Johnson for the erection of three shops in Beechcroft-road, Balham.

West Ham.—A portion of Dartmouth-road is to be made up and paved as a new street. The tender of Messrs. Leslie & Co., at 490s., has been accepted for carrying out piling-work at the Corporation electricity station. The following plans have been passed: Messrs. Dearing & Co., Ltd., alterations and additions to the Hope beerhouse, Leytonstone-road, Maryland Point, Stratford; Mr. P. Foick, additions to paint store, 36 and 38, Western-road, Plaistow; Mr. A. Webb, alterations to Messrs. J. R. Roberts' stores, 94, Broadway, Stratford; Mr. H. Ashed, three houses, Oriental-road, Silvertown; Mr. H. J. Smith, chemical factory, High-street, Stratford; Messrs. Fuller, Horsey, Sons, & Cassell, addition to Nos. 9 and 10, Carpenters-road, Stratford, for the Excel Company, Ltd. The following plans have been lodged: Mr. J. H. Gladwell, alterations and additions to Railway Tavern beerhouse, Victoria Dock-road, Custom House; Mr. W. Hancock, cinematograph theatre, site of No. 302, Romford-road, Forest Gate; Sir J. H. Bell, cinematograph theatre, site of No. 61, Broadway, Stratford.

Wood Green.—Plans submitted by Messrs. C. Hale & Co., for Mr. R. S. Chattey, for additions to the Alexandra Tavern, High-road, have been passed.

GOVERNMENT CONTRACTS.

THE following tenders have been accepted during the past month by the Government: Department of Agriculture: Works Department: Works services: Coal stores, S. marine Depot, Haslar—Mr. J. Hunt, S. Wharf, Cleveland-road, Gosport; diversion sewage, Haslar—Mr. J. Hunt, South Wharf, Cleveland-road, Gosport; two sheds, Aviat School, Eastchurch—Messrs. J. Harrison & Co., Station Works, Camberwell, S.E. 1, Ministry, Contract Department: Firebricks, —Messrs. Bonnybridge Silica and Fire Company, Ltd., Bonnybridge, Stirlingshire; Messrs. Candy & Co., Ltd., Heathfield Station, Newton Abbot, Devon; Messrs. C. Davidson & Co., Ltd., Ewloe Barn, Ewloe, near Chester; Messrs. Martin Brothers, Ltd., 20, Locky street, Plymouth; Messrs. Priestman Collier Ltd., Milburn House, Newcastle-on-Tyne; Messrs. Westlake & Co., Galstock, Cornwall. War Office: Works services: Alterations & additions, Army Service Corps Officers' Mess, Bulford—Mr. J. Crockerell, Bulford Camp, alterations and additions to Military Hospital, Lichfield—Messrs. T. Lowe & Sons, Curz street, Burton-on-Trent; cartridge ranges, Tidworth—Messrs. W. P. Goode & P. Goode, Milton-road, Gravesend; drainage work, Brookbrook Barracks, Warwick—Messrs. G. Finch & Co., Stratford-on-Avon; dredging Woolwich Arsenal—Messrs. Flower & Evers 68, Kings William street, E.C. 4; erection annexes, Brecon—Mr. B. Jenkins, Watton Mills, Brecon; erection of hospital, etc., Ro Military Academy, Sandhurst—Messrs. Tur & Kersley, Blackwater, Hants; erection officers' quarters, Woolwich—Messrs. W. R. Rye, Ltd., Dan of the River, Deptford; resident engineer, Curragh—Mr. T. O'Mahon "Sunmount," Fermoy; erection of accommodation, Hyde Park, London—General Building Company, 45, Chandos-street, W.C.; erection of tent-examining shed, Artillery, Dublin—Messrs. Smith, Pearson, Ltd., Dublin; erection of unloading shed, Army Ordnance Depot, York—Messrs. Dennis, Gill, & Son, Nether Hall-road, Duxford. Periodical works services at: Chatham—Mr. T. Carr, New Crown-street, Halifax; Portland, Portsmouth, & Winchester—Messrs. G. F. Smith & Co., Eldon-street, Souths Kilbride—Messrs. Skevington Brothers, Der Plymouth—Messrs. R. W. Pitcher & Son, Marlborough-street, Devonport; reconstruction of the Associated Portland Cement Manufacturers, Ltd., 8, Lloyd's-avenue, E.C. 4; of South buildings, Enfield Lock—Messrs. W. P. Goode & Sons, Gravesend; renewal of parapets, Omagh—Mr. I. Harvey, Enniskillen; repairs and maintenance of War Department buildings, Cardigan—Mr. J. Murphy, Ballyrock-road, Cork; Omagh—Mr. J. McGee, Dublin-road, Omagh; Tralee—Mr. P. Murr, Greenview-terrace, Tralee; supply and erection of aeroplane repair shed, South Farnborough—Messrs. A. D. Dawney & Sons, Ltd., Victoria-street, S.W.; supply and erection of aeroplane repair workshop, South Farnborough—Mr. W. Harbrow, South Bermondsey, S. supply and fixing steel shutters, A. Ordnance Depot, Tidworth—the Sifton and Sifton Company, Sefton Works, 1, Parkfield-road, Liverpool; swimming pond horses, Bulford Camp—Mr. J. Crockerell, Bulford Camp, India Office, Store Department Closets, etc.—Mr. J. Levick, Aston, Birmingham. Crown Agents for the Colonies: Contractors, etc.—The Associated Portland Cement Manufacturers, Ltd., 8, Lloyd's-avenue, E.C. 4; Messrs. Martin, Earle, & Co., Ltd., 139, Q. Victoria-street, E.C. 4; the Wouldham Cer Company, Ltd., 55, Great St. Helena, E. jetty materials—the Horsley Company, J. Tipton, Staffs. goods shed—the C. Structural Iron Company, Ltd., Glas. H.M. Office of Works: Builders' work: Extension of Aylesbury Post Office—Messrs. Tombs & Sons, Buckingham; extension of Bedford Post Office—Messrs. E. Brown & Co., Ltd., Wellington; reconstruction of British Museum—Messrs. W. E. Blake, 9, Southampton-street, Bloomsbury; W. erection of Museum telephone exchange—Messrs. Galbraith Brothers, Ltd., Camberwell Works, S.E.; additions and alterations Portsmouth County Court—Messrs. W. Light & Son, 475, Commercial-road, Plymouth; erection, Stafford New Head Office—Mr. H. Smith, Wolverley, Kidminster; erection, Victoria Telephone Exchange—Messrs. Galbraith Brothers, Ltd., Camberwell Green Works, S.E.; reconstruction, Houses of Parliament—Messrs. De Hellyer, Ltd., 35, Red Lion-square, W. drainage of new wing at Somerset House—Messrs. B. Finch & Co., Ltd., 82, Belvedere-street, S.E.; redecoration of Messrs. at Windsor Castle—Messrs. Matthew & Co., 88, Wigmore-street, W.; iron buildings, Liverpool, Alexandra Dock—Mr. Harbrow, Iron Building Works, S.

Mr. Clement Clive-Bagley reports that the Polish Cement Works, which had produced 600,000 and 1,100,000 barrels of 360 lb. each in 1909 and 1910 respectively, increased the output to 1,400,000 barrels in 1911. The imports of cement from Germany and Austria were 80,000 barrels, and as the agreement between the Polish Cement Syndicate and the German and Austro-Hungarian Works was maintained during 1911, it was possible to raise local prices to the level of the foreign market, i.e., 100 marks per barrel in the previous year. As a consequence of larger output and higher prices, the Polish cement industry had a very satisfactory year's working and paid dividends of 15% to 20% to its shareholders. In the last ten years there was a demand on the Warsaw Exchange for the shares of Polish cement works, and transactions took place at par and over. The activity in this industry has been ascribed to the large property owned in nearly every branch of industry, and especially to the development in the building trade, both in towns and provinces. Government orders remained at about the same quantities as in 1910, but the private market was much larger. The demand for bricks was even larger than in 1910, so that all brickyards were kept busy throughout the year and prices per 1,000 rose still further, i.e., from 12 s. 8d. in 1909, and 12 s. 6d. in 1910, to 12 s. 12d. in 1911.

Attempts were made to encourage the use of bricks made of sand and cement. The experiment was only successful to a limited degree, as it is difficult to compete with ordinary bricks, which are made of local material, and owing to the subsoil being clay, and thus transport from long distances can be avoided. Roofing tiles were used in larger quantities in 1911 than in previous years, and insurance companies are now offering a premium for buildings so covered than for those where thatch is employed. This may induce the peasant population to employ tiles to a larger extent than heretofore, thus will only increase the local demand for tiles well in 1911 and lead fairly high dividends.

According to the British Consul at Warsaw (Poland), the building trade, which experienced great activity during 1910, continued its satisfactory development during the past year, and the building of new houses was not retarded. Loans were granted on easy terms by the banks and financial institutions, and the relations between masters and men being good throughout the country, the present year was highly successful operation. Though the number of houses built or repaired in Warsaw itself dropped from 1,645 in 1910 to 1,425 in 1911, there was a considerable increase in the building of houses in the towns and villages of the country. High rents and the increased cost of living are gradually driving the less well-to-do classes to live in small country places in the neighbourhood of Warsaw, and consequently are served in respect of transport by the principal lines of railways, and in consequence there has been an abnormal development of such villages into small towns. This change is not, however, due to any special circumstance, but is a fact that no extension of Warsaw beyond its limited boundaries has been possible in consequence of the refusal of the military authorities to allow the building of new holdings in the neighbourhood of the fortified town.

This prohibition was, to a great extent, withdrawn, and the near future should open up possibilities for the sale of British building goods in the new areas of construction, which will have now been made available. Much will depend on the development of the new system of tramways to these new suburbs, and the amelioration of the services of the light railways which exist on both sides of the Vistula. Here again British capital might be used with every prospect of satisfactory results. The Austrian population continued to rise, due, no doubt, to the increase of 15,000 inhabitants during the year. The total population of Warsaw was, in 1911, 797,000, exclusive of military forces of some 25,000 men. The improved building standard is still to be seen in the reconstruction of the city. It has made considerable advance, and so-called first proof buildings are the only type now sanctioned. This naturally creates, and will create, a demand for fireproofing material which is worthy of attention from British manufacturers. The obligatory system of municipal fire insurance introduced in Warsaw in the year 1900, and all buildings have to be insured with the municipal fund up to the actual cost of the building. The demand for bricks was even larger than in the previous year, as the bricklayers were kept busy throughout the year. The price of bricks rose still further. Attempts were made to encourage the use of bricks made of sand and cement. The experiment was only successful to a limited degree, as it is difficult to compete with ordinary bricks, which can be made throughout Poland. The use of concrete, of clay, and thus transport from long distances can be avoided. Dealing with the cement trade, the Consul states that the Polish Cement Works, which had produced 600,000 and 1,100,000 barrels of 560 lb. each in 1909 and 1910, produced 1,200,000 barrels in 1911. The import from Austria-Hungary and Germany was about

Messrs. S. W. Francis & Co., Ltd., send us their latest catalogue of revolving shutters, in steel and brass, shop-fronts, and collapsible, extendable steel gates. The revolving shutters manufactured by the firm include interlocking, curvilinear, and corrugated steel lath shutters, and steel-hinged pinewood lath shutters, suitable for every purpose. Among important contracts recently executed for garages by Messrs. Francis are shutters for Messrs. Harrod's Receiving Yard, Chelsea; the Royal Automobile Club, Pall Mall; the General Motor Car Company, Waltham Green; and Holkham Hall, Norfolk.

Messrs Thomas Faldø, of Somers, Wharf, Rotherhithe, and 1, Arundel-street, Strand, W.C., forward us a common-sense pamphlet, entitled "A Few Simple Facts about Asphalt," in which they point out the difference between foreign and British asphalt, and the points to be guarded against in each case. Messrs. Faldø manufacture at their works in London asphalt from the Seyssel and Limmer mines, and are, especially with regard to the latter, which the raw material is derived so that "Seyssel" and "Limmer" are not merely "trade names," or, to speak more precisely, "trade marks," but truthful statements of fact. British asphalt is also a specimen of the firm, who have been in the trade since the infancy of asphalt as a building material.

(Continued on page 367.)

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. vii. x.; Public Appointments, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

.* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

- SEPTEMBER 30.—**Dublin.**—UNIVERSITY COLLEGE: New Buildings—Limited architectural designs in Ireland. Assessor, Mr. H. T. Haro, F.R.I.B.A.
- SEPTEMBER 30.—**Llanelli.**—SCHOOL, ETC.—The Llanelly Education Committee invite competitive designs and estimates for school buildings and domestic subjects centre at Stebonheath-terrace. Assessor, Mr. G. E. Halliday, F.R.I.B.A. See advertisement in issue of August 2 for further particulars.
- OCTOBER 7.—**Beckenham.**—PUBLIC ELEMENTARY SCHOOL.—Mr. A. W. E. Cross, F.R.I.B.A., assessor. Selected architects only.
- OCTOBER 14.—**Batham.**—SWIMMING BATH.—The Wendsworth B.C. invite designs for a Public Swimming Bath. See advertisement in issue of August 16 for further particulars.
- OCTOBER 23.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit, 1*l.* 1*s.*
- OCTOBER 31.—**Muddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100*g.*, 80*g.*, and 25*g.*. Deposit of 2*l.* 2*s.* See advertisement in issue of August 2 for further particulars.
- OCTOBER 31.—**Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.
- NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).
- DECEMBER 1.—**Bulgaria.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinsingh-street, E.C. (see p. 173, August 9).
- DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.
- MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipal Buildings of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.
- NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.
- NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*
- SEPTEMBER 30.—**Harrogate.**—WALLS.—For erection of boundary walls to the new cemetery, Wetherby-lane. Mr. C. E. Rivers, A.M.Inst.C.E., Borough Engineer and Surveyor.
- SEPTEMBER 30.—**Pengam.**—HOUSES.—Erection of officials' houses at Britannia Pits, Pengam, for the Powell Duffryn Steam Coal Company, Ltd. Plans and specifications with Mr. George Kenahole, M.S.A., Station-road, Bargoed.
- SEPTEMBER 30.—**Stockport.**—BAY.—Taking down one of the bays of the Covered Market and incidental works. Plans, sections, and general conditions seen, and specification with form of tender, from Mr. John Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.
- SEPTEMBER 30.—**Talywain.**—HALL.—For erection of a hall in connexion with St. Thomas' Church, Talywain. Drawings and specification with Messrs. Lougher & Co., architects, Bank-chambers, Pontypool.
- OCTOBER 1.—**Farnworth.**—EXTENSION.—For an extension to the Farnworth Works, Farnworth, Farnworth. Plans and quantities from Mr. John Ward, architect, 24, Mawdsley-street, Bolton.
- OCTOBER 2.—**Southampton.**—ADDITIONS.—For alterations and additions to "D" Warehouse, Town Quay, Southampton. Drawings, specifications, and conditions with Mr. E. Cooper Poole, A.M.Inst.C.E., Engineer to the Board, at the Board's Offices, Town Quay, Southampton.
- OCTOBER 3.—**Southport.**—DRAWINGS.—For quantities and form of tender on deposit of 1*l.*
- * OCTOBER 3.—**Holbrook.**—BRIDGE.—The Herts C.C. invite tenders for constructing a bridge across River Beane at Holbrook Ford, situated on the main road between Aston and Bennington. See advertisement in this issue for further particulars.
- OCTOBER 3.—**Southport.**—EXTENSION.—For the extension of the South Marine-gardens (including the continuation of the lake promenade and of the concrete wall round the marine lake, etc.). Plans seen, and specification and form of tender, at the Borough Surveyor's Office, Town Hall, Southport. Deposit of 3*l.* 2*s.*
- OCTOBER 3.—**Twyford.**—COTTAGES.—For the erection of six cottages at Twyford, Bucks. Plans with the Surveyor, Mr. Leonard Bell, Council Offices, Buckingham.
- OCTOBER 3.—**Glasgow.**—ADDITIONS.—For the proposed alterations and additions to the Workhouse, Boughton Heath, Chester. Plans, specification, quantities, and form of tender from the architects, Messrs. John H. Davies & Sons, 14, Newgate-street, Chester, on deposit of 1*l.* 1*s.*
- OCTOBER 4.—**Featherstone.**—ALTERATIONS.—For alterations to the Featherstone School, Featherstone. Plans seen, and specifications with quantities from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*
- OCTOBER 4.—**Middlesbrough.**—DRAWINGS.—For the enlargement of Middlesbrough Post-Office. Drawings, specification, and a copy of the conditions and form of contract at Middlesbrough Post-Office. Quantities and forms of tender, on deposit of 1*l.* 1*s.* from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.
- OCTOBER 4.—**Portway.**—ADDITIONS.—For additions and alterations at the girls' school at Portway, Wals. Plans and specification with the architect, Mr. A. J. Pictor, A.R.I.B.A., Bruton, Somerset. Deposit of 1*l.* 1*s.*
- * OCTOBER 5.—**Millbank.**—S.W.—NEW BUILDINGS.—The Crown Agents for the Colonies invite tenders for new buildings, Millbank S.W. See advertisement in this issue for further particulars.
- OCTOBER 7.—**Altrincham.**—CONVENIENCE.—For the erection of a public convenience in Kingsway. Plans seen, and quantities and forms of tender from Mr. H. E. Brown, Surveyor, Town Hall, Altrincham.
- OCTOBER 7.—**Birkenhead.**—GALLERY.—For the construction of a gallery in the swimming bath at the Argyle-street, South Bths. Plans and particulars seen, and form of tender, with specification and quantities, from Mr. C. Brownridge, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Birkenhead, on deposit of 3*l.* 2*s.*
- OCTOBER 7.—**Dundalk.**—ADDITIONS.—The Great Northern Railway Company (Ireland) invite tenders for alterations and additions to their locomotive department offices at Dundalk. Drawings at the Engineer's Office at Dublin and Belfast. Quantities and specification, on deposit of 2*l.* 2*s.* from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street, Dublin.
- OCTOBER 8.—**Ogmore Vale.**—ALTERATIONS.—For extensive alterations to the Fox and Hounds Hotel, at Ogmore Vale, for the Rhonda Valley Brewery Company, Ltd. Plans, etc. seen, and quantities, on deposit of 2*l.* 2*s.* from Mr. Thos. J. Evans, architect, The Court, Pencaid.
- OCTOBER 9.—**Tipton.**—HOUSE, ETC.—Erection of a Council school and caretaker's house at Princes End, Tipton. Architects, Messrs. Scott & Co., Market-street, Great Bridge, Tipton. Deposit 3*l.* 3*s.*
- * OCTOBER 10.—**Birmingham.**—BOUND WALLS.—The Commissioners of H.M. Works and Public Buildings invite tenders for bound walls on site of proposed new telegraph factory, on site of proposed new telegraph factory, on site of proposed new telegraph factory. See advertisement in this issue for further particulars.
- OCTOBER 10.—**Bowderdale.**—ALTERATIONS.—Alterations to the farm for the extension, Wasdale, Cumberland. Quantities and plans from Mr. J. H. Rea, Gatehouse, Eskdale, Cumberland. Deposit of 2*l.* 2*s.*
- * OCTOBER 10.—**Canterbury.**—COTTAGE.—For erection of a gauger's cottage and stores at 1, gatrow, for the Conway and Colwyn Bay J.C. Water Supply Board. Plans and specification with the Engineer, Mr. T. B. Farrington, Trinity-square, Llandudno.
- OCTOBER 10.—**Purley.**—EXCHANGE.—For erection of Purley new Telephone Exchange. Drawings, specification, and a copy of the conditions and form of contract at the Croydon General Post-Office. Quantities and forms of tender, on deposit of 1*l.* 1*s.* from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.
- * OCTOBER 14.—**Leicester.**—ALTERATIONS AND ADDITIONS.—The Commissioners of H.M. Works, etc., invite tenders for alterations and additions to the Leicester Inland Revenue Offices. See advertisement in this issue for further particulars.
- * OCTOBER 15.—**Battersea.**—EXTENSION.—POST-OFFICE.—The Commissioners of H.M. Works, etc., invite tenders for the extension of Battersea District Post Office. See advertisement in this issue for further particulars.
- * OCTOBER 16.—**Horne Bay.**—PAVILION AND CONCOURSE.—The Horne Bay U.D.C. invite tenders for a pavilion and concert hall on East Cliff. See advertisement in this issue for further particulars.
- * OCTOBER 31.—**Child's Hill.**—ARTISTS' DWELLINGS.—The Hendon U.D.C. invite tenders for fifty artists' dwellings. See advertisement in this issue for further particulars.
- * OCTOBER 31.—**Hendon.**—FIRE-STATION.—The Hendon U.D.C. invite tenders for central station at Hendon. See advertisement in this issue for further particulars.
- NO DATE.—**Burslem.**—OFFICES.—Erection new offices, Moorland-road, Burslem, for Burslem Mutual Bural Society, Mr. Rezin T. Burslem, architect, Town Hall-chambers, Stoke-on-Trent.
- NO DATE.—**Crews.**—CHIMNEY. Ornamental chimneys and chimney-stack in Crews H. gardens to be taken down. Mr. W. McCredie, Englesea House, Crews.
- NO DATE.—**Minlthorpe.**—BUILDINGS.—For including the farm buildings at Viver, Pa. Minlthorpe, and for building additional by Plans and specifications with Mr. John Stall M.S.A., architect, 57, Highgate, Kendal.
- NO DATE.—**Newcastle-upon-Tyne.**—MORTUARY, ETC.—Erection of a mortuary, inquest-room at the Old Toll House, Sw. Bridge, and a post-mortem room under the H. Level Bridge, City Estate and Property Surveyor, Town Hall, Newcastle-upon-Tyne.
- NO DATE.—**Outwood.**—ADDITIONS.—For alterations and additions to house at Rook's N. Outwood, Mr. W. Wrigley, A.R.I.B.A., architect, 2, King-street, Wakefield.
- NO DATE.—**Scotcher.**—For the erection of a new public elementary school in parish of Raunds. Architects, Messrs. Black & Ridder, 53, High-street, Kettering.
- NO DATE.—**Slithwaite.**—HOUSE, ETC.—Erection of house and workshop in Mead E. Slithwaite. Plans from Mr. Arthur B.S. architect, Bolton.
- NO DATE.—**Torquay.**—ALTERATIONS.—Various alterations and improvements at Swiss Café, Victoria-parade, Torquay. Mr. F. Wood, architect, 2, High-street, Torquay.
- NO DATE.—**Wakefield.**—ALTERATIONS.—Alterations to the cloakrooms, etc., at the H.M. Council schools, Wakefield. Mr. W. Ogden, architect, Peterson-road, Wakefield.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

- SEPTEMBER 28.—**Aberavon.**—REBUILDING.—For the rebuilding of the Temple of Fashion, Aberavon. Plans and specifications with Mr. F. B. Smith, M.S.A., Port Talbot.
- SEPTEMBER 28.—**Northampton.**—HALL, ETC.—For erection of drill hall and alterations to the Militia Stores, Northampton; riding school for the Northamptonshire Territorial Force Association. Names to the architect, Major J. W. Fisher, Wellington.
- SEPTEMBER 28.—**Talywain.**—WORKS.—For carrying out works at the Commercial Inn, Talywain, Mon., for Messrs. A. Buchan & Co., Rhymney. Specifications, etc., with Mr. Thomas Roderick, architect, Ashbrook House, Clifton-street, Aberdare.
- SEPTEMBER 28.—**Walshstown.**—REPAIRS.—For the carrying out of certain repairs to the Dispensary at Walshtown. Specification at the Board-room, Workhouse, Midleton.
- SEPTEMBER 30.—**Birkenhead.**—HOUSE.—Erection of a detached house in Druab-lane, Birkenhead. Plans seen, and quantities, from Messrs. Howorth & Howorth, architects, Old Bank-chambers, Cleckheaton.
- SEPTEMBER 28.—**Barnoldswick.**—BORHOUGH.—For the sinking of an 18-in. borehole to a depth of 80 ft. pump chamber, pump, with effective h.p. horizontal producer-gas engine suction-gas plant, at pumping station, for Gas and Water Committee. Plans seen, and specification, with form of tender, from J. W. Thompson, Engineer and Manager, works, Barnoldswick.

ENGINEERING, etc.—continued.

the data given at the commencement of each graph is the latest date when the tender, or names of those willing to submit tenders, be sent in.

SEPTEMBER 3.—Aston.—BRIDGE. For construction of a bridge across the River Beane at Holbrook, on the main road between Aston and Buntingford. Drawings, specification, and agreement at the County Surveyor's Office, Hatfield, on or about 11. 18.

SEPTEMBER 7.—Somerset.—BRIDGES. For partial painting in masonry and repair of 1100 two girders on the main road between Ilminster and Exeter at two miles from Ilminster. Drawings, specification, and form of contract at the County Surveyor's Office, Wells. Quantities on or about 11. 28.

NO DATE.—Dinas Powis.—REPAIRS, etc. For the repair to the mill stream banks and including cleaning out the bed of the same, repairing masonry bridge, etc., at Dinas Powis. Surveyor, Mr. W. H. D. Caple, R.F.A., 2, Church-street, Cardiff. Specifications on deposit of 10s.

FURNITURE, PAINTING, MATERIALS, etc.

SEPTEMBER 27.—Celtbridge.—PAINTING. For painting of the Workhouse chapel and a portion of the Workhouse fever hospital, in accordance with a specification prepared by Mr. J. O'Connor, C.E.R., which may be seen at the Ard-oom, Celtbridge.

SEPTEMBER 22.—Exeter.—PAINTING. For painting of exterior wood and iron work of the steeple, Exeter. Particulars and specifications in Mr. E. H. Barbotte, architect, County-builders, Exeter.

SEPTEMBER 1.—Keighley.—PAINTING. For external painter's work at the Workhouse, Keighley. Particulars and specifications in Messrs. Moore & Crabtree, York-builders, Keighley, architects.

SEPTEMBER 1.—Manchester.—POINTS, etc. The Tramway Committee invite tenders for the supply of permanent-way points, tongues, and widened steel centres. Specifications and form of tender from Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester, on deposit of 11. 16.

SEPTEMBER 1.—Sutton Langley.—PAINTING. For painting and decorating the whole of the interior and exterior of the schoolmaster's house at outbuildings. Specification from Mr. Frederick May, Clerk to the Committee, 43, North-street, Macclesfield.

SEPTEMBER 2.—Thurme.—REPAIRING, etc. For repairing and repainting tower and churchyard wall of Thurme Church, Great Yarmouth. Apply to Rector or Churchwardens.

SEPTEMBER 3.—Cumberland.—PAINTING. For painting works at the police-stations. Specifications with Mr. Geo. Dale Oliver, R.F.A., County Architect, 65, Lowther-street, Carlisle.

OCTOBER 8.—Acton.—PAINTING, etc. For the cleaning and repainting engine-sheds, messrooms, offices, etc., at Old Oak Common, near Acton, for the Great Western Railway Company. Plans and specifications seen, and forms of tender and quantities, at the office of the Engineer, at 7, Eastbourne-terrace, Paddington.

*** OCTOBER 18.—London.—PAINTING, etc.** The Receiver for the Metropolitan Police District invites tenders for repairing, maintaining, and decorating police-stations, police-courts, houses, buildings, etc., within four miles of Charing Cross, for three years from January 1 next. See advertisement in this issue for further particulars.

NO DATE.—Goole.—PAINTING. For the painting and decorating of the interior, No. 15, Burlington-crescent, Goole. Particulars at the Estate Office, Rawcliffe.

NO DATE.—Merthyr.—RENOVATING. For renovating the Red Cow Inn, Clebeand-street, and the Duffryn Arms Inn, Brecon-road, Merthyr, for Messrs. Giles & Harrop, the Brewery, from Mr. C. M. Davies, M.S.A., 112, High-street, Merthyr.

ROADS, SANITARY AND WATER WORKS.

SEPTEMBER 28.—Tadcaster.—SEWAGE. For the construction of about 250 yds. of 9-in. sewer, with manholes, etc., at Appleton Road. Specifications and quantities from Mr. H. C. Wood, surveyor, Tadcaster.

SEPTEMBER 30.—Cowes.—GRAVEL, etc. For the supply of gravel and other road material. Specification and form of tender from Mr. John W. Webster, Engineer and Surveyor, Cowes, I.W.

SEPTEMBER 30.—Thrapston.—SEWAGE. For the construction of a sewer, about 397 yds. in length, in Brigstock Village. Plans, sections, and specifications, on deposit of 5s., from Mr. F. Lloyd, Surveyor, Thrapston.

SEPTEMBER 30.—Warrington.—FLAGS. For 300 sq. yds. of 2-in. concrete flags. Specifications, forms of tender, and information at the office of the Borough Surveyor, Town Hall.

OCTOBER 1.—Chichester.—GRANITE, etc. For the supply of 1,000 tons of 2-in. broken granite, basalt, or other approved material. Further particulars from the City Surveyor, Mr. Frank J. Lobley, A.M.Inst.C.E.

OCTOBER 2.—Ramsgate.—CEMENT. For the supply of Portland cement. Schedule and form of tender from Mr. T. G. Taylor, Borough Engineer and Surveyor, Municipal Offices, Ramsgate.

OCTOBER 3.—Oban.—WIDENING. For widening and metalling a portion of the public road in the Pass of Brander. Plans and specifications seen, and quantities from Mr. E. Macrae, District Surveyor, Columbia-buildings, Oban.

OCTOBER 4.—Bishop's Stortford.—MATERIALS. For the supply of materials. Tender form from the Engineer and Surveyor, Mr. Robert S. Scott, A.M.Inst.C.E., Council Offices, Bishop's Stortford.

OCTOBER 5.—Huyton.—MATERIALS. For the supply of 500 tons of 2-in. macadam, 400 tons of 3-in. macadam, and 100 tons of granite chippings. Tenders to Mr. G. W. Swift, Clerk, Public Offices, Huyton.

OCTOBER 5.—Reddington.—ROADS. For the making-up and improvement of High-street, Twickenham-road, and Manor-road. Plans and specifications seen, quantities and form of tender, on deposit of 21. 2s., from Mr. M. Halsworth, Surveyor, Council Offices, Reddington.

OCTOBER 7.—London.—ROADS. For making-up with tarred bituminous or asphaltic materials certain roads and parts of roads at Muwells Hill, N. Forms of tender, etc., and particulars from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highbury.

OCTOBER 7.—Stanley.—STREETS. For forming and completing Spens-street, Stanley; also for surface-water drainage at South Moor and Stanley. Plans and specifications seen, and quantities and forms of tender from Mr. A. Routledge, Surveyor, Council Buildings, Stanley.

OCTOBER 7.—Whitley.—WORKS. For carrying out public improvement works in the reconstruction of footways in Marden and Rockcliffe Wards. Plan and specification seen, and form of tender from Mr. A. J. Russell, A.M.Inst.C.E., Surveyor to the Council, Council Offices, Whitley Bay.

*** OCTOBER 8.—East Ham.—TAR-PAVING.** The East Ham Education Committee invite tenders for tar-paving the playgrounds at Vicarage-lane School. See advertisement in this issue for further particulars.

OCTOBER 12.—Rotherham.—PIPPES, etc. For the excavating, laying, jointing, and filling in of about twenty-one miles of cast-iron spigot and socket pipes. Particulars and forms of tender from the Engineer to the Council, Mr. B. Hey, M.Inst.Mun.E., Surveyor's Offices, Imperial-buildings, Rotherham.

*** OCTOBER 14.—Kensington.—ROAD-MAKING.** The Council of the Royal Borough of Kensington invite tenders for making up portion of roadway of Highlev-road. See advertisement in this issue for further particulars.

*** OCTOBER 15.—Kirkby-in-Ashfield.—SEWERAGE WORKS.** The Kirkby-in-Ashfield (Notes) U.D.C. invite tenders for sewerage and extensions to the sewerage-disposal works. See advertisement in this issue for further particulars.

OCTOBER 30.—Port-Augustus.—DRAINAGE. For the construction of drainage works, comprising upwards of 3,000 lin. yds. of pipe sewers, together with flushing tanks, manholes, septic tanks, etc., at three outfalls, and other relative works. Plans and specifications with quantities from Messrs. Geo. Gordon & Co., civil engineers, Liverpool.

NO DATE.—Cardiff.—ROAD. For about two miles of road-making. Mr. W. B. Rees, architect, 3, Dumfries-place, Cardiff.

NO DATE.—Fraserburgh.—FOOTWAY. For relaying the footway of Bellslea property on the north side of Victoria-street with granite kerb and cement concrete. Specifications with Mr. W. Alexander, Burgh Surveyor.

NO DATE.—Upper Langwith.—SEWAGE. For works of sewerage in the parish of Upper Langwith. Particulars from the Engineer, Mr. F. P. Cook, Leeming-street, Mansfield.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
WORK OF WORKS	Huddersfield Boro' Council	Not stated	Oct. 3
WORK OF WORKS	Broadstairs, etc., U.D.C.	31. per week	Oct. 9

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
LD BUILDING MATERIALS, 126, NORWOOD ROAD, S.E.—On the Premises	Vereyard & Yates	Oct. 3
COMMERCIAL MOTOR CHASSIS—Mill-lane Depot of L.G.O.C. Ltd.	Stuart A. Curzon	Oct. 14
REHELD BUSINESS PREMISES AND LAND, NORTHAMPTON—On the Site	Peirce & Thorpe	Oct. 16
REHELD SITES, SOUTHWARK—At the Mart	Field & Sons	Oct. 22
BUILDING SITES, AINGER, SHERE, and GOMSHALL (SURREY)—At the Mart	Driver, Jones, & Co.	Oct. 22
REHELD LAND—Brentwood	Browett & Taylor	Nov. 1

TRADE CATALOGUES—continued from page 365.

Messrs. Swain, Verney, & Co. send us their latest catalogue of brass and iron goods, chiefly door and window furniture. Among the items of interest which more particularly attract attention, we notice the "Reliance" patent lock, an excellent contrivance designed to operate panic-bolts from the outside. By this means a door, on which a panic-bolt is used, may be used when required as an ordinary entrance door, by means of the external brass knob which turns a spindle and operates the bolt. By a turn of the key in the lock the brass knob is put out of action, leaving the bolt free to act only on pressure on within in the usual way. The McCabe ball-bearing hangers for "acmodation" articles are admirably straightforward and simple in design, and are fitted with ball-bearings throughout. The blocks in the cata-

logue show the general principle and the manner in which the fitting may be concealed. Partitions hung in this manner have been supplied to the London, Birmingham, and Sheffield Council Schools. The same principle is applied to heavy barn or warehouse doors, and to overhead trolleys, which are also made to run on the bottom flange of the ordinary I beam. Messrs. Swain, Verney, & Co. also supply the "Anglo" patent liquid door-spring and check (a well-designed contrivance, suitable for both right and left hand doors), cloakroom fittings, faintly openers, and builders' ironmongery of nearly every description.

We have received from the National Radiator Company, Ltd., particulars of a new type of damper regulator for low-pressure hot-water boilers. The regulator has a very wide range of action, and by shifting the weight provided on the lever, the water in the boiler

can be maintained at any temperature between 120 and 220 deg. Fahr. The construction of the appliance is very simple, the regulator consisting essentially of an outer dome enclosing metal bellows connected by means of a tube with the bulb, which should be inserted at or near the flow outlet of the boiler. The bellows and a portion of the bulb are filled with a highly volatile liquid responding immediately to the slightest change of temperature. By means of a simple plunger attached to the upper wall of the bellows, the expansion of the latter has the effect of actuating a rocker and the lever, to which are connected the draught doors of the boiler. The fulcrum carrying the damper lever is pivoted on knife-edge bearings to ensure extreme delicacy of movement and freedom from friction, and as the distance between the pivots on the fulcrum is $\frac{1}{2}$ in., the regulator possesses great power.

PATENTS.

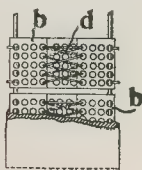
APPLICATIONS FOR PATENTS.*

- 14,740 of 1911.—Everard Richard Calthrop, Leonard Erskine Hill, and Herbert William Child: Production of sash-bars and the like for use in glazing roofs, windows, and structures in general.
- 18,351 of 1911.—Arthur George Grieve and George Anderson & Co.: Apparatus for stone and marble cutting and for like purposes.
- 19,102 of 1911.—George Chisholm: Flanged metal pipes, particularly applicable for effecting joints with water-closet cisterns.
- 19,133 of 1911.—Alfred James Hill: Joints for tubular structures.
- 19,175 of 1911.—Benjamin Burnette and Frank Centennial Avery: Hinges.
- 19,196 of 1911.—Henry Augustus Allen: Stoves and fireplaces.
- 21,282 of 1911.—Frederick Herbert Sharpe: Method of and apparatus for manufacture of white lead.
- 23,917 of 1911.—William Knott, Frederick Charles Giles, and Alfred Giles: Casement fastenings and the like.
- 24,070 of 1911.—Samuel Stott and John Thomas Booth: Planks employed by painters and decorators.
- 24,551 of 1911.—Thomas Baird, jun.: Construction of floors for buildings.
- 26,403 of 1911.—Dr. August Kahr: Machines for manufacturing hollow bricks closed on all sides.
- 29,166 of 1911.—Aldays & Onions Pneumatic Engineering Company, Ltd., and Oswald Stott: Radiators for heating buildings and the like.
- 1,794 of 1912.—William Cheyne: Means for preventing rain, dust, and draught from entering under doors and hinged windows.
- 2,045 of 1912.—Otto Schultz: Construction of gratings, openwork girders, or other load-supporting means formed of metal strips welded together.
- 8,415 of 1912.—Victor Winkler: Ruling and drawing device.
- 12,497 of 1912.—Emma von Woisky: Self-feeding paint brushes.

SELECTED PATENTS.

10,343 of 1911.—Isel Behrmann: Reinforced concrete.

This relates to concrete columns, piles, beams, which are reinforced by means of comparatively narrow strips of sheet metal *b* of wire

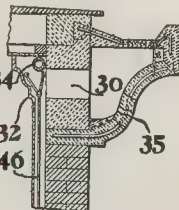


10,343 of 1911.

netting, placed successively around the longitudinal rods as the concrete is moulded. The strips *b* may be plain, and their longitudinal edges either overlap and are secured with wire binding *d*, or the edges are slightly separated and connected with staples.

11,073 of 1911.—Henry Jacob Wagner: Roof gutters and cornices.

This relates to a combined gutter and cornice which consists of superposed blocks, the cornice



11,073 of 1911.

being either hollow and wholly or partially closed at the top, or solid with a draining groove in the top block. A hollow cornice is

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

provided with a perforated cover, and also a hinged ventilator 32, operated by a concealed rod 46, and heating-means 34, fitted on the inside of the wall. Perforations 35 prevent the water from overflowing into the ventilating aperture 30.

PUBLISHER'S NOTICES.

Tel. 612 Gerrard. Telegrams: "The Builder, London."

CHARGES FOR ADVERTISEMENTS.

COMPETITIONS, CONTRACTS, ALL NOTICES ISSUED BY CORPORATE BODIES, COUNTY AND OTHER COUNCILS, PROSPECTUSES OF PUBLIC COMPANIES, SALES BY TENDERS, LEGAL ANNOUNCEMENTS, &c., &c.

Six lines or under 5s. 6d.

Each additional line 1s. 6d.

SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIP, TRADES AND GENERAL ADVERTISEMENTS.

Six lines (about fifty words) or under 4s. 6d.

Each additional line (about ten words) 1s. 6d.

Terms for series of Trade advertisements, and for front page and other special positions, on application to the Publisher.

SITUATIONS WANTED (Single-handed—Labour only).

Four lines (about thirty words) or under 2s. 6d.

Each additional line (about ten words) 6s. 6d.

PREPAYMENT IS ABSOLUTELY NECESSARY.

** Stamps must not be sent, but all sums should be remitted by Postal Orders, payable to J. MORAN, and addressed to the Publisher of "THE BUILDER," 4, Catherine Street, W.C.

Advertisements for the current week's issue are received up to ONE P.M. on THURSDAY, but "Classification" is impossible on that day. Those intended for the October Wrapper should be in by TWELVE NOON on WEDNESDAY.

ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN O'CLOCK on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

ADVERTISERS in "THE BUILDER" may have *Replies* addressed to the Office, 4, Catherine Street, Strand, W.C., free of charge. Letters will be forwarded under separate cover, and sent, together with sufficient stamps to cover the postage. Unused notices are sent to the advertiser the week after publication.

N.B.—The Reply Boxes are not intended for trade lists, circulars, and the like; should these be received, they cannot (if noticed) be forwarded.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES { NINETEEN EACH. By post (carefully packed), 1s.

SOME RECENT SALES OF PROPERTY: ESTATE EXCHANGE REPORT.

September 11.—By J. HANSFORD & SON.

Burrington, Devon.—Farms and pasture land, 124 acres, f. (including timber) £2,561

Four cottages, f. 170

By WARD & CROWE.

Brenton, Devon.—Prescombe Farm, 74 a. 2 r. 11 p., 3,600

September 12.—By J. HANSFORD & SON.

Ashreigney, Devon.—Bolts and Lake Farms, 48 acres, f. (including timber), 1,158

Winkleigh, Devon.—Lower Naracott Farm, 68 acres, f. (including timber), 1,325

Mitchell's cottages, f. 175

Chumleigh, Devon.—Holland Farm, 24 a. 2 r. 4 p. (including 38 a. 1 r. 24 p. of woodland), 400

By KENDALL & SAWDY.

West Ogwell, Devon.—Part of Ogwell Estate, 472 acres, f. 13,358

September 13.—By HONEYALL & FINN.

Norton, Kent.—Part of Sharned Estate, 135 acres, f. 6,610

Rodmersham, Kent.—Dungate Farm, 90 a. 1 r. 13 p., 1,250

Murston, Kent.—Highsted Field, 4 a. 1 r. f., 150

September 17.—By RETLEY, SON, & VINE.

Kentish Town.—29, Ashdown-st., ut. 54 yrs., g. 7 l. 7 q. 38 l., 275

St. Pancras.—22, 23, and 24, Seaton st., f., w.r. 150 l. 18s., 850

By M. EASTON & SON.

Paulin-in-Holderness, Yorks.—Auster Grange Farm, 12½ acres, f. 2,600

Wallingford, Yorks.—Common Farm, 109 acres, f. and c., 2,300

Burton Eden, Yorks.—Grass land, 170 acres, f., 3,580

September 18.—By J. A. & W. THARP.

Canterbury.—40, 42, and 44, Southampton-st. (s.), f., w.r. 83 l. 4s., 365

Limehouse. 3 to 9 (odd), Samuel-st., c., w.r. 101 l. 8s., 460

By WILSON & GRAY.

Balham.—5, Thurlough-rd., f. p., 800

By SIMMONS & SOSS.

Hurley, Berks.—Farms, etc., 653 a. 1 r. 8 p., f., 31,375

September 19.—By ROGERS BROS.

Bermansley.—25, Fort-rd., ut. 22 yrs., g. 5 l., w.r. 38 l. 8s., 100

By PETTY & SON.

Clifton, 97, Powerscroft-rd., ut. 60½ yrs., g. 8 l. 8s., y.r. 38 l., 310

Leytonstone.—2, Short-rd., ut. 82 yrs., g. 8 l. 3s., ex. 31 l. 4s., 145

By GRIMLEY & SON.

Acocles Green, Worcester.—Stockfield-rd., two cottages, f., w.r. 26 l. 18s., 270

Harborne, Staffs.—154 and 156, Park Hill-rd., ut. 78 yrs., g. 6 l. 12s. 6d., w.r. 41 l. 6s., 800

Best Stone LIME 12s. 6d. per yard delivered

Stourbridge Fireclay in sacks 27s. 6d. per ton at dry depot

September 20.—By MARK LILL & SON.

Bromley-by-Bow.—26 and 28, Beulah-st., ut. 50 yrs., g. 7 l., w.r. 67 l. 12s., 100

Mill End.—39 to 45 (odd), Moorfield-st., ut. 57 yrs., g. 20 l., w.r. 159 l. 18s., 100

By DAVID J. CHATFIELD & SON.

Forest Hill.—Levendale-rd., f. rents 60 l., reversion in 91 yrs., 100

Shedden's Bush.—Eynham-rd., f. g. rents 56 l. 18s., reversion in 91 yrs., 100

Glenroy st., f. g. 65 l., reversion in 91 yrs., 100

Pavilion-ter., f. g. rents 51 l. 10s., reversion in 91 yrs., 100

Contractions used in these lists.—F. g. for freehold ground rent; L. g. for leasehold ground rent; f. g. for improved ground rent; y. r. for yearly rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; g. r. for estimated rental; w. r. for weekly rental; q. r. for quarterly rental; p. a. for yearly rental; u. t. for unexpired term; p. a. for per annum; y. s. for years; l. a. for lease; st. for street; rd. for road; s. q. for square; p. l. for place; ter. for terrace; cres. for crescent; av. for avenue; g. d. for garden; y. d. for yard; s. g. for grove; h. h. for hearth; p. h. for public-house; o. f. for office; s. a. for shops; ct. for court.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name) relating to advertisements and other exclusive matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications, and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at the office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from intention to this.

Any communication to a contributor for publication, is given or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, who is subject to the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Prize Design in any important architectural competition will always be sent for publication by the Editor, whether they have been formally asked for or not.

PRICES CURRENT OF MATERIALS.

* Our aim in this list is to give, as far as possible, the average price of materials, not necessarily the lowest. Quality and quantity obviously affect price—a factor which should be remembered by those who make use of this information.

BRICKS, &c.

Best Stocks Per 1000 Alongside, in River. £ s. d.

Picked Stocks for Facings 1 14

Per 1000, Delivered at Railway Depot. £ s. d.

Flettons 1 13 0

Best Blue Pressed 3 15 0

Best Red Pressed 4 0 0

Best Blue Pressed 4 0 0

Best Red Pressed 4 0 0

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WOOD (Continued).

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	3	0
" " " in barrels	"	0	3	1
" " " in drums	"	0	3	2
Boiled " " in barrels	"	0	3	2
" " " in drums	"	0	3	5
Turpentine in barrels	"	2	7	0
" " in drums	"	0	2	0
Genuine Ground English White Lead, per ton		30	15	0
Red Lead, Dry		27	10	0
Best Linseed Oil Putty	per cwt.	0	10	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

FINISHES, &c.	Per gallon.
	£ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Oak Oil	0 10 0
Superfine Pale Elastic Oil	12 6 0
Fine Extra Hard Church Oak	12 6 0
Superfine Pale Elastic Oil	10 0 0
Churches	14 6 0
Fine Elastic Carriage	12 0 0
Superfine Pale Elastic Oil	12 0 0
Fine Pale Maple	12 0 0
Finest Pale Durable Oil	18 0 0
Fine Pale Maple	18 0 0
Eighshell Flating Varnish	18 0 0
White Pale Enamel	1 4 0
Fine Pale Maple	12 0 0
Best Japan Gold Size	10 0 0
Best Black Japan	10 0 0
Brass and Malagony Stain	9 0 0
Brass and Black Oil	8 0 0
Berlin Black	16 0 0
Knocking	10 0 0
Superfine and	10 0 0

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 1000, unless in some exceptional cases and for special reasons.]

METALS.

* Denotes accepted. † Denotes provisionally accepted.

BAREY.—For drill hall, for the Glamorgan Territorial Force Association. Messrs. Teather & Wilson, architects, Cardiff:—
D. Davies & Sons* £4,70.

BIRMINGHAM.—For extensions of the Council House, Messrs. Ashley & Winton Newman, architects, London, W.C. Quantities by J. A. Rouse and Mr. Hugh Watkins, quantity surveyers:—
W. Sapcote & Sons £25,315. H. Lovatt, Ltd. £29,894.
W. Cubitt & Co. 64,864 J. Bowen & Sons 39,134.
W. Bishop & Co. 68,974 J. G. Mearns 57,734.
H. Willcock & Co. 52,838 J. B. Sarsley & Sons, Birmingham* 57,008.
T. Elvins & Sons* 59,990

LEAD, &c.

CABBAGE HALL. For repairs and decorations to All Saints' Presbytery, Oakfield, for the Rev. Wm. Gregson. Mr. J. H. McEwen, architect, 26, North John-street, Liverpool £109 15	
CARDIFF. For alterations and additions to No. 51, Mountstuart-square, for Messrs. Evans & Reid, 56, Mountstuart-square, Cardiff. Messrs. I. Jones & architects Cardiff. Quantities by Shepton & Sons £880 0 0 Turner & Sons, W. H. & P. R. Ltd. £798 0 0 Evans 874 0 0 John Gibson .. 780 0 0 Knox & Wells .. 870 0 0 W & A T. I. .. 788 0 0 Gough Bros. .. 870 0 0 Williams .. 780 0 0 G. Griffiths & 840 0 0 F. Waterman 787 3 0 Blacker Bros. .. 825 0 0 E. B. Stephens 780 0 0 W. T. Morgan .. 820 0 0 Bros., Gwen- D. Davies & Son .. 800 0 0 nyth-street .. 758 13 0 W. T. Symonds 798 0 0 E. J. Edwards & Son 798 0 0 & Co. 623 4 0 David Davies .. 798 0 0	

ET GLASS IN CRATES OF

DOVER.—For new riding school with orderly rooms, stores, armouries, caretaker's quarters, and sundry alterations to existing drill hall, Liverpool-street, Haywards, Kent. Plans and specifications by Mr. F. G. Hayward, F.R.S., Dover. Quantities by Mr. E. S. Poland, 6 John-street, Bedford-row, London, W.C. 1.

W. Bromley.....	£5,994	G. Browning.....	£3,285
L. A. Wise	7,700	G. Lewis & Sons	6,280
Austen & Lewis	6,654	J. Parsons	6,180
E. E. E.	6,650	R. W. Bramson	6,200
G. E. Wallis	4,465	H. J. Harrison & Son	5,800
C. E. Skinner	6,298	T. T. Denne	5,989
C. I. Epps	6,498	W. H. Grigg, Dover*	5,767

ED PLATE IN CRATES OF

DUBLIN.—For the erection of stables for the Corporation. The City Architect, City Offices, Dublin:—

	Brickwork.	Concrete.
Corporation Workshops	—	£776
Lidwell & Co.	£740	699
Jos. Pemberton & Sons	729	685
Erner Bros.	713	698
R. W. Whyte	693	698
A. Hull & Co.	679	669
John Pemberton	676	669
T. Mackey & Sons	670	645
R. Farquharson	650	645
J. & W. Stewart	615	632
F. Manning	592	577
B. Pemberton & Sons, Dublin ..	581	566

EASTCOTE and RUISLIP.—For making roads and laying sewers for the Home Freeholds Company. Mr. F. Allen, A.M.I.C.E., surveyor:—
Wills & Powis, Wembley* 613 074 14

LONDON.—For Seven Kings Baptist Church. Messrs. Geo. Baines & Son, architects, 5, Clement's Inn, Strand, London, W.C.1.—

	Estimate A.	Estimates B, C, D, F, G, H.	Total.
W. Hammond	£ s. d.	£ s. d.	£ s. d.
J. Willmott & Sons	4,773 0 0	271 0 0	5,044 0 0
E. Roome & Co.	4,871 0 0	218 0 0	5,089 0 0
W. E. Hinkle, Ltd.	4,673 0 0	246 0 0	4,918 0 0
J. Smith & Sons	4,468 14 0	265 12 0	4,734 6 0
F. & F. H. Higgs	4,407 0 0	228 0 0	4,635 0 0
Holliday & Greenwood	4,482 0 0	216 0 0	4,698 0 0
Akers & Co.	4,402 0 0	231 0 0	4,633 0 0
Goddard & Sons	4,473 0 0	203 10 0	4,676 10 0
Mattock Bros.	4,398 0 0	289 0 0	4,687 0 0
W. Gladding & Co.	4,523 0 0	151 0 0	4,674 0 0
Battley, Sons, & Holmes	4,444 0 0	199 0 0	4,643 0 0
J. W. Jerrard	4,379 0 0	241 0 0	4,620 0 0
J. Appleby & Sons	4,370 0 0	240 0 0	4,610 0 0
	4,330 0 0	129 10 0	4,459 10 0
	4,298 0 0	178 15 0	4,476 15 0
	4,042 0 0	201 0 0	4,243 0 0

† Accepted with modifications. § Withdrawn.

HAMILTON.—For erection of new Municipal Offices. Messrs. Cullen, Lockhead, & Brown, architects, Hamilton:—

Masons: T. Anderson & Son, Hamilton* ..	£6,782
Joiners: J. Daniel & Son, Hamilton* ..	2,448
Plumbers: L. Taylor, Hamilton* ..	586
Sister and Plasterer: W. Bannatyne, Hamilton* ..	815
Tilers: R. Brown & Son, Paisley* ..	320
Heating: J. Combe & Son, Glasgow* ..	319
Electric: J. W. Torrance, Hamilton* ..	615
Glazier: J. McLaren, Hamilton* ..	158

HARROGATE.—For building the Theosophical Hall and lodge premises in East-parade, Harrogate, for the Trustees of the Harrogate Lodge of the Theosophical Society. Mr. J. E. Reid, Lic.R.I.S.A., architect, Whitby-avenue, Harrogate, York:—

J. Lee	£1,389 11 0	Rhodes Bros.	£1,233 6 7
W. R. Birkinshaw	1,294 18 6	C. A. Neildeton, ..	1,209 15 3
J. W. Taylor	1,203 0 0	Stanton ..	1,149 0 0
J. Allen & Son	1,285 0 0		
C. Dawson & Son	1,290 0 0		

LIVERPOOL.—For alterations to auction galleries, 69, Hanover-street, for Messrs. Branch & Leete. Mr. J. R. McGovern, architect, 28, North John-street, Liverpool:—

Bullen Bros.*	£453
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LONDON, N.E.—For extension of the generating station, for the Hackney Borough Council:—

A. & S. Wheeler	£22,833 9 3
J. W. Jerrard	22,500 0 0
C. Brightman & Son, Ltd.	21,500 0 0
Sabey & Son, Ltd.	21,450 0 0
W. Shummar & Sons, Ltd.	21,360 0 0
Holliday & Greenwood, Ltd.	21,200 0 0
F. & G. Foster	20,845 0 0
G. Trollope, Sons, & Collis, Sons, Ltd.	20,470 0 0
Markham & Markham	20,500 0 0
J. Greenwood, Ltd.	20,183 0 0
F. G. Minter	20,125 0 0
Davey & Armistead	19,795 0 0
E. Lawrence & Sons, Ltd.	19,545 0 0
J. Mowlem & Co., Ltd.	19,287 0 0
Patman & Fotheringham, Ltd.	18,951 0 0
Allen & Co.	18,750 0 0
Strand Building Co. London, S.W.1.	18,657 0 0
D. W. Parker & Sons, Ltd.	17,270 0 0
S. E. Moss	17,000 0 0

† Recommended for acceptance. § Withdrawn.

MARYPORT.—For alterations to branch shop, Grasslot, for Maryport Co-operative Industrial Society, Messrs. W. G. Scott & Co., architects and surveyors, Workington:—

Mason: W. Marshall, Maryport	£103 9 4
Joiners: T. Ferguson & Sons, Maryport ..	85 5 0
Sister: Marshall Clark, Maryport ..	9 5 3
Plasterer: Thos. Kirk, Maryport ..	49 7 5
Plumbers: Pope & Co., Workington ..	24 7 0
Glazing and Painting: R. Brocklebank, Maryport ..	8 7 6

SEAFORTH.—For the conversion of private houses into shops at the corners of Hereford-road and Evesham-road, and Cambridge-road, for Messrs. Queen & Foster. Mr. J. H. McGovern, architect, 26, North John-street, Liverpool:—

Cromie	£450
--------------	------

WHITCHURCH (Shropshire).—For New Primitive Methodist Chapel and School, Brown Knowl, Broxton. Mr. J. Harry Pickard, architect:—

	Main Contract.	Spire.	Total.
J. Harding	£ s. d.	£ s. d.	£ s. d.
T. Rowlands	1,337 0 0	161 0 0	1,498 0 0
J. Barnes	1,300 0 0	110 0 0	1,410 0 0
H. Jones	1,235 0 0	144 0 0	1,379 0 0
Viches & Sons	1,259 0 0	119 0 0	1,378 0 0
G. Edge	1,175 0 0	175 0 0	1,350 0 0
C. Parker	1,008 0 0	125 0 0	1,133 0 0
G. Dodd & Son	1,137 0 0	137 17 0	1,274 17 0
J. Matthews	1,95 18 0	142 0 0	1,237 18 0
	1,093 0 0	118 0 0	1,211 0 0

‡ Retained for further consideration.

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SOUTHEAD.—For the construction of the portion of the boulevard in the Thorpe Bay district for the Southend Town Council. Mr. E. J. Elford, borough engineer:—

W. Hies & Sons*	£15,150
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SUDBURY HILL (Middlesex). For making road and laying sewers, for Mr. H. Hignbotham. Mr. Fitzpatrick A.M.I.C.E., surveyor:—

Willis & Powis, Wembley* ..	£1,530
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YSTAD MYNACH.—For alterations and additions including skittle alley, etc., to the 'Continental Club'. Mr. H. Gabe Jones, architect, Hengoed:—

E. James, Hengoed*	£510
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CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 563.

OCTOBER 4, 1912.

ILLUSTRATIONS.

THE "LEE'S BEST HOUSES," HULL: ACCEPTED DESIGN.
BY MR. HENRY T. HARE, F.R.I.B.A.

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PALAZZO DELL' UNIVERSITÀ, GENOA: THE COURTYARD.

BAROQUE ARCHITECTURE IV. (contd.):—

PALAZZO MADAMA, TURIN: THE GRAND STAIRCASE.

PALAZZO DORIA-TURSI (NOW PALAZZO MUNICIPALE), GENOA.

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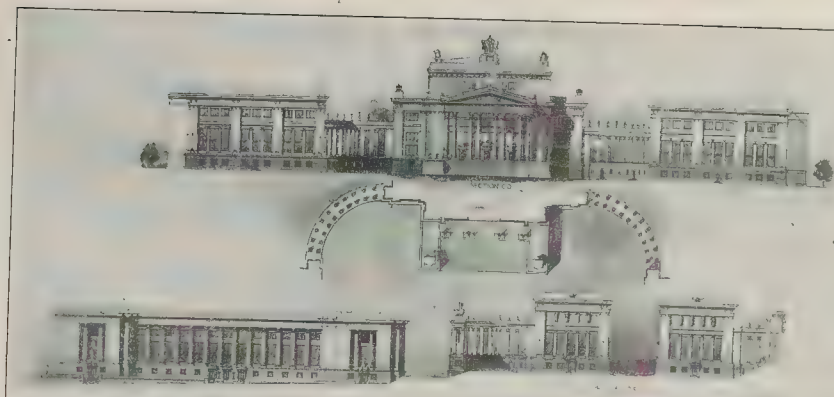
ARCHITECTURAL EDUCATION AND THE LIVERPOOL UNIVERSITY.

IN view of the importance in these days of the education of the young architect, we make no excuse for returning to the subject of his academic training, and are pleased to deal here with the teaching of a University which was the first in this country to offer a degree in architecture. The School of Architecture of the Liverpool University was started under Professor F. M. Simpson in 1894, and for many years was the only University school in England in which regular day courses existed. In 1899 a Degree course was instituted, the degree conferred on successful students being B.A. Shortly after the appointment, in 1904, of the present occupant of the chair, Professor C. H. Reilly, considerable modifications in the course were made, which differentiate it from the Degree course of the London University, dealt with *in extenso* in our issue of September 13 last. It was decided to put the architectural course on a similar footing with other technical subjects, such as Engineering and Medicine, and to give a definite degree in Architecture. That

is to say, instead of Architecture forming a subject for an Honours school for a B.A. degree, it was decided to create the first purely architectural degree in this country—B. Arch. This was following a precedent which had already been set in America, where several such degrees are given. There had also been a feeling that a three-years' course was too short for such a subject as architecture, for which the student frequently arrived without any preliminary training, as compared with the ordinary arts student whose course at the University carried on his former school work. The course of study for the new degree was lengthened to five years, and, in order that the practical nature of the training might be emphasised, the last two years are required to be spent in the office of an architect, provided that the student attends in the evening some recognised school, like that of the Royal Academy, an atelier attached to the Ecole des Beaux-Arts, or the Liverpool School itself.

In order to enter this Degree Course of five years corresponding in length to

a medical course, the student has to matriculate, unless he gains an exemption. His first year is spent in general studies of a University nature, among which the History of Architecture is included, and at the conclusion he takes the Intermediate Examination for the B. Arch. During the next two years takes place his purely architectural training in the studio, and at the end of this period he passes the second examination. The student, however, is not allowed to sit for this examination until he has satisfied his teachers—constituting the Board of Studies—in four large designs (these consist of the "Testimonies of Study" for the Final Examination of the R.I.B.A.), which occupy about one month each of his time, in addition to four small designs, occupying about a fortnight each. During the preparation of these designs the student has the benefit of the assistance and criticisms of his instructors. In the examination, however, in order to establish a more accurate test of his capabilities, a further month is devoted to a design, which he has to



University of Liverpool School of Architecture: Design Awarded Lever Prize. Scheme for New University Buildings, Liverpool.

By Mr. W. H. Thompson.

carry out entirely by himself, working *en loge*. The examination also consists of a series of written papers in History and Construction, and the student submits to the examiners a measured drawing of an approved building, together with all the designs prepared during his course.

This second examination entitles the student to the University Certificate in Architecture, which, if obtained in the first class, carries with it exemption from the Intermediate Examination of the R.I.B.A. It is also possible for a student who has not the time to enter for a complete Degree Course to take this certificate by itself, in which case he

need not matriculate or pass the Intermediate B. Arch., but must satisfy the examiners in the same purely architectural tests as the degree student. The student entering for the certificate alone must be over seventeen years of age and must satisfy the Professor of Architecture as to his general education. He is then eligible to pass directly to the two years' course in Architecture. After the certificate examination, both types of students enter offices, but keep in touch with the School by joining its evening classes or by sending back designs. If the student elects to enter a London office he can attend some other recognised school, and at the end of the two years

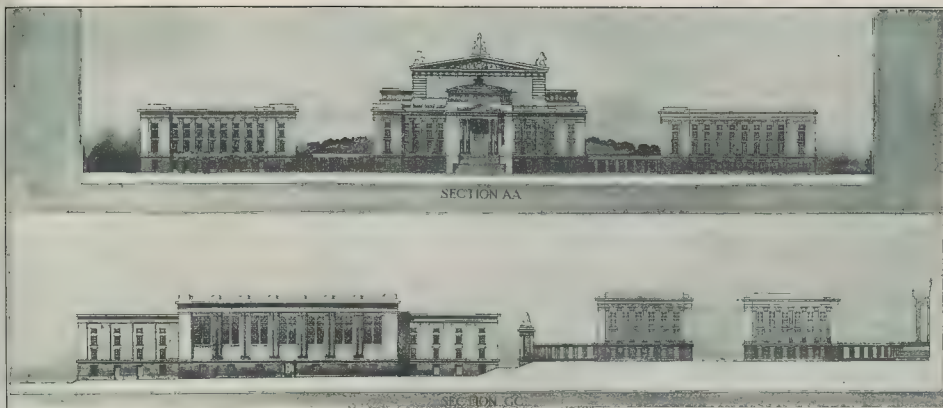
present himself for the Final Examination which, if he has matriculated, must be for the B. Arch., and if he is a non-matriculated student, for the Diploma. This latter is a severely practical examination corresponding closely with the R.I.B.A. Final, but with more emphasis laid on the subject of the design. The first external examiner to the School of the new Degree Course was Professor Blomfield, A.R.A., and the present external examiner is Mr. Ernest Newton, A.R.A.

So much for the necessary qualifications for the degree. A modification has already been effected with regard to the actual work, as shown by the type of design



University of Liverpool School of Architecture: Design Awarded Lever Prize. Scheme for New University Buildings, Liverpool.

By Mr. W. H. Thompson.



University of Liverpool School of Architecture : Lever Prize Competition. Scheme for New University Buildings, Liverpool.

By Mr. R. F. Dodd.

which the School encourages under the teaching of its present head. Ten years ago, when the Arts and Crafts movement was still in its first vigour, the training of an architect as a general craftsman was considered by most people to be the essential thing; but a considerable change has come over the Liverpool School of late years owing to its adherence to definite methods of design. It has worked out for itself and inculcated the theory, for which there is a good deal to be said, that teaching to be effective for beginners must be academic rather than eclectic—that is to say, that it must follow a definite mode of thought. The Liverpool School has chosen as its definite

means of expression the formulæ of classical architecture. It believes that these formulæ, handed down as they have been from periods when architecture found expression in *motifs* far purer than those of our own country to-day, at once set a high, if somewhat rigid, standard of taste, which is an invaluable mainstay to the beginner. The results of this adherence are manifest in the work of the students thus trained, some idea of which can be obtained from the drawings reproduced herewith. They seem to show that a system, working on these definite lines, has power to enable the student to arrive at a standard of design which would be quite impossible under

a system in which the details of different styles were studied with equal ardour. It is felt by those who uphold this method that the student who has learnt the essence of design in the classic idiom—the most intellectually severe of all idioms—can at any subsequent time learn to express himself in other languages.

In accordance with this definite method in the teaching of design, the Liverpool School has developed a definite training in draughtsmanship. Students are taught from the outset to render and shade their drawings, thus imparting an interest—which was formerly nonexistent—to a simple drawing of such an



University of Liverpool School of Architecture : Lever Prize Competition. Scheme for New University Buildings, Liverpool.

By Mr. R. F. Dodd.

exercise as a classic Order. To give further value and interest to this early part of his work, the student is required to combine the details of the Order and the building from which it is taken, together with any cognate ornament, into a simple composition, after the manner practised at the Ecole des Beaux-Arts. By this means the elements of design and composition enter into the first problems which he undertakes.

While the definite and circumscribed character of the teaching given at Liverpool may have tended to alienate some students of architecture, it has certainly had the effect of attracting others, including Colonial and American students. The type of design fostered and the methods of draughtsmanship certainly prove useful to men entering for competition work. Whether those who do not look beyond small domestic work will find them so immediately helpful is another matter; but a severe grounding in the grammar of an art can never do an artist any harm. The teachers of the School are of opinion that it is more logical to begin with big and general ideas which give full scope to the imagination, and from these to evolve the cottage, than to attempt to make the palace and town grow by means of inflating and reduplicating the cottage.

The Department of Town Planning, which was added to the School of Architecture in 1909, carries on the same method of approaching the city as a great single conception—a stone with a myriad facets—rather than a collection of separate homes. This department is under the direction of Professor S. D. Adishead, and it works in close touch with the School of Architecture: the association must be of great benefit to students of both subjects, as the town-planner too frequently neglects the architectural aspect of his work, and the architect often forgets that his greatest buildings can never be thought of alone, but that they are parts of a great and complex whole—the city.

THE NORWICH FLOODS.

WIDESPREAD interest has naturally been shown regarding the floods which recently wrought such havoc in the district around Norwich. Among other incidents it was reported that about fifty bridges and culverts had been damaged or destroyed. How was it possible that this catastrophe could happen? What means should be adopted to prevent such an occurrence in the future? The whole tract of country—which practically forms the eastern portion of Norfolk—is interlaced with small rivers, winding in a most unconventional manner, and opening out either directly or by small tributaries into the "Broad." Travel along any of these rivers and practically no high banks will be found. These rivers are all tidal streams, for this is not a flat tract of land forming a tableland; it is, indeed, at sea level. Hence the meaning of the Broad. They may almost be termed permanent overflows. They are not lakes, but points at which, even at low tide, these rivers or their tributaries cannot keep to a narrow channel, but must overflow. But for certain artificial

banking, much more land would be always under water. That and the large element of sand save the whole region from being one huge marsh. It is in these considerations that the hopelessness of the whole problem would seem to lie.

What is to be done for the City of Norwich? The city stands on the banks of a tidal stream, in the midst of low-lying country. To dam back the rivers to any extent would mean certain disaster in the event of any abnormal rise. In the case of one single river flowing through our ordinary country it is a very different matter. During the recent torrential rains the Thames Conservancy so manipulated their sluice-gates that the river was kept considerably below summer level, so that at London, for all one might have known from observation, the conditions up-stream were normal. Could not some feat of drainage be effected to save Norwich from another deluge? Look to the past history of the city. As early as 1258 the flooding of Norwich is recorded. Since that date the city has suffered at least a dozen floods.

In the recent flood the water rose 16 ft. 6½ in. above mean water level, the nearest approach to which was in 1614, when the level rose to 15 ft. 6½ in. It is a sad record, the more so as apparently the same thing has to be looked for again, so long as our climate persists in its spasmodic behaviour. For any one of our cities to suffer a rainfall in one day which ordinarily should take a month would severely tax the most stringent precautions, where these were possible. But to Norwich such a phenomenon would again surely spell certain disaster. In point of fact we feel none too happy as to the safety of certain other of our ancient cities. Have we, then, only to hope for Norwich that she may be spared her share in the whims of the elements, so that her natural system of drainage to the sea may be found sufficient to cope with normal conditions?

NOTES.

A New Landmark in London.

of buildings which are conspicuous, and otherwise memorable for their associations, it happens, fortunately, that the frequent appearance of notable substitutes has to be recorded also. Old landmarks, like old friends, are removed, and if life is to be made interesting new associations must be established. "A man, sir, should keep his friendship in constant repair," said Dr. Johnson to Sir Joshua Reynolds; the same necessity arises with things artistic as well as human. Not a few will look with neighbourly eyes on the Central Wesleyan Hall at Westminster, inaugurated yesterday. This building, though lacking its towers, is one of the most striking architectural works of the new century, and the architects, Messrs. Lanchester & Rickards, must be congratulated on realising the design which in 1903 won them the opportunity to build. The site is a prominent one, and

the dome, which crowns the Wesleyan Hall, is already pointed out to strangers from many vantage-points in London, from the Park, the Embankment, the Waterloo Bridge, for instance. The building is a new landmark. Next we hope to illustrate it and to give an authoritative record of its construction which should be of special interest.

The Regent's Quadrant Committee.

COMMENTING on the constitution of the Regent's Quadrant Committee, the *Daily Telegraph* concludes that the trading element should be represented, and gives currency to the suggestion that one or two distinguished architects who have no official connexion with any Government department might be added to the list. These suggestions are reasonable enough in themselves, would have greater weight if the Committee were put forward as being, in the widest sense, public and representative in character. But, although we ourselves welcomed as pointing to the acceptance of the principle of municipal control, we should hardly be justified, we presume, in saddling it with the responsibility of attaching to a committee appointed by an authority representative of London as a whole. The Crown happens to be one of the ground landlords of London, and this capacity alone it appears to act. It may find it advantageous to consult prospective tenants, but that, after all, is its own affair. There are, however, other interests involved than those of the Crown estates. If the whole question is to be considered in the public interest and from the point of view of London as a whole, London itself might well be represented, not only by its own official architect, but also by independent architects who have given special attention to the wider and more monumental aspects of town planning.

Architectural Losses in Japan.

ON September 22 Japan experienced one of the terrible typhoons which with equally terrible earthquakes are perhaps her worst natural plagues. At the time of writing full details are not to hand, but it is evident that the storm raged along a line of over 500 miles from east to west wrecking and damaging shipping at Yokohama and at Shimonoseki, which are fully that distance apart, as well as off Tsuruga, which lies somewhat to the north-east of the central point in the straight line joining the first two places named. To the south of Tsuruga lie Kyoto and the Home Provinces of Old Japan, and the meagre statements at present available indicate that many of the most valuable architectural monuments in this district have suffered. The localities chiefly affected are Osaka (which has been called the Venice, and, more recently, the Manchester of Japan) where 20,000 houses were ruined and the breakwater and harbours washed away, Gifu, Nagoya, and Nara. At Nagoya not a house escaped damage. But it is at Nara that, from the architectural view point, the heaviest blow has fallen, in the collapse of the Kasuga Shrine, which was founded in the VIIIth century (A.D. 767, or thereabouts) by one of the Fujiwara family and dedicated to his ancestors, the

hinto god Ama-no-kayane and the goddess his wife. The buildings and their enclosure had all their wooden framing coloured red, and with their white plaster infilling looked brilliantly rich against the dark cedars in the background. There is no report yet as to the great temple containing the gigantic statue of Buddha, so we may still hope that it, at all events, has been spared.

The Insurance Act. A FIRM of builders was recently summoned under the Insurance Act for having detained insurance cards after the termination of the employment of two workmen. In one case it was stated this had been done in order to retain a hold upon the workman, who had been overpaid. It was also stated in defence that the firm had 4,000 cards to make up, and, although they employed two clerks specially, it was impossible to make up the cards at once. It is obvious that neither defence could avail under the Act. The card has to be produced by the workman to any fresh employer, and it is essential to him to have it, therefore the employer cannot retain it for his own purposes. When the engagement is being terminated there can be little difficulty in making up the cards of those workmen who will no longer be employed. As the workmen had been deprived of a chance of securing employment, substantial costs were granted to them by the magistrate. The magistrate stated that the Act says quite clearly that the card must be given up at the termination of the employment, but as in our opinion the Act does not clearly define this, but it is the Rules which are made under the Act which deal with this subject, it may assist our readers if we explain how the matter stands. Under Part I. of the Act upon the termination of the employment the insurance card shall be returned to the contributor by the employer, Rule 5 (3), of the Rules, dated May 22, 1912. Under Part II. of the Act a similar provision is made as regards Unemployed Insurance books by Rule 5 (1), of the Rules, dated May 6, 1912. In the Rules will be found no penalties for a breach of the rules, but as regards both parts of the Act by sects. 69 and 102, respectively, it is provided that if any employer or workman refuses or neglects to comply with any of the requirements of the Act or the regulations made thereunder penalties may be imposed on summary conviction.

RECENT EXCAVATIONS AT ROME AND POMPEII.

By DR. THOMAS ASHBY.

THOUGH at the present moment no excavations upon a very large scale are being carried on in Rome, there is a good deal of activity in various directions, and a short account of what is being done on the principal sites may be welcome.

In the Forum Romanum little has been done of late except at the Basilica Æmilia, where the south end of the nave has been cleared. There three strata have been found—(1) a thin layer of ashes, with coins and remains of wood and iron (the latter belonging no doubt to the roof) lying on the pavement; (2) a stratum of earth 3 ft. thick, with fragments of the splendid architectural members of the building, in white marble, lying upon it; (3) the west wall of the nave, which fell inwards, probably in the VIIIth

century A.D. The conclusion seems to be that the building was never restored after the fire of the VIIth century A.D. (as has been hitherto supposed), with a line of red granite columns along the façade instead of the arcades that had hitherto existed; but that these columns had some other use; and that it was not totally destroyed by the fire, but lay abandoned until the collapse of the nave wall already mentioned.

On the Palatine, which, as well as the Forum, is under the charge of Comm. Giacomo Boni, work is going on in the Palace of Domitian, which succeeded the Palace of Augustus, destroyed by the fire of Titus, and continued to bear its name. It has been found that the centre of the peristyle was almost entirely occupied by a large rectangular water-tank, decorated with small niches, within which was an octagon; in later days the interval between the two was filled up, so that the octagonal tank alone remained in use. Considerable remains of the marble and granite pavement of the *trichinium*, or state dining-room, have come to light under the enclosure wall of the Villa Mills, which has now been removed, as the villa has passed into the hands of the Government, and a number of architectural fragments have been found. A nymphaeum corresponding to that already known has been laid bare on the south side of the peristyle, and other rooms are being excavated; so that the whole of the northern portion of the palace, which contained the state apartments, will soon be open to view. The central portion must have contained the private rooms of the Emperors, and the villa is built into the ruins of them, so that it would be very difficult to demolish it without damaging them. The southern portion, which was the garden (the so-called *hippodromus* or stadium), has for many years been fully excavated. Mr. G. Gordon Leith Herbert Baker student of the British School at Rome, is engaged on an architectural reconstruction of the palace. Important discoveries have also been made at lower levels of remains belonging to the original palace of Augustus and to houses of the Republican period, of which Comm. Boni will give an account at the forthcoming Archaeological Congress in October.

Comm. Corrado Ricci, the Director General of Antiquities and Fine Arts, has for some time had at heart the excavation as far as possible of the remains of the Imperial Fora—those of Julius Cæsar, Augustus, Nerva, and Trajan—and has published an interesting article on the subject in the *Bollettino d'Arte V.* (1911), pp. 445 *seq.* He begins by admitting, reluctantly, but rightly, perhaps,* that a complete excavation of the whole site is impracticable. The cost would be enormous, and the hindrance to traffic so considerable as to be incompatible with the necessities of modern life. He therefore proposes that, inasmuch as the solution of the problem of communication between the Via Cavour and the Piazza Venezia cannot be very long delayed, the scheme to be adopted should be one which would give a minimum of demolition and a maximum of archaeological results and monumental effect; for the completion of the monument to Victor Emmanuel II. on the Capitol renders it absolutely necessary that the enormous edifice should have a proper setting. The first steps have already been taken at several different points.

One of the two remaining columns (now known as the Colonnae) of the colonnade which surrounded the Forum of Nerva has been cleared down to its base, which has been found over 15 ft. below the modern level. It is a single shaft, some 30 ft. high and 3 ft. in diameter, of white marble. The excavation is to be continued in the autumn, and is to be left permanently open. The Gilchrist student of the British School at Rome, Mr. J. S. Beaumont, has in hand a reconstruction of

* Cf. Prof. Hulsén's comments in *Internationale Monatschrift für Wissenschaft, Kunst und Technik*, Aug. 1912.

the entire Forum, which was largely the work of Domitian. The temple in its centre was dedicated to his favourite goddess, Minerva, and the existing columns still support a baselief representing the goddess, and a frieze showing the practice of the arts over which she presided. The Forum, indeed, was sometimes called by her name.

The Temple of Minerva was unfortunately destroyed to its foundations under Pope Paul V. in 1606, to provide material for the great terminal fountain of the Aqueduct of Trajan, which he repaired (the *Acqua Paola*, as it was called thenceforth) and brought to the Janiculum, the prominent hill on the right bank of the Tiber; but it is represented in drawings and engravings of the Renaissance, so that we have a good idea of its appearance, though the available evidence for the condition of the rest of the Forum in the XVIth century has not hitherto been used with so much accuracy as by Mr. Beaumont. When the excavations of the Basilica Æmilia are completed it is probable that the lower (western) end of the Forum will be found within a few yards of it, but the main portion of the Forum itself remains buried deep below some rather unattractive houses; and though there is no doubt that, if it were possible, it would be of great interest and importance to excavate the whole site of this as of all the Imperial Fora, we have already seen that this idea must be abandoned. Here, therefore, as also farther to the north, Comm. Ricci makes the modern Via Alessandrina the western limit of the "monumental zone" which would be left permanently exposed to view. The area of the Forum of Julius Cæsar, about which we know very little, would be left unexcavated, at least for the present (some day it may be possible to explore it, when the mean houses on its site give place to buildings of greater importance), but the already-known remains of the *taberna* or shops which surrounded it, splendid specimens of Roman Republican masonry in filthy surroundings, would be rendered more clearly visible and easily accessible. The open area which formed the western portion of the Forum of Augustus would, similarly, be left untouched, but in the more important eastern part a considerable amount of work could be done. The northern apse or exedra and the greater part of the Temple of Mars Ultor (the Avenger) which occupied the centre of the eastern side of the Forum are included within a convent of strictly-enclosed nuns, and, as the photographs published by Comm. Ricci show, the remains are imposing and would be well worth clearing. They consist especially of portions of the great enclosing wall of the exedra and Forum (the finest and loftiest specimen of ashlar masonry in Rome, only comparable with the great stage wall of the theatre at Orange) and of the massively-built chambers beneath the temple, which stood on a lofty podium. The southern exedra was partially cleared in 1888, and the work is to be completed. The palace built by Cardinal Barbo about 1470 for the Knights of Rhodes, with its picturesque loggia, is also included in the monastic buildings; but this would, of course, be preserved.

The eastern exedra of the Forum of Trajan was known to Renaissance architects under the erroneous name of the Baths of Paulus Æmilius, and was excavated almost a century ago. It is a two-storied, arcaded building, with very fine brick facing, and forms the transition from the Forum to the Quirinal Hill, serving at the same time as an embankment against its slopes. Behind and above it lie other buildings connected with and contemporary with it, including a large vaulted hall and some arcades of interesting construction, which are now incorporated in the barracks which have been placed in the ex-convent of S. Catherine of Siena.

It is intended to clear away all later additions, so as to leave them exposed, and at the same time to isolate the huge mediæval leaning tower known as the Torre

delle Milizie, or the Tower of Nero. This, which has hitherto been inaccessible, will afford a very fine panorama of this portion of Rome. Here, too, the work is already in progress, and it has been found that the tower rests in part upon Roman ruins, in part upon a Roman paved road, which probably descended behind the Forum of Trajan to the entrance of the Forum of Augustus. A modern street is to be formed on much the same lines, and will be a considerable assistance to traffic. The western exedra of the Forum, which lies under the slopes of the Capitol and the great monument, is not included in the "monumental zone"; but inasmuch as the mean houses which occupied its site have recently been demolished, we may fairly hope that we shall at least learn something of its remains before this portion of the surroundings of the monument is finally laid out. A portion of the open area of the Forum and the colonnades on its east side are also included in the area to be left permanently open, and, as we know practically nothing of them, this is especially welcome; while the west end of the Basilica Ulpia (the central portion of which is what we really see in the present Piazza del Foro Traiano (an unfortunate misnomer) lies under a block of buildings which is also scheduled for demolition, though here again the site cannot, it seems, be left open permanently. It will be clear from this short summary that, if Comm. Ricci's scheme can be carried out in its entirety, we shall have exposed permanently to view, if not the whole site of the Imperial Fora, as much, perhaps, as can reasonably be hoped for, when the exigencies of modern life are taken into account.

In connexion with the *Passeggiata Archeologica*, a great deal of important work is going on at the Baths of Caracalla, which are being completely isolated and cleared. Hitherto the central building alone could be properly studied, but now the subsidiary buildings which enclosed it have been carefully excavated under the direction of Professor R. Lanciani. The large halls on the west, corresponding to those on the east, are fairly well preserved, and where this is not the case the two groups fortunately complete one another. On the south are other halls, and two rooms which are in all probability libraries, as they correspond in arrangement with those already discovered in Asia Minor, at Pergamum and elsewhere. There are considerable traces of the use of the building as a quarry for many centuries; a large mediæval linekin has been found on the spot; while the recent excavations have brought to light an Ionic capital of peculiar form, with a small figure of Harpocrates in each of the volutes, which corresponds exactly to one in the Church of S. Maria in Trastevere, doubtless brought thither from the baths when the church was built. In front of all these halls was a colonnade, facing on to a large garden between them and the main building, which will be replanted.

Two fine archaic terræ of Apollo and Bacchus have been found, besides some fragments, but the most interesting discovery in the domain of art was that of a splendid statue of Venus arranging her hair, found in a room annexed to a large subterranean shrine of Mithras. This was reached from the underground passages of the baths. A painting and several fragments of a bas-relief representing Mithras have been found, and the internal arrangements of the sanctuary are very well preserved. We may notice that before long another important shrine of Mithras, that which lies beneath the Church of S. Clemente, will be rendered accessible by the drainage of the water which for years has accumulated in it; this work will shortly be carried to completion, a connexion being made with an ancient drain which runs deep below the Colosseum.

The planning of the passages and chambers (some of which are of great size), for service, stores, and, at a lower level, for drainage, reveals marvellous care and forethought.

The main entrance passage on the west is so wide that a small Décauville locomotive and train can run in and out of it, and the full extent of the subterranean portion of the baths is over a mile. The upper part of these galleries was used for service and for stores, while below them ran the channels for carrying off the waste water; whether this eventually ran is not yet known. The water supply was brought by a special aqueduct which led to a huge reservoir of thirty-two compartments on the south side of the garden. The earth which is being removed is being taken out through the Porta Metronia to fill up the marshy ground outside it, and render it a possible site for working-class dwellings. When the whole block of buildings is cleared it will present a most imposing appearance.

The last of the great terræ of Rome in point of date, the Baths of Diocletian, covered an even greater area than the Baths of Caracalla, but their site is largely occupied by modern buildings. A good deal of the central portion of them was, however, cleared, and served for the archaeological exhibition of 1911 (see *Builder*, September 15, 1911), which will, it may be noted, be open for the Archaeological Congress in October.

The objects collected for it, consisting as they do in the main of casts, reproductions, plans, photographs, etc., will form the nucleus of a permanent museum of the antiquities of the Roman Empire, but whether this will continue to occupy the baths is very doubtful, as these great halls cannot be warmed in winter.

Some important additions have recently been made to the Museo di Villa Giulia, housed in the beautiful villa which Vignola erected for Pope Julius III. outside the walls of Rome. It was originally opened some twenty years ago to receive the Etruscan objects discovered in the territory of Falerii, to the north of Rome—vases, bronzes, etc., and also important remains of the polychrome decoration in terra-cotta of several temples, from the archaic work of the VIth century B.C. down to the productions of the Roman period (IIIrd century B.C.), some of which are remarkably beautiful. Similar terra-cottas found at the temple of the *Mater Matuta* at Satricum (the modern Conca, near Anzio), in Latium, and belonging also to the VIth century B.C., are exhibited here, and so are other objects of archaic art, showing Etruscan influence, but found in Latium. These examples of the architectural use of terra-cotta will especially interest students at the present day.

A special room is devoted to the important collection of objects from Præneste, the modern Palestrina, formed by the Barberini family, consisting mainly of objects from tombs—gold objects, bronzes (including several of the famous *ciste*, circular boxes decorated with incised designs as are also the bronze mirrors), ivories, wooden cosmetic boxes, vases, etc.

The important work at Ostia, which has already been alluded to in the *Builder* (June 18, 1910, page 704), has progressed considerably, but this demands an article to itself.

The excavations at Pompeii have been carried on this year on a somewhat larger scale than usual, the intention being to carry the clearing of the main transverse street, which bears the modern name of Strada dell' Abbondanza, as far as the amphitheatre, and thus connect it with the rest of the excavated area. The street was one of the most frequented in Pompeii, and was flanked by shops on either side. The walls are, as usual, covered with the names of candidates in the municipal elections, painted in red on the white plaster; but a new feature has been the discovery of paintings on the façades of some of the houses, one of which (protected even in antiquity by a pent roof) represents Venus of Pompeii in a chariot drawn by four elephants. The balconies of the houses are being carefully restored.

One of the most interesting is a wineshop in which the vessels of bronze and earthenware and the drinking glasses were found still in their places; one of the large copper built into the wall was found to be still half full of water. This shop will be preserved intact in the state in which it was found.

But the frescoes which have been discovered in a villa outside Pompeii, in land belonging to the proprietor of the Hotel Suisse, are far finer than those we have mentioned—probably the finest that have ever been found at Pompeii. There is one room decorated with lifelike figures representing Bacchic scenes, the interpretation of some of which is as yet obscure, which are marvellously beautiful. In other rooms there are paintings representing architecture of curious forms, the scheme being sometimes abruptly changed in the middle of a wall without reason, it would seem. A preliminary report has already been published, but the paintings deserve further study. The villa will probably be expropriated by the Government, and this is very desirable.

The Italians have already made a certain number of archaeological discoveries in Tripolitania (foundations, mosaic pavements, statues, etc.) in the course of military operations, and these are continually reported in the daily press. As soon as the initial phases of the occupation of the country are over, and the work of archaeological exploration can be systematically undertaken, there is no doubt that results of great importance will be obtained, as the whole district near the coast and for some way inland was far more thickly populated in Roman times than at present, and remains of considerable importance may still be seen above ground. The most imposing ruins are those of Leptis Magna (the modern Lebda) the birthplace of the Emperor Severus, where the ancient harbour, now partly silted up, can still be traced. But the Romans had also occupied the most important strategic points in the interior, commanding the caravan routes into the interior of Africa, and remains of their fortified posts may still be seen.

It seems not at all improbable that the Italians, when the moment comes for planting settlements in the interior, may be able to profit by the experience of their ancestors in the choice of suitable localities, and that what is now desert may once more return to cultivation. The water supply seems to be the chief difficulty, but we know that this was one of the points to which the Romans gave most attention, and the existence of the remains of aqueducts and reservoirs in any locality may point to its suitability for settlement at the present day, as showing that the difficulties had been already overcome in the past.

BAROQUE ARCHITECTURE:

IV.—GENOA AND TURIN.

(Continued from page 333.)

Genoa.

It may have already occurred to the reader's mind that we cannot devote the same amount of space (in proportion) to other Italian cities as has been given to Rome. It is perhaps as well, in view of the immense number of examples scattered all through the country, that one should be limited to a few centres, and that they should form, as it were, points of vantage from which the Baroque buildings of Italy can be surveyed as a whole. Suffering from the usual *embarras des richesses* in that land, our thoughts turn to Turin, with its well-ordered plan and magnificent palaces, to Florence as the home of so much immortal art, to Genoa and Venice as living relics of a splendid age, to Naples and Palermo as Southern capitals. We remember quaint corners which come within our scope in the sea-towns of the Maremma and the Adriatic, on the Venetian lagoons or on the Riviera coast, on the Alps and on the Apennines.

Florence, however, has few noteworthy monuments of this style; Turin has not the

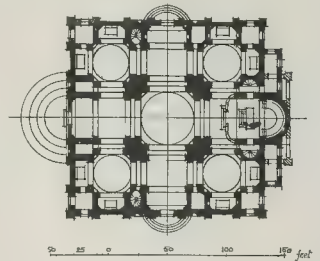
the interests in the artistic and historical
mos as the other cities, and will be dealt
h briefly. Naples and Palermo are in
ilar case, but in less degree. Seeing,
wever, that Genoa and Venice derive
ch of their celebrity and their splendour
in their Baroque architecture, it will be
venient to devote the next two chapters
a consideration of its merits in their
ny streets and a comparison with what
have found in Rome. For Rome, after
possesses a quite disproportionate number
examples of the period, interesting alike
in importance, association, and variety;
d Rome must remain the key to Baroque
Italy. But after we have discussed Genoa
d Venice we will turn in a concluding
lian chapter to the less familiar byways
the style, and these may enable us to
pronounce with more finality as to its merits
a whole.

Genoa, "as every schoolboy knows,"
called "The Proud" (*La Superba*). And
ry one of her citizens, of her visitors,
an of those who read about her, knows
o, that the name is not due simply to the
nd sweep of her harbour front or to her
raced suburbs and palms, not even to
e magnificence of her port or the vast
circling wall of the Apennines, but largely
those few famous streets of palaces which
adame de Sta'l said were worthy to house
gathering of kings. It is not the least
tor in Genoa's pride that she can boast
the finest historic street in Italy.

This street, it must be remembered, is the
ork of one man, or rather its conception is.
nd one must think twice before claiming
leazzo Alessi as an exponent of Baroque
inciples. The historical test and the
ible test alike fail in such a case. For
palaces were raised in the debatable
are just as Baroque was gaining a hold
Italy, and their architecture is neither
ly-developed Renaissance of the culminat-
period nor the Baroque style practised
Borromini and his contemporaries. Yet
is in a measure the architecture of revolt,
new style originated to meet new require-
ents. It is, moreover, the architecture

of a grandiose and ostentatious period, of a
city at the highest point of a long prosperity.
And these two principles—ostentation and
originality—are among the recognised
characteristics of the style, whether accom-
panied or not by two other frequent
symptoms—picturesqueness and eccentricity.

Alessi's palaces are very numerous, for he
came at a fortunate time for himself and for
the city. He was trained in Per gia, his
native town (where he was born in 1512), by
an obscure artist—half painter, half architect
—by name Giovanni Battista Caporali, and
his forte was military architecture. But, like
many others whose reputation lay in such a



S. Maria di Carignano, Genoa.

direction, his later fame rested on widely
different work. He was, it is true, summoned
to Genoa, where his ability had evidently
been talked of, by the Sauli family to carry out
various private commissions for them, and
by the Republic to remodel the harbour.
Vasari states that he lengthened the mole,
or breakwater, but what is of more importance
to architects is his Porta del Molo, or entrance
to the warehouses on the breakwater. Built
in 1549-53, it may be compared with those
massive gateways at Verona erected by
Sammicheli a few years previously, and with
Ingigo Jones's water-gate at York Stairs. In
character it resembles the latter rather than
the former, but in severity there is little to

choose between these fine examples. It is,
like all Alessi's work, scholarly but original,
and it possesses two features common in
Baroque buildings—an enormous inscription
over the door, and a façade recessed on a
curve such as we find in Borromini's Sant'
Agnese at Rome.

For the Sauli he began that colossal
church which dominates the city on the south,
S. Maria in Carignano, and, though it is in
some ways his most important work, it is
perhaps the most disappointing. His in-
tention seems to have been to follow
Bramante's plan for St. Peter's, so we have
the Greek cross as a basis, filled out with
chapels to form a square. We do not know
exactly how far Alessi was responsible for
the design, which was not completed till
1603, but it seems probable that it was
entirely his. The proportions of the exterior
are its weak point, the dome being far too
small for the church itself and for the two
lofty *campanili* flanking the principal façade.
The general lines of the façades are Renais-
sance of an academic type, but in some of
the detail, notably in the west portal, we
find ornament of an uncontrolled originality.
The dome externally has many points in
common with the Jesuit church, S.
Ambrogio.

We may put aside Alessi's other work, his
alterations at the cathedral, his rebuilding
of part of the city walls, and concentrate on
that wonderful effort in town planning, the
Via Nuova, which nowadays, in common
with many another important street in
Italy, has been rechristened the Via
Garibaldi.

For town planning it was, as town planning
went in those days. Old Genoa was a mazy
labyrinth of dark lanes, much as it still is
to-day in those picturesque alleys between
the quays and Alessi's new street. The
Genoese nobility wished for a street in
which their projected palaces might be
seen to advantage, and it fell to Alessi's
lot to devise a scheme. The scheme is
undoubtedly his, but only a few of the
buildings. Of its twelve most famous
palaces only two can be definitely attributed
to him, and only four can with any certainty



The Palazzo Doris, Genoa.

[Photo. by Alinari.]



The Palazzo Carignano, Turin.

G. Guarini, Architect (1680).

[Photo. by Brogi.]

be attributed to his successors. Of the remaining six we are assured that he furnished the designs, and many authorities consider that he carried them out.

Be this as it may, we will begin by studying those two undoubted examples of his art—the Palazzo Cesare Cambiaso close to the Piazza Fontane Marose and the Palazzo Lercari-Parodi adjoining. There is a striking contrast between these two neighbouring buildings, a contrast which displays the versatility of Alessi's genius. The Palazzo Cambiaso is almost cubical in form and of a magnificent solidity. The height of the façade is between 60 ft. and 70 ft.; the cornice is over 4 ft. deep and of similar projection. Yet these two palaces are the least colossal in the Via Nuova and the best adapted in scale to the width of the street. The Palazzo Cambiaso façade—and here the façade is the most important feature—impresses one above all by its effect of monumental strength and simplicity, but in the broken pediments of the ground-floor windows, in the decorative ornaments of some of those above, one may surely discern those deadly "germs of the barocco corruption." It has been said that in the work of Michelangelo these germs are first to be found, but it is more satisfactory to place his masterpieces and Alessi's in that architectural borderland which lies between all great styles and which we term a transitional period. For the proportions of this Cambiaso palace follow classic tradition, and the signs of change are to be found in trivial details or in a general picturesqueness of grouping, just as one finds looking at the east end of St. Peter's. Alessi may perhaps best be placed, then, with Michelangelo and Palladio as one of those who made the Baroque period possible by their freshness and vigour of thought rather than by any Baroque works of their own.

This may again be seen in the Lercari-Parodi palace, a far more theatrical building. The lowest story of the façade is rusticated to excess—rusticated, too, in those diamond-shaped blocks beloved of the later Venetians. But here Alessi is verging away, further than

ever Michelangelo went, towards admittedly Baroque proportions and towards an original use of legitimate elements that is hardly legitimate in itself. To him is due the credit for the introduction of the loggia in the form which later architects brought to such a pitch of perfection, and which shares with the monumental staircase the monopoly of interest in Genoese Baroque architecture.

One feels inclined, then, to place Alessi between Michelangelo and the earlier architects of the Baroque period, and at the same time to recognise him as one of the greatest architects of the XVIIth century. In estimating his greatness one cannot altogether put out of court those five palaces in his Via Nuova which he may have designed, and for which much credit has already been assigned to him. They are the Palazzo Brignole Sale (No. 18, also called the Palazzo Rosso from its being painted red), the Palazzo Adorno (No. 10), the Palazzo Giorgio Doria (No. 6), the Palazzo Serra (No. 12), and the Palazzo Spinola (No. 5).

It would be interesting to know definitely to what extent we owe this series to Alessi's genius—they must certainly have been the work of men inspired by his spirit and probably working under his direction. Each of them has its own characteristics; the rustication is varied; the windows are differently grouped. Many of them still retain their magnificent interiors, and the gilding of one saloon alone in the Palazzo Serra is said to have cost a million of francs. This particular palace, with its white marble reliefs, caryatides, mirrors, and mosaic pavements, became known, in fact, as "The Palace of the Sun."

In estimating these palaces by Alessi and his school we must not omit some reference to another important art movement which was in progress in Genoa, and which was also rapidly tending towards Baroque.

We have already found that painters and craftsmen did much to foster such a tendency. Before the middle of the XVIIth century there were many buildings in Genoa whose chief decoration was the fresco-painting on their external walls. This fashion was greatly

developed by Giovanni Battista Castello, Bergamo, who died in 1576, and who was close friend of Luca Cambiaso. He brought with him to Genoa the Lombard taste for luxurious and all-pervading ornament. Not only were his façades painted with figures as symbolic objects, but the same features were reproduced in modelled plaster—at first in low relief, then gradually becoming so rich and boldly executed that they proclaimed the advent of a new manner in architecture. We may see his style in the Palazzo Careg Cataldi and the Palazzo Raggio-Podestà both in the Via Nuova; but best of all perhaps in the Palazzo Imperiale, where the ornament is in high relief. This palace, thoroughly and unmistakably Baroque of strong and attractive variety, yet is as early as 1580. Of the same character, if not by the same hand, is that charming façade of the Palazzo Pallavicini in the Salita Santa Caterina, an alley so steep and narrow that one cannot view aright the groups of charmingly carved goddesses and garlands that seem so misplaced in such a situation.

Yet another contemporary of Alessi's again a Lombard, was Rocco Lurago, who died in 1590, and who will go down to posterity as the author of one of the largest and most imposing palaces in Genoa—the Palazzo Doria-Tursi, now known as the Municipio. And, though all authorities seem to date this building as early as 1566, we can have little hesitation in classing it as Baroque example. For throughout its vast bulk we find a spirit utterly alien to that of the Renaissance. Niccolò Grimaldi, for whom it was built, was called "The Monarch by reason of his power, and there is power, wealth, crushing importance in every line of his great mansion. We see Baroque writ large in its very proportions—extolling size for its own sake—in the heavy and colossal cornice, in the coarse mouldings of the giant masonry, as well as in the wonderful originality of the flanking loggie and the unusual design of the ornamental features. The same could be said in a less degree of the interior courtyard, for, in spite of the Doric Order and a general air of simplicity, we feel

are in the presence of something in no way akin to the art of Bramante and Peruzzi.

Let it not be said that we are over-archaeological, for we admit Baroque building here in Genoa of 1560, and refuse to recognise Alessi as a Baroque practitioner, though most of his great works date from the sixteenth century.

The Palazzo Doria-Tursi in view of its size alone exercised as much or more influence on the city than the work of Alessi or Castello, and taken as a whole, its good points balance its defects.

Passing over the Palazzo Bianco, built a few years later almost opposite the Doria-Tursi, we come to the work of the greatest Genoese architects, perhaps to us to-day the greatest of his century in Italy, Bartolomeo Bianco. We know little of his early life, but that some time early in the XVIIth century he was working in Genoa. Like his brother, he occupied the position of Official Architect and Engineer to the Republic, and this was after he had gained a great reputation by his work for the Balbi family. After a few years he resigned the care of the fortifications to other hands and devoted himself exclusively to those wonderful palaces which have made him famous for all time. They are but three in number, and they all are situated in the Via Balbi. This street was laid out after the Via Nuova, and was made much wider, for the former, which he praised though it be, is sadly too narrow. They were connected by various passages, and by the short Via Nuovissima (now Via Cairoli), in a sort of town-planning scheme which extended from the Palazzo Doria to the Piazza Fontane Marose, and which was largely due to Alessi.

Bianco's first palace commission was for the Palazzo Balbi Senarega, commenced in 1609. The exterior is severe to bareness, and is a striking contrast to Alessi's vigorous Baroque.

The interior is also severely simple, but simplicity does not of necessity imply conventionality, and where but in the Baroque would we find these docketers on the columns from which the graceful scrolls spring? This wonderful vista, too, through the courtyard and staircase hall, out through the garden, to a rococo grotto with its marble giants and a sparkling fountain to end the view—is this of the Renaissance or the Baroque period?

Almost opposite stands the immense Palazzo Durazzo Pallavicini, commenced seven years later and before the Palazzo Balbi was finished, so that Bianco handed the latter work over to a pupil and devoted himself to preparing plans for his new commission. This enormous palace has fortunately been very greatly altered since it was built, but an old engraving enables us to picture it as its designer first built it. He adopted Rocco Lurago's scheme from the Doria-Tursi—a lofty central block flanked by open loggias, all standing on a basement; but so colossal was his scale that the basement is three stories high. His governing cornice was huge in proportion, and his detail justifies us in accounting this Baroque work. His windows are simply rectangular openings, devoid of even an architrave, but the doorway, the balcony over it, and the main cornice are exuberantly Baroque.

The interior courtyards of this palace and the neighbouring Università, begun in 1623 for one of the Balbi as a Jesuit College, are to an architect the finest thing in Genoa, and the finest piece of staircase planning in Italy. Theatrical and ostentatious they may be christened by some, but not to any one critic, who sees in their dignified simplicity (marred by no superfluous ornament) the highest achievement of Alessi's great Genoese tradition.

After Bianco's death, in 1654, few important palaces were built. The enormous Palazzo Reale in the Via Balbi was in progress at the time, but its Lombard

architect, G. A. Falcone, died of the plague three years later, and was succeeded by Pier Francesco Cantone. It is, however, of little importance to students of our period, nor for that matter—except also on account of size—is the huge Albergo dei Poveri, magnificently placed on the hill behind the city, which it commands like a fortress. Built by four different architects between 1655 and 1675, it was given to the Republic by a wealthy citizen, Emanuele Brignole. It holds 1,300 inmates, and it is said that all of them can witness the celebration of Mass in the chapel without leaving their beds.

Besides the great town houses of Genoa which we have discussed in some detail, by reason of their celebrity and importance, there remain those beautiful villas on the coast, grouped round San Francesco d'Albaro and Sampierdarena, or on the hills overlooking the fair city itself. Here, before ugly industrial suburbs crept out beyond the city walls and deluged the pleasant gardens with smoke, the XVIIth-century nobility and merchants went in the summer to enjoy the cool sea breezes and the lovely views of the Riviera hills. And in their grounds rather than in their buildings, in the succession of terraces, fountains, and balustrades, in the ordered relation of villa to garden and garden to bosco, we find, as we did at Frascati, the very embodiment of Baroque, "Art adorned by Nature." Some of the villas are of Alessi's school and Baroque only in their setting, though with the picturesqueness that distinguishes him from his predecessors. The Villa Paradiso is, one imagines, of later date, and the exterior at any rate is an excellent example of our period, though wedded more closely than usual to classic tradition.

It should be remembered in criticising this architecture in Genoa how many of her gardens were laid out in this style, most notable of all those of the Palazzo Doria, without which that stately mansion would to-day lose its principal charm to a visitor.

Of churches we have said little, for the Baroque churches of Genoa are of slight importance compared with those of Rome, whereas her palaces are of great value for purposes of comparison.

In this article, too, history has been left severely alone, for it concerns us little. Genoa in the XVIth and XVIIth centuries was, as she is now, a great port, but she was also a great power. Her strength lay in the skill of her seamen and the financial genius of her merchants. There was a time when Genoa and Florence financed the greater part of Italy and Spain, and when Spain depended for her existence in the Mediterranean upon the Genoese navy; the time, too, when her immense influence was weakened by the internal struggles of the people against the nobles, and in a less degree by the quarrels of the nobles among themselves for precedence. And this epoch corresponds with the Baroque period in architecture.

We might have chosen Milan or Florence as the central point for this article, but in Genoese buildings we have something akin to nothing else in Italy, something forming a distinct type. Alessi, Castello, Lurago, and Bianco are little known to English students of architecture, and they merit a wider publicity. It is at least as important to study the masterly planning of these great architects—their palatial staircases, their appreciation of the possibilities of sloping ground, their eye for a vista, their sense of dignity—as to laboriously measure Peruzzi's mouldings or to trace the true aesthetics of Brunelleschi's dome. Genoa has been too often ignored by art critics for fear it should contain some "germ of the baroque corruption"; that reason alone should make it well worthy of a visit.

Turin.

Most travelling Englishmen are familiar with the well-ordered streets of Turin, recalling to them the plans of those modern cities across the Atlantic where architects think in "blocks."

But Turin is unlike the rest of Italy, and lacks its particular charm of picturesque and unexpected grouping. It is apparently recently laid out, yet we can trace the whole secret of its plan to the small nucleus formed when the Romans founded the "city of the Taurini." Since those distant days it has had its ups and downs, but until the XVIIth century it was of little



Chiesa Reale di Superga, Turin.

Filippo Juvara, Architect.

[Photo, by Bragg.]

importance in any way. Then the Dukedom of Savoy, destined later to become the maker of United Italy, began to assert itself among the Powers of Europe and to be a source of constant trouble to France and to the Empire. The fact that it strayed over the Alps accounts for much of the French influence that permeates its architecture.

The most striking fact about Baroque architecture in Turin is that, except for a few minor remains of mediæval or of Roman date, its XVIIIth-century buildings are its oldest monuments, and that, thanks to the constant progress of its rulers at that time, it has so fine a series of palaces and churches that they constitute in themselves all the noteworthy art of the place.

Of those most worthy of comment the earliest is the Castello del Valentino (1633), a large palace which was erected by Christine of France, the wife of Victor Amadeus I., and daughter of Henri Quatre and Marie de Medicis. This relationship is mentioned as explaining the very Gallic style of this *château*, and also the employment of a French architect, whose name is apparently not recorded, but who seems to have been a pupil of the celebrated Salomon de Brosse. This forms perhaps the first example we have met of foreign influence affecting the Baroque style, which was essentially an Italian movement emanating from Rome. In subsequent chapters, however, the entrance of Spanish ideas will be noticed, for in Spain there already existed an exuberant variety of Renaissance work which bore the title of "Plateresque." Returning to Turin, we find in spite of a French tendency in these pavilion roofs and arched *loggie* round the forecourt that most of the detail is Italian in spirit.

The Baroque buildings of Turin are almost all the work of two architects who were the favourites of Charles Emmanuel II., who died in 1675, and his successor, Victor Amadeus III. (1675-1730), who became King of Sardinia.

Guarino Guarini was a Theatine monk, born at Modena in 1624 and dying in 1683 or thereabouts. His Palazzo Carignano (1680), which is illustrated here, is perhaps his most important commission, and unfortunately exhibits most of the vagaries and weaker points of the period. Lack of space prevents us publishing the fantastic plan of the central feature, which consists of halls and staircases. The principal vestibule, oval on plan, faces into a courtyard, and may be seen carried up above the main cornice in our plate. This palace has played an important part in the history of Savoy, and the famous King Victor Emmanuel II. was born here.

Guarini's work also included San Lorenzo (1634) and La Consolata (1679) among the better-known churches of the city.

Filippo Juvara (b. 1685, d. 1735), who hailed from Sicily, was a man of more restraint, and, besides his alterations at the Royal Palace, is responsible for two of the greatest works of his period.

The Palazzo Madama (1718-20) has a magnificent front which, though free enough in minor matters of detail, is, as a whole, a masterly piece of virile classic design. It was, as its name proclaims, built for the Dowager Queen in the reign of Victor Amadeus II., and in reality forms only a third of a scheme for encasing the older palace of mediæval times. The other two sides have now been completed, but much work was done within the building, of which the illustration gives a fair idea. The manner in which a wide landing is obtained by means of brackets over a narrower vault of one bay is worthy of notice.

Juvara's masterpiece is undoubtedly the great votive church of The Superga (1717-1731), erected on a lofty hill some miles from the city in fulfilment of a vow made by Victor Amadeus II., in 1706, to build a church to the Virgin on this spot when the invading troops left the city. The curious name is said to be Latin in origin, and to signify "on the back of the mountains"

(*super terga montium*). The interior is circular, with six elliptical chapels and an octagonal chancel opposite the entrance. One of the finest examples of Baroque architecture extant, this church should be visited by every architect who finds himself in Turin.

M. S. B.

GENERAL NEWS.

Professional Announcements.

Mr. William W. Dearnley, quantity surveyor, is removing into new offices at No. 13, John-street, Adelphi, W.C.

Mr. Conrad B. Willocks, A.R.I.B.A., of Reading, has removed from Broadway-buildings to 11, Friar-street, Reading.

H.M. Office of Works.

By reason of continued ill-health Sir Schomburg Kerr McDonnell, K.C.B., G.C.V.O., F.R.S.A., has resigned his appointment as Secretary to H.M.'s Office of Works, which he has held since 1902. Sir Schomburg McDonnell, a son of the late Earl of Antrim, is a member of the Royal Commission on Historic Monuments, and was educated at Eton and Oxford. He saw service in the South African campaign as captain in the 1st London R.B.V.

King's College Hospital and its Site, W.C.

The Committee of King's College Hospital are about to dispose of the freehold site and the buildings of the hospital, covering an area of 48,200 ft. superficial, an island site, with frontages to St. Clement's-lane, Grange-court, and Carey and Portugal streets. In pursuance of an Act of 1851 the area on the north side of Grange-court, including the old Grange Inn at the north-west corner of Carey-street, and nearly all the burial-ground known as the Green, or Upper Ground, was acquired for the new buildings of the hospital, which had been established in the adjacent workhouse in Portugal-street, south side, in 1839. The hospital was begun in June, 1852, for 220 beds, after Thomas Bellamy's designs and plans selected in a limited competition by the assessor, Professor Hosking. M. Armand Husson illustrates the plans in his "Étude sur les Hôpitaux," 4to, Paris, 1862. The west gate of the forecourt marks the site of the parish watch-house; the forecourt is part of the Green Ground, St. Clement Dances.

Public Health.

The opening of the Charing Cross Hospital Medical School on October 31 will be signalled by the inauguration of an extensive range of new laboratories lately fitted up in the Medical School Buildings in Chandos-street for the Public Health and Bacteriological Departments of University of London, King's College. The accommodation provided comprises a large lecture theatre and library, two large class laboratories, research, professors' and lecturers' laboratories. The work will be in the hands of the staff of King's College, and the courses for the Diploma of Public Health and Research and investigations for public bodies and others hitherto carried on at King's College will be continued in the new laboratories after the 7th inst.

Church Congress, Middlesbrough.

To the Ecclesiastical Art Exhibition of the Church Congress, opened on September 28, are contributed some fine specimens of church plate, many of which bear York and Hull assay marks of the XVIIth and XVIIIth centuries. Amongst the exhibits are the Goathland chalice, of date circa 1450, with others from Adwick, 1579, and Todwick, 1684, and Old Hutton, Westmorland, of, it is believed, about 1450. There are also lent a remarkable collection by Mrs. Warde-Aldam of Yorkshire monumental brass rubbings and an early XVIIIth-century stole. At the Congress, papers were read on the Housing Problem by the Bishop of Wakefield and Mr. Raymond Unwin, F.R.I.B.A.

Mediæval Architecture.

Mr. Banister Fletcher, F.R.I.B.A., gave on Monday last the first of his course of University Extension Lectures on "Mediæval Architecture" at the Victoria and Albert Museum, South Kensington, S.W. He referred to architecture as a visible exponent of civilisation uniting and embracing the other arts, and pointed out that all modern design was founded upon old art, although altered in order to conform to existing conditions. Architecture being the basis of all design, a knowledge of it

was necessary to designers and art students and was also of use to a much larger circle which practically included the whole community. The author and novelist required knowledge of the subject for the setting up of a historical novel, because a mere story to people without reference to the buildings inhabited was uninteresting and insipid. The teaching profession now realise that to make history interesting the student should be taught not only what men did, but what they made not only that they fought battles, but what sort of buildings they lived in and the church they erected for the worship of God.

Particulars of the course can be obtained from the Hon. Secretary, 10, Woburn-square, W.C.

University Extension Lectures.

At the British Museum and at the Victoria and Albert Museum twenty-four lectures on "Greek Art and National Life" and twenty-four on "Five Centuries of Decorative Art (1050-1550)" will be delivered on Tuesdays and Thursdays by Mr. S. C. Kaines Smith, M.A. (Cantab). Particulars of the courses, which are in connexion with the University of London, may be obtained from Miss Gaudet, 120, Cheyne-walk, Chelsea.

Annual Report of the Commissioners of Woods and Forests.

The Commissioners have recently issued the ninetyeth Report, in which they set forth the total receipts for the past twelve months amount to 703,300l., whereof more than 376,000l. (as net income) were derived from properties in London, and out of which amount the paid into the Treasury 530,000l. as compared with 500,000l. for the last preceding period. The Crown property now in their charge exclusively of land let for building purposes, comprises 340,800 acres, of which about 67,574 acres are used for the growing of timber. They expended 131,666l. in buying new properties, chiefly in England, they sold estates and "unimprovable rents" for an amount in value of 94,530l. Of the Crown lands—an aggregate of 65,000 acres—in New Forest, the woods, open and enclosed, cover some 23,760 acres; the maintenance of Windsor Park and woods cost 32,372l., the income from all sources was but 6,302l. The Commissioners have granted to the Royal Automobile Club a fresh lease for ninety-nine years, from January 1, 1908, of the site in Pall Mall (formerly that of the War Office) at 7,500l. per annum, after the fourth year, and expenditure on erecting buildings. They have exchanged property in Regent-street, Cavendish-place, and Langham place to Lord Howard de Walden for premises owned by him in Oxford, Princes, Margaret Great Castle, Great Portland, and Little Portland streets. Whilst most of the agricultural land consists of large farms, the Commissioners have in the past six years created small allotments and holdings to an aggregate of 7,524 acres.

Celluloid and Petrol Dangers.

The British Fire Prevention Committee opened its autumn session on the 25th ult. with a series of twenty tests with ordinary celluloid cinematograph films *versus* a non-inflammable celluloid film, and by a series of some twenty-five tests as to the possibility of extinguishing petrol fires, celluloid fires, and similar outbreaks by the application of chemical foam. The numerous visitors were received by the Chairman of the Committee (Mr. Edwin O. Sachs, F.R.S., Ed.), the Earl of Londesborough, K.C.V.O., Sir John Cockburn, K.C.M.G., Major Cooper-Key (Chief Inspector of Explosives), and other members of the Council. Reports on the subject will be issued by the Committee in due course.

Sherbourne Hall Farm, Sandringham.

The King has just purchased this property of about 650 acres, for addition to his Sandringham estate. The farm lands lie to the north of Sandringham and on the east and west sides of the village, and their purchase renders the King owner of all Sandringham parish. The Sherbourne property retains the fine Tudor house, the Hall, with parts of the moat, and the estate belonged for six hundred years to a family whose last representative, Francis Sherbourne, bequeathed it, in 1654, to Emmanuel College, Cambridge, of which the Master and Fellows sold it to the King for, it is said, about 12,000l. The church is reputedly the second founded by Bishop Felix, in East Anglia, and was built by Thorpe, lord of Sherbourne.

ILLUSTRATIONS.

The "Lee's Rest Houses," Hull.

A COMPETITION was held recently in Hull among local architects and a limited number of others to obtain the best design for rest houses to be built under the will of the late Dr. Lee. Mr. Edwin Cooper, F.R.I.B.A., the assessor, selected the scheme of Mr. Henry T. Hare, whose drawings are reproduced in this issue. The work is now being carried out.

From Mr. Hare's report, sent in to the committee with the design, we extract the following:—

"The buildings have been arranged on the site in the form of a great quadrangle, as suggested. Interest is added to the arrangement by four subsidiary courts, or quadrangles, at the corners. Special attention has been given to the question of aspect, all the dwellings (except those in the entrance block) facing east and west, thus ensuring sun in all the rooms at some period of the day. It has also been considered desirable to so arrange the plan that the quadrangle should be as quiet as possible and free from unnecessary traffic; and, with this object, a cart-road is provided into it. The dwellings have been planned in blocks of eight, as suggested, with an entrance and staircase to every pair of rooms. This division into small blocks militates somewhat against a very satisfactory architectural treatment, and it is felt that some improvement in this respect might be effected if the three blocks on each side of the quadrangle were combined into one large block, to greatest economy has been exercised in the tails of the planning, consistent with convenience and efficiency.

The total number of dwellings shown on the plan is 119 in addition to provision for caretaker and superintendent. The laundry is ranged in the rear of the site, and the blocks of buildings are so placed that the drying ground is entirely screened from view both from the roads and quadrangle. Shelters are ranged in various places between the blocks of dwellings and in the centre of the quadrangle. The buildings would be faced with handmade red facing bricks, and the roofs covered with tiles. The staircases, landings, etc., to be of fireproof construction. It is suggested that the whole of the joinery should be of wainscot in order to avoid periodical painting. The hot-water supply is worked from a boiler placed in a small basement under the laundry block, the supply pipes being carried round the quadrangle to the various blocks in a trench or subway. The small amount of heating required in the central block would be connected to the same system."

Baroque Architecture.

THE fourth article on Baroque architecture begins on p. 376, and the illustrations forming one of our plates are in connexion with it.

MEETINGS.

FRIDAY, OCTOBER 4.

Royal Sanitary Institute—"Elementary Statistics," by Mr. J. Priestley, B.A., M.D. 7 p.m.

MONDAY, OCTOBER 7.

The Society of Engineers. Mr. E. B. Matthews on "Town Planning from an Engineering Aspect." At the Institution of Electrical Engineers, Victoria Embankment. 7.30 p.m.

TUESDAY, OCTOBER 8.

Royal Sanitary Institute—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.

WEDNESDAY, OCTOBER 9.

Manchester Society of Architects.—Presidential address. 6.30 p.m.

Royal Sanitary Institute—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.

FRIDAY, OCTOBER 11.

Royal Technical College, Architectural Craftsmen's Society, Glasgow.—Mr. A. N. Paterson, M.A., on "Scottish Architecture: XVIIth to XVIIIth Century."

The Institution of Municipal Engineers. Annual general meeting.

COMPETITION NEWS.

A list of current Competitions is printed on page 396.

Fire Brigade Station, Cardiff.

A review of this competition, won by Messrs. E. Vincent Harris & T. A. Moodie, appears on p. 391.

Library, Glasgow.

A branch library is to be erected at the corner of Baidlefield-road and Sinclair-drive, Langside, and the Glasgow Corporation have issued particulars of an open competition. Mr. Alex. N. Paterson, A.R.S.A., is the assessor.

The Housing Problem in Toronto.

The Toronto Housing Company recently issued invitations to Canadian architects to compete for laying out a site and designing and erecting a large number of houses on land recently purchased by them facing Logan-avenue. The intention was to form an attractive garden city where houses of varying rentals and accommodation could be obtained. The competition was divided into three heads, each division being for houses of particular accommodation and rental. Mr. Leonard Martin, F.R.I.B.A., of 17, Waterloo-place, Pall Mall, London, in conjunction with Mr. Sydney V. Kendall, also competed, and won all three premiums. It is expected that the work will be put in hand forthwith.

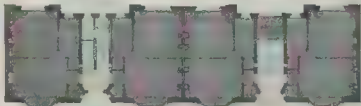
CORRESPONDENCE.

Lesnes Abbey Excavations.

SIR,—In your issue of October 15, 1910, you noticed the work, then partly executed, of the Woolwich Antiquarian Society in tracing and uncovering the buried remains of the great Augustinian Abbey of Lesnes, just on the Kentish border of London at Abbey Wood. I now desire to inform you that the operations are nearly complete, and that, with valuable expert assistance, and under the advice of many well-known archaeologists, the whole of the foundations have been laid bare and carefully planned, various important discoveries being made in the process.

We have numerous relics for which we shall soon be seeking suitable and permanent homes available to the public. The effigy of a knight in complete armour and richly coloured has already been placed in the Victoria and Albert Museum at South Kensington. The figure dates from c. 1310, and is believed to represent a De Luci of Newington, a relative of the abbey founder, Richard de Luci. There are also

THE "LEE'S REST HOUSES," HULL.



DWELLING BLOCK.

CENTRAL BLOCK.

ENTRANCE BLOCK.

The "Lee's Rest Houses," Hull: Accepted Design.
By Mr. Henry T. Hare, F.R.I.B.A.

brass casements of remarkable patterns and monumental slabs with inscriptions, one of which bears the name of Avelina, probably the founder's daughter.

Rather more than 2000l. has been expended, and, as there is little hope of purchasing and preserving the ruins it is contemplated to close down the works shortly and restore the site to its former level. At the same time we hope to issue a full and final report, but before the remains disappear there is yet opportunity for interested visitors to see what has been done. Work is now restricted to Saturday afternoons, and one of the Committee will always be available to conduct parties round at three o'clock.

In case any wealthy benefactor or Corporation should desire to save the old Abbey from reinterment, and eventual extermination by the house-builder, it is estimated that the cost of purchasing and preserving the requisite area of about three acres will probably be from 8000l. to 1,0000l.

W. T. VINCENT,

President, Woolwich Antiquarian Society.

Architects' and Surveyors' Approved Society.

SIR,—I shall be glad if you will kindly grant me a short space to remind those who have applied for application forms for membership of the above Society that it is advisable that these forms should be filled in and returned at once, so that cards for the ensuing quarter (commencing October 13) may be issued to them. The daily additions to the membership list are exceedingly gratifying, but there are many persons connected with the architectural and surveying professions who are not yet

members of any Society for the purposes of the Insurance Act, and I would urge them to apply for membership forms at once, as it is hardly necessary to point out that it is to their interest to join a Society which has been formed solely for their benefit.

F. R. YERBURY,

Hon. Secretary (*pro tem.*).

BOOKS RECEIVED.

BUILDING CONSTRUCTION. By C. F. Mitchell. (London: B. T. Batsford. 6s. net.)

THE MATERIALS USED IN SIZING. By W. F. A. Ermen. (London: Constable & Co. 5s. net.)

ENGINEERING AND METALLURGICAL BOOKS. By R. A. Peddie. (London: Grafton & Co. 7s. 6d. net.)

R.I.B.A. SESSIONAL MEETINGS, 1912-13.

The following papers will be read at the Royal Institute of British Architects during the session:—November 18, "Bath and Wells," Mr. J. L. Ball; December 16, "The Walls of Visby, Gotland," Mr. Horace Porter, M.A. Cantab, A.R.I.B.A.; January 20, "Canadian Architecture," Mr. F. S. Baker, F.R.I.B.A. (Toronto); February 17, "Modern Hospitals," Messrs. A. Saxon Snell and William Milburn; March 17, "Modern French Architecture," Mr. F. Billerey; April 7, "American Museum Buildings," Mr. Cecil Brewer, F.R.I.B.A.; April 21, "Modern Steel Construction," Messrs. F. N. Jackson and Bernard Dicksee, F.R.I.B.A.; May 26, "Modern Architecture," Mr. Thomas Hastings (New York).

FIFTY YEARS AGO.

From the *Builder* of October 4, 1862.

Explosions of Copper Gaspipes.

SOME time since it was discovered that when gaspipes constructed of copper or bronze have been long submitted to the action of ordinary coal-gas an explosive compound of copper and acetylen (one of the many ingredients of coal-gas) is formed. When dry, this compound detonates with extraordinary violence as soon as it is rubbed, struck, or heated. Accidents have occurred and workmen have lost their lives while cleaning large copper gaspipes from this circumstance. No such explosive compound appears to be formed when iron or lead is used. Dr. T. L. Phipson, of Putney, writing to the *Times* recently on this subject, draws renewed attention to the fact that large copper gaspipes are unsafe, and that some other metal should be substituted for the copper.

** When the above was written chemists were only beginning to understand the many complicated forms and combinations of the hydro-carbon compounds, hence the reference to "acetylen" as one of the many ingredients of coal-gas. It was not until the year 1895 that acetylene, as we now know it, was made a commercial article, owing to the advance in electro-chemical industries, but since the introduction of coal-gas at the close of the XVIIIth century it had been found that among the impurities (so-called) found in coal-gas there were a series of hydrocarbon compounds known as the acetylenes which possess the noteworthy property of forming metallic derivatives, a property found only in this class. In combination with brass, copper, and bronze, these metallic compounds were found to be explosives, and when it became necessary to clean out the large tubes where copper was used for mains, accidents by explosion frequently occurred; numerous instances are recorded where even the turning of a brass tap has been the exciting cause, and an explosion more or less alarming has followed.

When acetylene was first introduced it was feared that danger accompanied its use owing to the explosive acetylides formed when in contact with copper (and even silver), so that copper for distributing mains and tubes has for many years been rigidly excluded in the modern gas installations. In the case of coal-gas, where perhaps only 1 per cent. of acetylene may be present, such dangerous compounds were formed in the case of copper mains, and modern practice has adopted nothing but iron pipes and mains for distribution of town gas.

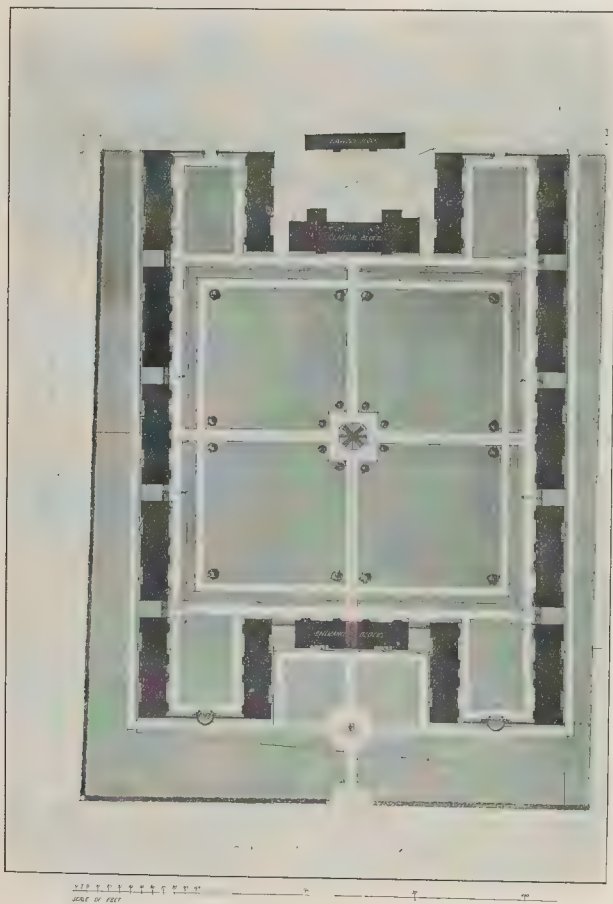
But owing to recent improvements in the manufacture of calcium carbide, and rigid attention to the purity of the raw materials, as well as to the actual period of action of the electric arc in fusing the carbide, nearly all impurities are removed, and the fear of danger from the acetylides has been very largely allayed, so that brass and copper are being employed again, and ordinary gas-fittings may now be used almost with impunity.—Ed.

PROTECTION OF BUILDINGS FROM LIGHTNING.

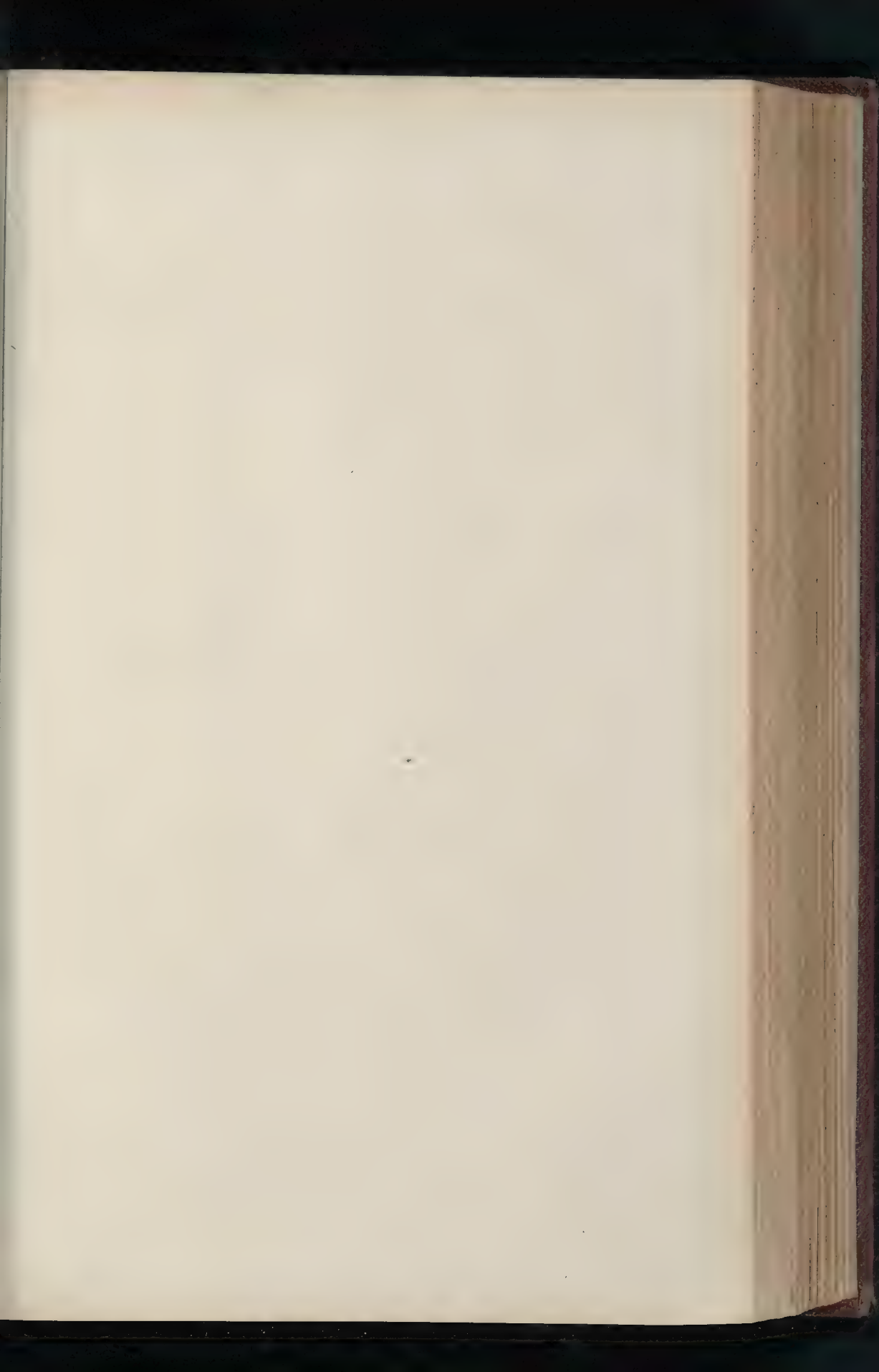
Mr. Alfred Hands, M.Inst.E.E., who has lectured before the Architectural Association, has issued from 91, Leadenhall-street, E.C., a synopsis of his lectures and a list of his engagements in various parts of the kingdom.

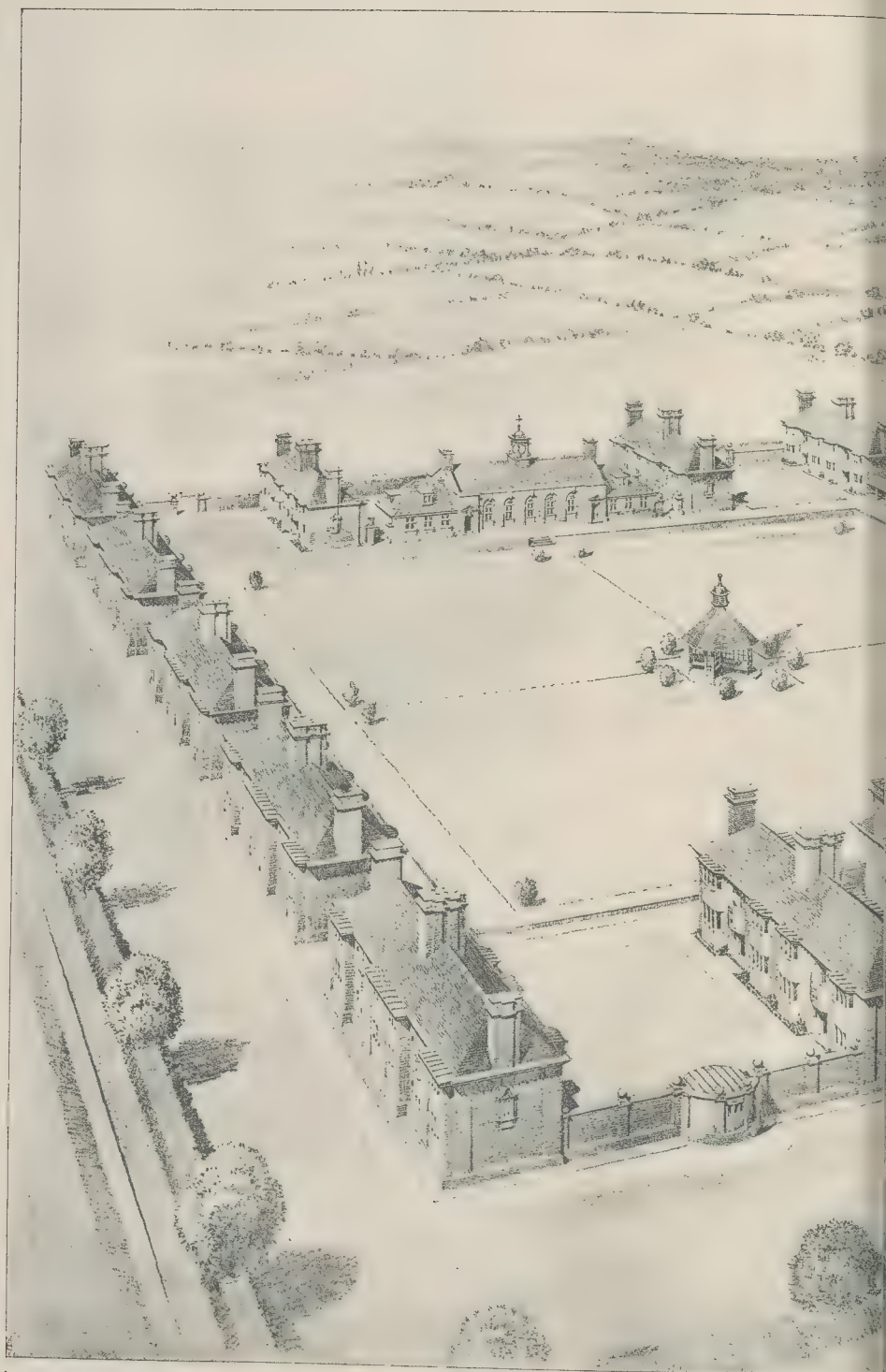
ARCHITECTURAL ASSOCIATION MEETINGS, 1912-1913.

It is announced that the following papers will be read at the Architectural Association:—October 28, "Small Country Houses of To-day," Mr. Lawrence Weaver, F.S.A., Hon. Sec. A.R.I.B.A.; November 11, "Marbles Used in Greek, Roman, and Byzantine Buildings," Mr. J. A. Marshall; November 25, "The Prosais in Architecture," Mr. Horace Cubitt, A.R.I.B.A., F.A.S.I.; January 27, "The Architecture of Dublin," Mr. R. Caulfield Orpen, B.A., F.R.I.B.A.; February 26, "A.A. Excursion to Shrewsbury and District, 1912," Mr. Edwin Gunn, A.R.I.B.A. Professor W. R. Colton, A.R.A., will read a paper on January 13, and Professor Lethaby one on February 10.



The "Lee's Rest Houses," Hull: Accepted Design.
By Mr. Henry T. Hare, F.R.I.B.A.



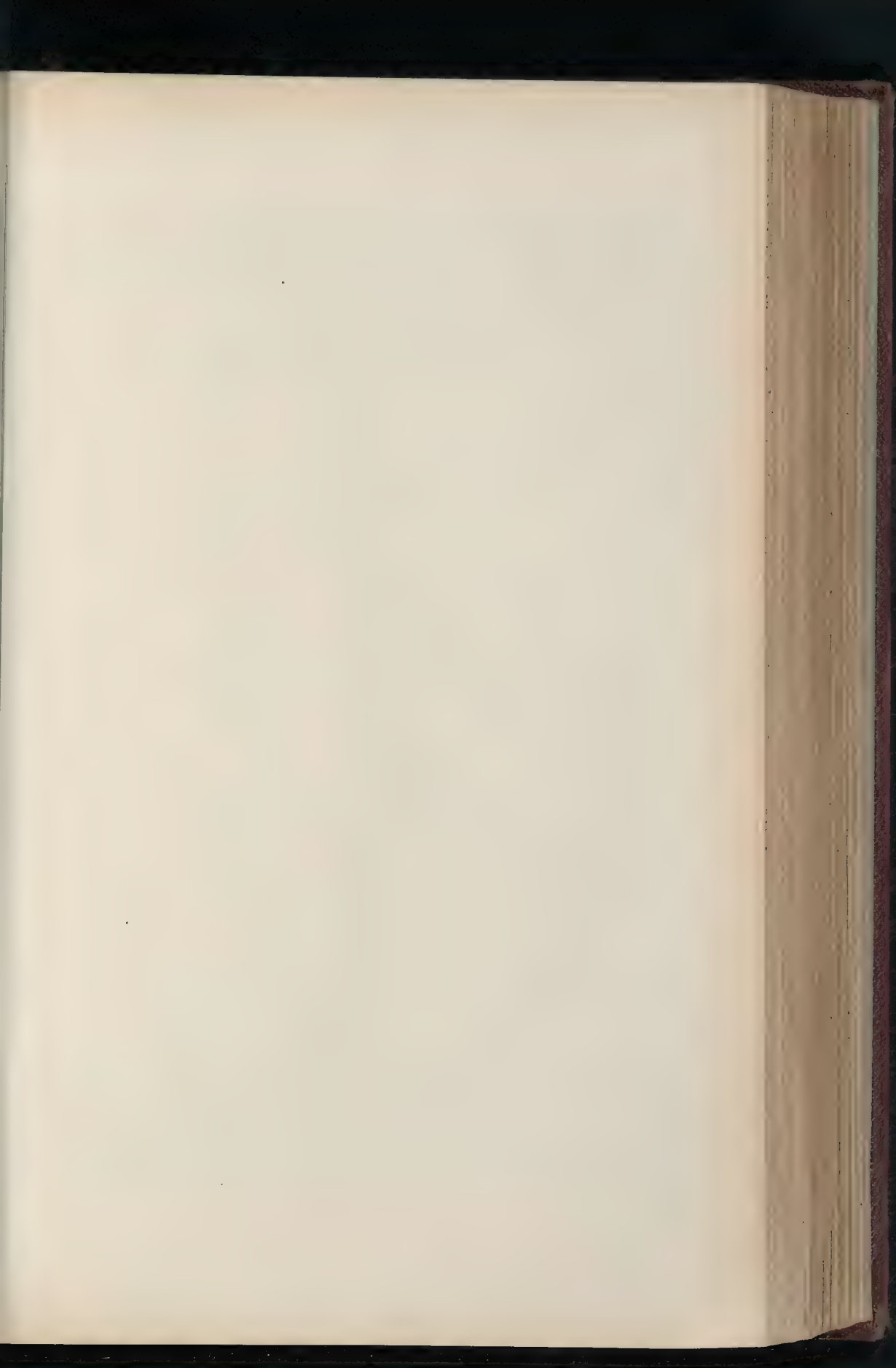


THE "LEES REST HOUSES," HULL.

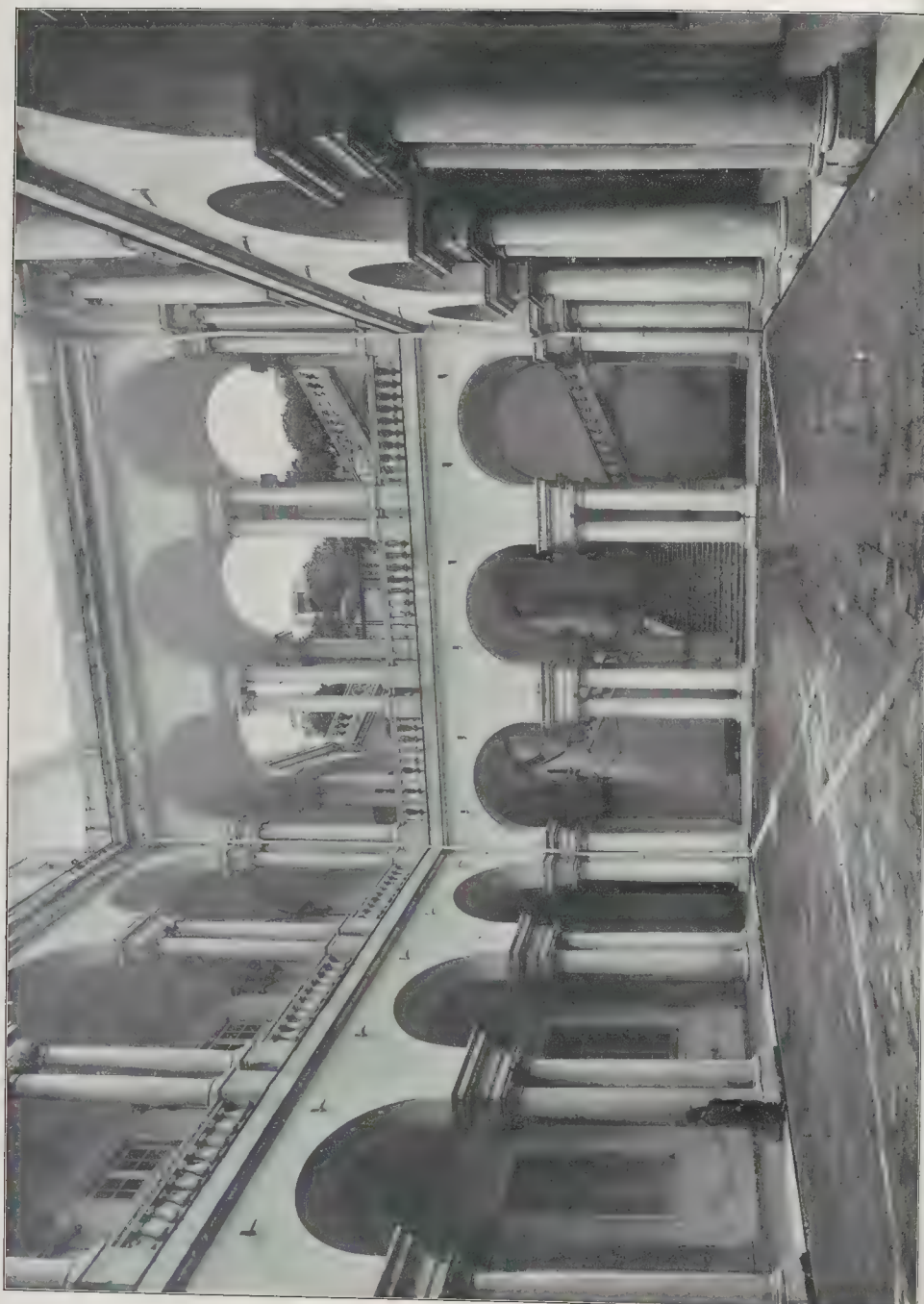


THE "LEES REST HOUSES" HULL.

INK PHOTO S. L. GLE & CO. LTD. 68 & 70, SEAN STREET, SO. 19 W.



THE BUILDER, OCTOBER 4, 1912.





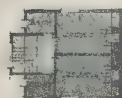
ELEVATION OF QUINCYVILLE.



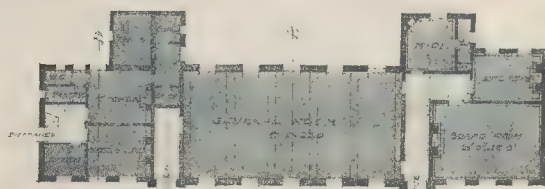
SECTION.



FLOOR PLAN.



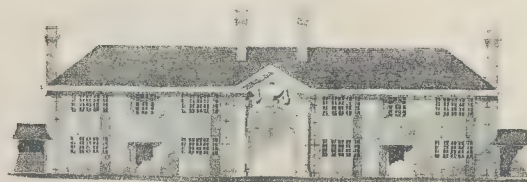
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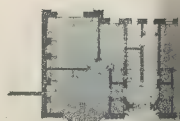
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ELEVATION.



ELEVATION OF QUINCYVILLE.



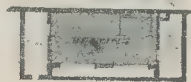
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ELEVATION OF QUINCYVILLE.



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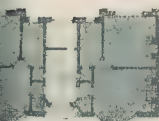
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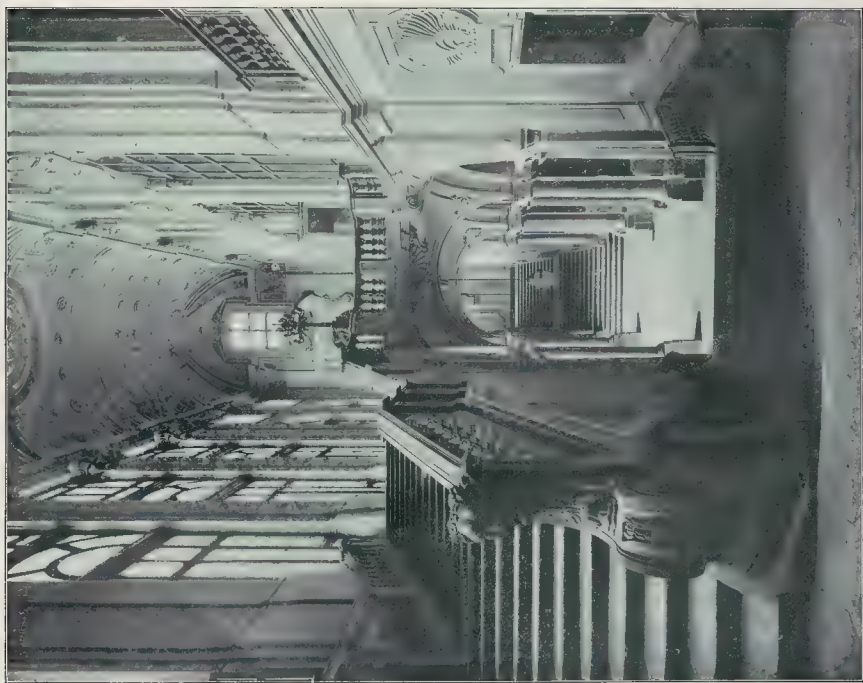


Photo by Bregi.

PALAZZO MADAMA, TURIN: THE GRAND STAIRCASE
FILIPPO JUVARA, ARCHITECT.



Photo by Allman.

PALAZZO DORIA-TURSI (NOW PALAZZO MUNICIPALE), GENOA.
ROCCO LURAGO, ARCHITECT (1564).

"BAROQUE ARCHITECTURE," IV.

MONTHLY REVIEW · of · CIVIC DESIGN.



Monument to Jean-Jacques Rousseau in the Panthéon, Paris.

M. Bartholomé, Sculptor.

(From the *Gazette des Beaux-Arts*.)

MONUMENTS AND THE IDEAL.

ALTHOUGH civic design may be thought to concern itself more with the placing and disposition of memorials to the dead than with their actual features and details, such monuments cannot be properly related to their environment unless it also concerns itself to some extent with their character and general conception.

It is generally recognised, we suppose, that a successful town plan involves the consideration more than the plan. It must be conceived the solid; in three dimensions, not two alone. It must exercise a control, not only over the grouping of the buildings, but also over their size, their shape, and their general character. From its control memorials to the dead are not exempt.

From the ideal point of view there is but one—*one* and indivisible. If an arbitrary line must be drawn between town planning and architecture, or between architecture and sculpture, if no one individual creates and controls both the broad lay-out of the city and every detail of its construction, it is only for the sake of convenience—a concession to the limitations of the individual to the weakness of human nature and the shortness of life. From the conception of the whole city as a group of buildings—each building a group of units so ranged and related to one another as to express the corporate life—to that of the sculptural monument, its figures so grouped to express one phase or aspect of that life, to design, architecture, sculpture, and decorative painting all melt into one organic

conception dominated by one creative and controlling idea.

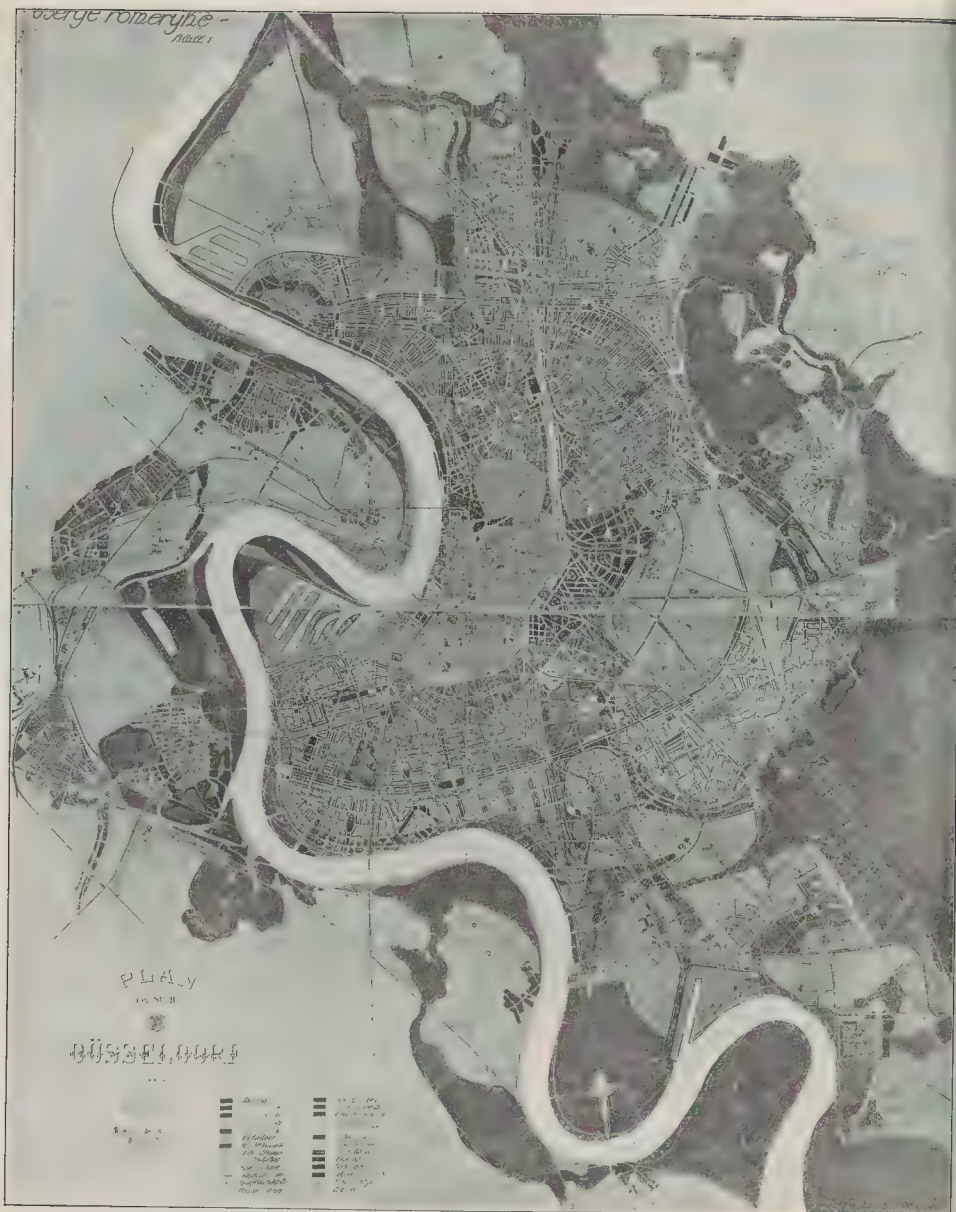
If, then, an isolated monument in the centre of garden or square, detached more or less from its architectural environment by space and atmosphere, by the play of light on fountains and trees, by the movement of the traffic, has yet a due relation to it, how much more intimate is this relation when the monument placed in the interior of a building is completely enclosed and dominated by pure architectural forms! Here, if anywhere, the controlling idea should prevail, and architecture and sculpture be one.

Architecture, being an ideal art, would seem to find no room for realistic imitations of nature; but to demand a correspondingly ideal outlook from the sculpture which intensifies or completes its expression. Although in park or garden such realistic memorials as portrait statues might perhaps be so isolated as to make any absence of harmony unnoticeable, the more closely they are associated with conventional architectural forms the more some feeling for the ideal seems necessary. A monument may be rightly placed in accordance with its meaning and sentiment; in itself it may be complete and fitly express this sentiment; it may be true in scale, composition, and other technical qualities with its architectural surroundings; but beyond all this a higher note appears to be struck, a more perfect relation established when the same exalted ideality of conception informs and animates them both.

It well might have been that the sculptor

commissioned to place in the Panthéon a national monument to Jean-Jacques Rousseau would have contented himself with the obvious expedient of a portrait statue as the dominant feature of his composition, a representation of the corporeal presence, the actual bodily form of the philosopher—idealised in treatment, maybe—but nevertheless realistic in conception. But to the creator of the Monument aux Morts the imaginative, the spiritual, the abstract has made a stronger appeal. Not the mortal body, but the immortal soul of Rousseau inspires his art. Not the graces or achievements of the perishable flesh but of the imperishable spirit are symbolised here in the shrine which France has dedicated *aux grandes hommes La Patrie reconnaissante*. Where in a composition less ideal we might look to find a portrait figure of Rousseau as he lived and moved among his fellows sits an abstract figure of "Philosophy," supported by "Truth" and "Nature"; while on one side of the tomb chants the muse of "Poetry," and on the other "Glory" holds aloft the crown of immortality over the portrait medallion on the grave below.

Although it may not be for those of a different race to attempt to gauge with what measure of success M. Bartholomé has symbolised the genius of Rousseau as it is felt and understood by his own countrymen, nor to say how far this monument fitly expresses the homage of France to one of the greatest of her sons, all may feel the spirituality of conception lifting it on to the abstract plane of architecture.



Town-Planning Competition at Düsseldorf: Winning Design, by Professors Bruno Schmitz and Blum.

TOWN-PLANNING COMPETITION, DÜSSELDORF.

WHEN publishing a translation of the conditions of this competition we referred to their interest and importance as setting forth the main features of a good town plan and as illustrating the position to which the art of town planning has attained in Germany.

We now have the pleasure of publishing the winning design submitted in competition by Professor Ing. Bruno Schmitz, of Charlottenburg, Berlin, and Professor Dr. Ing. Blum, of Hanover.

Our readers may remember that the conditions asked for a plan for building up the town of Düsseldorf to satisfy the requirements of traffic, public health, administration, and beauty. The existing building scheme was to be retained as far as practicable, but the necessity for revision was to be borne in mind and suggested alterations shown. Suggestions were to be made for the extension and supplementing of existing streets and means of communication, and sites were to be provided for residential and industrial quarters, taking into account such questions as road and water communication, prevailing winds, points of the compass, parks, and forest lands. The scheme of roads, tramways, and railways was

to be extended to various smaller commercial districts around, while allowing for a possible linking up with the surrounding large towns. Suggestions were also to be made for open spaces both in Düsseldorf itself and in the various extensions. The whole subject was to be discussed in a report.

Numerous different points to be observed by the competitors formulate the scheme in greater detail, and those of our readers who would wish to refer to them for comparison with the plan will find them in our "Monthly Review of Civic Design" for September 29, 1911. The names of the successful competitors were published on August 9, 1912.

**TOWN-PLANNING
COMPETITION, REIGATE.**

THE Reigate Lodge estate having come into market, it was purchased by the Council in order that they might develop it in conformity with modern ideas, and to prevent it being parcelled out with small houses. The estate comprised 28 acres, and the purchase price was £500. Application was made to the Local Government Board for a loan of £15,000 for the carrying out of the scheme. Eight acres were reserved for the new grammar school and playing-fields, 2 acres were to be devoted to a town depot, new roads which the Town Council had in mind at the time took off 2 acres, 2 acres might be required for a new public elementary school, whilst negotiations have been going on for the sale of a portion of the land to the S.E. & C.R. Company for the purpose of providing increased accommodation for Reigate Station. This left about 11 acres to be dealt with, and a competition was arranged, in which Mr. Raymond Unwin, F.R.I.B.A., was the assessor. The winning competitor was Mr. Vincent Hooper, A.R.I.B.A., of Reigate, whose plan is published herewith.

Although the Town Council of Reigate is to be congratulated on its action, it seems rather a pity that the whole of the estate could not have been included in the competition, so that it might have been considered as a whole.

By obtaining the special permission of the Local Government Board to the retention of a fine belt of trees, with the old walls on the north and east, the most interesting amenity of the estate is safeguarded and preserved, and the problem set to competitors resolved itself into a question—how to continue this spirit of preservation and at the same time open up the estate for suitable building purposes.

The winning scheme shows a new road named Hartway, commencing at the corner of Croydon-road and Church-street, and laid on an axial line striking the centre of the front of the old mansion; this length of road to be 40 ft. in width and to be opened out at its mouth to form a safer sweep to the existing streets and allow of a central refuge at a somewhat dangerous corner. Could the boundary of the old of the Open Spaces Society be set back it would allow of the thorough development of this place.

Hartway is shown encircling the house, and

by a side sweep encircling the old elms, and thence turning northward into Rushworth-road. The Corporation's new route to Reigate Station.

A further road called Orchard-road is planned to run north-easterly from the house into the Corporation's new road.

The roads are to be generally 36 ft. wide to the standard of the by-laws. That part 40 ft. in width will be planted with trees and with all possible preservation of the old trees, as suggested on the plan.

The house is shown standing with the main block and west wing upon a reasonable reserve, and with the fine shrubberies and old shelter-house retained; this latter to be dedicated to the public use.

Directly opposite the house front a plot of land some two-thirds of an acre in extent, with lawns, rose trellis, and old trees, is shown as another reserve.

The reserved belt of trees is divided between the south and east walks, and the treatment proposed to the old wall is to cut openings, build piers, and erect white posts, and to form small bridges over the watercourse in Croydon-road. The finest of the trees should be retained, whilst the surface of the ground beneath them would be partly prepared as a gravel path and partly remain as grass.

The land set apart for building purposes is divided into fifty reasonably-sized plots. It is felt wisest to show a smaller rather than a larger plot, as the property must not on any account be set out on too large a scheme of plotting, and at the same time the policy of building houses closely together must be discouraged.

To this end it is proposed that all houses be absolutely detached; that, with reasonable exceptions, no house be built within 5 ft. or so of either boundary; and that some control be obtained over what is erected so that houses be reasonably good in appearance and not objectionable to neighbouring owners.

All trees of value or beauty in the interior of the grounds should be saved, at least for the present, the Council doing any necessary lopping of those near house sites to ensure safety in times of storm.

The author of the design has some confidence that the scheme he presents will not detract from the present exceeding beauty of the estate, and in some respects will add to that beauty by opening up views and distances that are now closed in.

**NEW ROAD FROM EASTHAM TO
ELLESMERE PORT, CHESHIRE.**

A new road is in course of construction between the above places, and, as the map on the next page shows, it is of considerable importance to the neighbourhood, where development schemes are in progress. Briefly, the advantages of the road are:—

1. The distance between Ellesmere Port and Birkenhead will be reduced from 12 miles to 9½ miles.

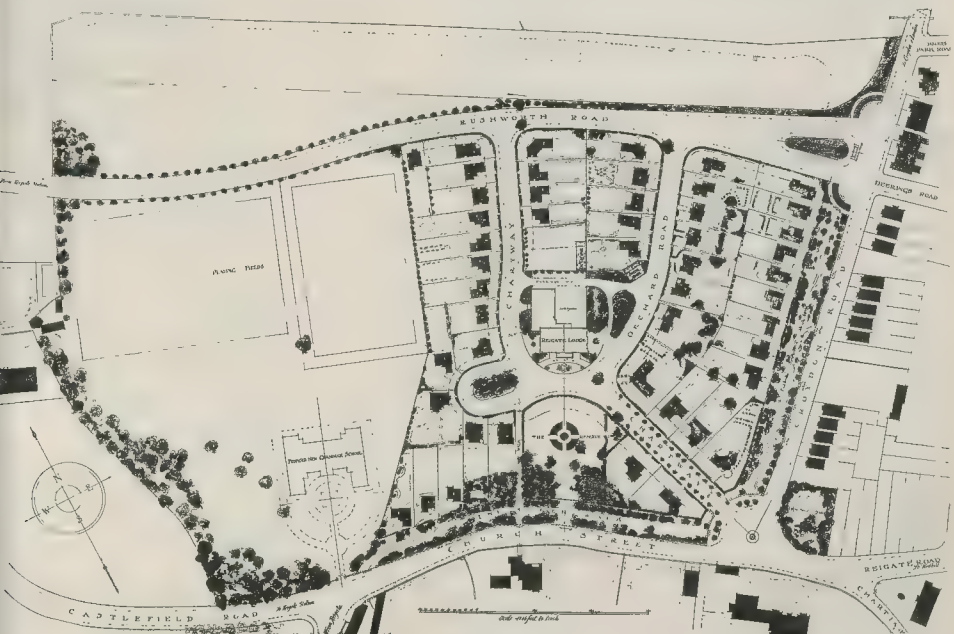
2. A wide, straight, and almost level road will be provided.

3. The road will form a base for town planning throughout its length, that is, a distance of 8 miles, between the village of Eastham and the town of Ellesmere Port.

The town of Ellesmere Port is the terminus of the old Bridgewater Canal, leading from Ellesmere in Shropshire to the River Mersey. A few decades ago it was merely a fishing village, but, following the construction of the Manchester Ship Canal, it became an important junction for the canal system, which connects it to Staffordshire and the Midland Counties.

The Shropshire Union Railway and Canal Company developed extensive basins, built capacious grain silos and railway sidings on the land adjoining the Ship Canal, and gradually industries began to be developed on the banks of the canal, the foremost being Burnells Ironworks, which was followed in later years by the Wolverhampton Ironworks, both works being engaged in the rolling and galvanising of corrugated-iron sheets. Subsequently the erection of flour mills in close proximity to the huge grain silos of the Shropshire Union Railway took place, these being Messrs. King's and the Imperial Flour Mills. Messrs. Frost, of Chester, have erected large and capacious flour and provender mills and, latterly, cement works equipped with the latest machinery, electrically driven.

It will be easily seen that, with the erection of these numerous works and the Canal Company's developments, the best of the available positions in the vicinity of the canal are taken up. In 1909 the Ellesmere Port Local Authority, now an Urban District Authority, decided to extend their boundaries. After the formal procedure of a Local Government Inquiry, the parishes of Overpool and Netherpool, on the northern



Reigate Lodge Estate Competition. Design placed first. By Mr. Vincent Hooper, A.R.I.B.A.



New Road between Eastham and Ellesmere Port, Cheshire.

(The route is indicated by the parallel lines.)

boundaries of Stanlow and Great Stanney on the southern boundary, were annexed, and were merged into one large district of Greater Ellesmere Port, the area being about one-fifth of that of Greater Liverpool.

With the exception of the approach from Chester *via* Backford Cross, the approach roads are practically all of a tortuous description. None is more so than the way from Birkenhead to Ellesmere Port, a secondary road which leaves the Birkenhead and Chester main road at Eastham. At a point about 2½ miles from Ellesmere Port a dangerous and difficult hill is encountered which presents formidable obstacles to any traffic other than powerful motor-cars. This hill is known locally as the Rivaere Hill. Heavily-laden vehicles, having once surmounted it, are within sight of the chimneys of the port, but a detour has to be made *via* the village of Whitby before the goal can be reached.

Another by-road approach from the Birkenhead road is at Little Sutton, but this road also descends precipitously through a valley, and is barely the width required for a fully-loaded vehicle.

The Urban District Council, realising the serious need of a good approach from Birkenhead, decided to adopt a scheme prepared by the Naylor Trustees to remove this obstacle to the development of Ellesmere Port and the district. This scheme provides for the development of works and factories alongside the Ship Canal. The road itself is shown on the plan. It commences at Eastham Village at a point some 6½ miles from Birkenhead, and proceeds in a south-easterly direction until it reaches a point about 200 yds. from the Ship Canal, on the lower side of the Hooton Park Racecourse.

From this point it runs parallel with the canal to Ellesmere Port, and finally passes over the railway bridge at Merseyton-road, thus giving direct access to the eastern, or dockside, district of the port.

It may be mentioned that the new road will pass within sight of Hooton Hall, which, prior to the construction of the Ship Canal, was the residence of the Naylor family. The road will also cross the Poole Hall brook, where an embankment of some 25 ft. in height will be constructed in order to provide a level road.

Poole Hall, an Elizabethan mansion, stands close by on the canal side of the road, and the grass-covered height of Mount Manesty (an artificial mound or spoil bank made of the excavations from the Ship Canal and named after the resident engineer who had charge of the works) forms a picturesque background. The road will possess much sylvan beauty, where it passes through the Shoulder-of-Mutton Plantation and the Rooston Woods, and Eastham Church will form a fine vista at the northern termination. The road will be 72 ft. in width, and will be completed in two or three years' time at a cost of about 30,000l. This amount will be borne mainly by the Naylor Trustees and partially by the Ellesmere Port Urban District Council. A large portion of the Council's expenditure will be recovered by frontage charges when the development of sites takes place.

Reserves of land will be made for accommodating railway or tramway tracks without encroaching on the width of land reserved for the road. The contract for the Naylor Trustees' portion has been placed in the hands of Mr. Charles L. Warren, of Seacombe, who has already

carried out extensive road-making contracts in the Wirral District. The plans have been prepared under the direction of the Naylor Trustees by their surveyor, Mr. Sidney A. Kelly, F.S.

A PAPAL TOWN-PLANNER

"AFTER an absence of ten years I do recognise it, so new does all appear to me to monuments, streets, aqueducts, obelisks, and other wonders—all the works of Sixtus Fifth." Thus the good Padre Don Angelo Gritti wrote at the end of the XVIIth century after a period of activity in city planning, during which the Papacy had played a great part in the remodelling of Rome. Julius II. cut the Via Giulia near the Tiber, Leo X. made the Ripetta, Pius IV. the Via Pia, and Paul III. Gregory XIII. the streets bearing their names. Sixtus V., however, far surpassed his predecessors in his zeal in reforming the city, and when it is recollected that his Papacy only lasted five years it is marvellous to behold the results and to note how Rome of to-day is indebted to him for many of her most characteristic features. The omnipresent dome of St. Peter's was finished through his energy, the Piazza del Popolo was laid out round his obelisk, the foundations for the steps in the Piazza di Spagna, the obelisks before the Churches of S. M. Maggiore and St. John Lateran, the Lateran Palace, and all due to this one man, and in order to understand his character a short sketch of his life is necessary.

One Peretto Peretti, who lived near Montalto, believed that he, though then a child, was destined to become the father of a Pope, and when on December 13, 1521, a son was born he called the child Felix.

At the age of twelve the boy entered the Franciscan Order, and, always bearing in mind his high aim—the Papacy—came to Rome where his sermons in the Church of SS. Apostoli attracted the notice of men like Loyola, Philip Neri, and the Cardinal Ghislieri, afterwards Pius V., by whom Peretti was made Cardinal. On the death of Pius V. in 1572 the Cardinal's fortunes received a severe check for the new Pope was Gregory XIII. (Bucconigatti), who was very jealous and suspicious of Peretti's income. Whereupon he retired to the Esquilina, where he passed his time building a villa in which he employed as architect a young Lombard named Fontana, who was a friend of his. This villa was called variously the Villa Peretti, Negroni, or Massimi, and was destroyed in 1874 by the municipality of Rome. Passing his time here in seclusion, the Cardinal awaited with what patience he could muster the death of the aged Pope, which occurred in 1585, and at the subsequent Conclave his behavior was as quiet and unobtrusive as his haughty and aggressive temperament would permit. The Sacred College, no doubt, had reason to regret their choice before long, for the new Pope was one of the most masterful men and resolute rulers who have ever occupied the Chair of St. Peter.

Sixtus V. was a town planner and civic ruler of the highest type. All that appertained to the city life interested him. He induced law and order among the population, he cleared out the *travi*, or hired assassins of the nobility, and even drove the *banditi* from the neighbourhood of Rome. He was perfectly just, but his measures were merciless. He turned his attention to the Papal finances, which he greatly reformed, and also established the congregations of the church in something like their present form. The reform of the Papal exchequer gave the Pope the necessary funds to carry out many improvements in the city, and the indomitable energy of the Pontiff, coupled with the mechanical skill of Fontana (now Papal architect) have given Rome many of her present landmarks.

The Pope was no respecter of antiquity; he demolished the Sestizionum, and was with difficulty persuaded to leave the tomb of Cecilia Metella untouched. He converted the disused Aqua Marcia into the Acqua Felice. He pressed on the almost despairing completion of the dome of St. Peter's, and so hurried matters that the architects Fontana and Della Porta carried the work through in twenty-two months. The Vatican Library, too, commenced in 1587, was due to the Pope's energy. Paul III. had once consulted Michelangelo for San Gallo about removing an obelisk from the circus of Nero, but both had replied that it was impracticable. Sixtus V., however, was not the man to be denied when his mind was made up, and the task was accomplished. He, however,

le his architect, Fontana, the two necessities unlimited funds and absolute power, but tactically intimated that failure would be his life.

Stories about the raising of the obelisk are by many, but Fontana, in his book on *castelli e ponti e trasporto dell'obelisco sicano* gives detailed drawings of the chimes and the manner of using them.

It suffices here to remark that the obelisk is 44 ft. long and 8 ft. 6 in. square at the base and 15 ft. 6 in. at the top, and weighs 350 tons. The disks and columns seem to have fascinated Pope, for in addition to those he mentions he placed one in front of SS. Trinita del monte, while he surmounted the columns of *roms Aurelius and Trajan* with statues of St. Peter and St. Paul, and the statues of the *re-tamers on Monte Cavallo* were placed in position by his orders.

He laid out the *Via Felice*, and the streets adjoining to the *S. M. Maggiore*, the *Via Sistina*, and the *Via S. Giovanni*, in Laterano, were constructed by him. The *Lateran Palace*, which, however, was never occupied, but was turned into a hospice about one hundred years later, was erected from designs of Fontana in 1613. He was the mover in a scheme, which is stopped at his death in 1690, to turn the *osseum* into a woollen factory with four floors, and as many staircases, and a large *mountain* in the centre. He also built the first *house*, using the word in the modern sense of a large building at the *cistherine end* of the *Monte Sisto*, to which were sent the *able-bodied* and *destitute*, those afflicted with contagious diseases going to *Porta Angelica*, and incurables *S. Giacomo* in *Augusta*.

Such, in brief, is the story of the building *temple* of the *Pontificate of Sixtus V.*, and assuredly deserves a place in the list of town *anners* of the past. Strong and resolute, he made Rome once more a well-governed and well *out* city, and in all departments of civic life the influence of his inflexible will and limited power—the two necessities of the *planner*—were felt to the lasting good of the *City of Rome*.

CIVIC DESIGN NOTES.

LAND to the extent of 750 *own-Planning* acres, having a frontage on the *Schemes in* the Great North-road, has been just purchased for an extension of the "garden *Hand.*" at *Letchworth*. The *Blackburn Town* Council have unanimously approved a town-*planning* scheme to be developed in an extensive *ea*, bounded by the *Revidge*, *Brownhill*, and *eston-road* districts. The *Local Government* Board have given authority for the preparation of town-*planning* schemes by the *Corporations* *Bournemouth*, *Halifax*, and *Southport*. The *Bournemouth* scheme is to apply to an area of about 223 acres in the *Southbourne Ward* of the borough. We referred to the *Southport* scheme in our issue of September 6 (p. 284). At *Halifax* two schemes are for the *Ovenden* and *Warley* districts, comprising about 880 acres and 756 acres respectively. A further *own-planning* scheme is in preparation by the *Urban District Council* of *Walthamstow*.

Purchase of Land for Brighton.

THE General Purposes Committee of the Brighton Corporation has decided to recommend the purchase of some 1,000 acres of the Downs adjoining the eastern boundary of the borough, including *Ovingdean Grange* and the *East Brighton Golf Links*. The price will be *35,000L.*, but, owing to the revenue produced by the land, it is estimated that the annual charge on the rates will be only *450L.*, after allowing for *demption* of loan and interest. It is intended to occupy part of the site by a *convalescent home* for the poor, which will be built and endowed out of a sum of *40,000L.* given to the town by *Mr. John Howard*. It has been suggested that the *village of Rottingdean* may ultimately be included in the *Borough of Brighton*.

The Borough Council on September 23 resolved by thirty-*road, Croydon*. five votes to sixteen to adopt the scheme for a relief road for motor traffic passing to the west, from

Thornton Heath to the Brighton road at *Turley*, by way of *Thornton-road*. *Waddon Marsh-lane*, *Waddon Court-road*, *Coldharbour-lane*, *Russell Hill-road*, and *Furley-corner*. The road will be 60 ft. wide, and follows existing thoroughfares, with the exception of about 180 yds. near *Waddon Court-road*. Towards the estimated cost, *55,493L.*, the Road Board promise to give *30,000L.* and the Ecclesiastical Commissioners *5,500L.* The Borough Council decided also to apply to the Local Government Board for sanction to borrow *19,743L.* When that is obtained they will at once proceed with the work.

The Real Purpose of the Town Planning Act.

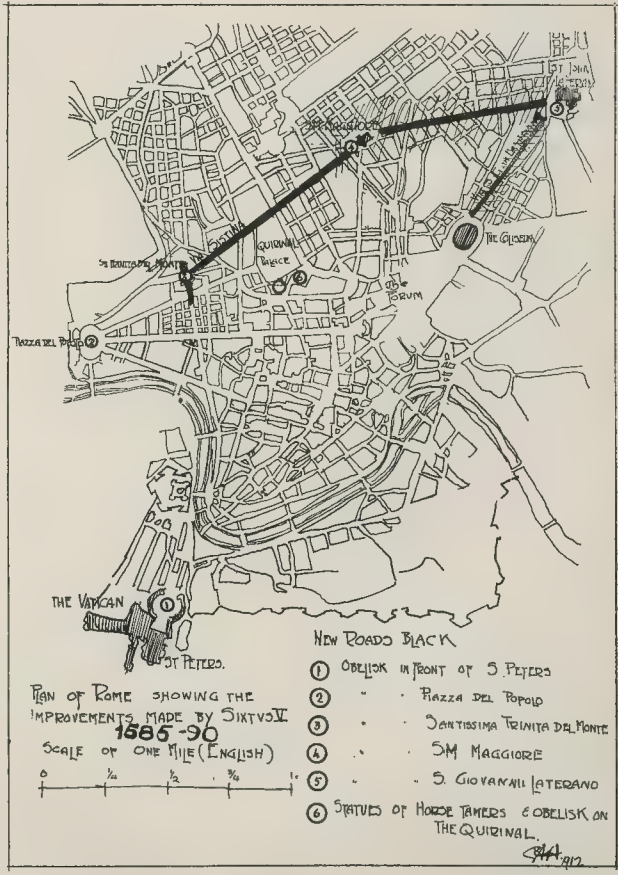
THE Housing and Town Planning Act, 1909, is being taken advantage of upon an absurdly inadequate scale, and not for the most essential ends. The regulations made by the Local Government Board do not encourage local bodies to do town planning; their effect is rather deterrent. At the present rate it will be over two centuries before the towns of England are properly town-planned. The little work that is being done under the Act has largely been in the direction of facilitating garden suburbs. This is well, but the truth is that garden suburbs can, as they did before the Act was passed, look pretty well after themselves; and the purpose for which the intervention of the law and the public authorities is indispensable is not to make the laying out of a few areas ideal, but to make that of the mass of our urban areas reach a tolerable standard of beauty, amenity, and convenience—*Daily Chronicle*.

Arterial Road in Lancashire.

A PROPOSAL, in which the Lancashire and Cheshire centres of the Roads Improvement Association are interested, has been put forward for the creation of a new arterial road connecting Liverpool with Southport, and from thence proceeding to Preston. Besides reducing the distance between these towns, such a road would serve the needs of the smaller seaside towns, which, since the advent of the railway, have outgrown their road facilities. It would also open up an agricultural district and land suitable for building development, and would probably prove to be a better method of improving the road communication between Liverpool and Preston than by the widening, straightening, and regrading of the existing roads. Should the Roads Improvement Association definitely approve the scheme steps will be taken to enlist the sympathy and co-operation of the Road Board and of the various local authorities concerned.

Insanitary Areas at Glasgow.

THE Glasgow Corporation proposes to deal with five insanitary areas more or less similar in character, but varying from 2½ to 9½ acres in extent, and containing a population of about 410 to the acre, as against sixty over the whole city. The average death rate in the city from all causes is 16.9 per 1,000; in the combined areas it is 22.7. The infantile mortality in the city is 136 per 1,000 births as against 180 per 1,000 in the combined areas, while in one of them it rises to 282 per 1,000. It is proposed to acquire and demolish the property. If, however, negotiations fail the Council will prepare an improvement scheme.



Plan of Rome showing improvements carried out by Pope Sixtus V.

THE BUILDING TRADE.

BUILDING NOTES FROM AUSTRALIA:

THE STATE AS LANDLORD.

THE expansion of the city of Sydney has during the last few years resulted in the remodelling of large areas. New streets have been formed, tenements demolished, and factories and business premises erected in their stead. The work is still going on, and is likely to continue for many years to come. This work has made the building trade extremely brisk. All workmen are employed, and all available building material is quickly absorbed. But, in spite of an average annual outlay of four or five millions upon the erection of buildings, there is a great scarcity of houses. Private enterprise failing to erect houses quickly enough to meet the demand, the New South Wales Government determined a short time ago to take up the work. A commencement was made on an area of land in one of the suburbs. A Bill was passed through Parliament authorising the Government to undertake the construction of 800 houses of from four to six rooms. Over three months has elapsed since the first brick was laid, and there are now two houses available. The Government advertised for tenants for these. Six hundred and eighty applications were received. Of these eighty-five offered to pay 7s. 6d. to 10s. 6d. per week, 199 from 11s. to 12s. 6d., 261 from 13s. to 16s. Tenants will be selected by ballot.

The object of the Government in entering upon this building scheme was mainly to strike a blow at private landlords, who were said to be taking advantage of the scarcity of houses by charging exorbitant rents. It was thought that the Government, having unlimited resources, and not entering the field for the sake of profit, could soon erect a sufficient number of houses to overtake the demand. But it has proved otherwise. In spite of the fact that the Government has its own brick and lime kilns, cement works, and timber yards, it is hopelessly unable to keep up a sufficient supply of materials. It has also difficulty with its employees, who are employed on the day labour system, and the poor result of its socialistic enterprise has disappointed those who at the outset were its warmest supporters. It has, in fact, intensified the difficulty. Capitalists have withheld from embarking upon building enterprises, preferring not to enter the field in competition with the Government.

Building Regulations at Melbourne.

New building regulations for the city of Melbourne have been drawn up in order to replace those introduced about 1865, and which have been in force ever since.

The most important section of the regulations relates to the new materials and their methods of use. With the introduction of the steel frame works, and also the concrete foundations, the thickness of the walls has been greatly reduced. In the case of the brick walls the minimum thickness is now 9 in., a very great reduction on the old regulations, which gave an absurd margin of safety. The calculations are now based on length as well as height, whereas formerly it was merely a question of height alone which determined the strength of walls. The clauses dealing with the quantity of mortar and sand are stringent, and the proportions for the mixing of concrete are definitely stated. The safe bearing load to apply to concrete when Portland cement is used is to be taken at 12 tons per square foot. The Council is to be given power to approve, with the consent of the referees, any new materials or methods of construction different from those set out in the regulations.

In the old regulations it was stated that no building should be erected upon foundations that were not set on bed rock, but now provision has been made for artificial foundations. This means that rafts or piles may be used where necessary, on which superstructures may be placed. Foundations of all walls of wood are to consist of red gum or jarrah strumps 4 in. square, spaced not less than 18 in. below the natural surface of the ground.

Buildings are to be allowed to be erected to a height of 132 ft., instead of 110 ft., in streets that are 99 ft. wide, but this subject to certain conditions being fulfilled. In streets 33 ft. wide the height has been increased from 82 ft. 6 in. to 99 ft. The minimum of each story from floor to roof is to be 9 ft. The greatest space to be enclosed by dividing walls and fireproof ceilings is 360,000 cub. ft. This means that for about every four stories there shall be a fireproof floor. Special fireproof materials are laid down.

Under the old regulations the special provisions laid down for either lighting or ventilation were totally inadequate, and many of the old buildings are to-day being reconstructed to allow light courts to be placed in the centre of the buildings. In many instances the property owners, to save space, curtailed the lighting courts, and with the advent of the more modern and naturally lighted building, the offices lighted with artificial light could not be let. The new regulations lay down minimum space for the light courts and specific directions for ventilation. Every room is to be provided with outlet ventilators, of which the total area in square inches, free from obstructions, shall be equal to the cubic capacity of the room in cubic feet divided by 75. Every room of a domestic building is to have one or more windows opening directly into the external air, or into a conservatory with a total superficies equal to one-tenth of the total area of the room. Provision is also made that the window shall be easy to open. The height of any wall abutting on a light court is not to exceed three and a half times the width of such court, if it be enclosed, or may be enclosed on every side, or four times the width if it be open at one or both ends.

At the present time the only buildings that must be provided with fire-escapes are factories and warehouses, but the new regulations insist that fire-escapes and protection, as complete as possible, shall be provided in all office and domestic buildings as well.

THE INSURANCE ACT AND WORKMEN'S COMPENSATION.

AMONGST the subjects discussed at the meeting of the Law Society was the question of Insurance and Workmen's Compensation. As no benefits are yet payable under the Insurance Act, the joint operation of the Act and Workmen's Compensation has not yet come in for much consideration, but in the future, we imagine, a good deal will be heard about this question. Sect. 11 of the Insurance Act deals with this point, and the provisions of that section are somewhat curious.

Subsect. 1 (a) provides that no sickness or disablement benefit shall be paid to any person who has received or recovered or is entitled to receive or recover (the italics are ours) compensation under the Workmen's Compensation Act or damages under the Employers' Liability Act where the weekly sum or the weekly value of any lump sum is greater than the benefit, and if it be less the benefit shall only be paid to make up the difference to what would be the full benefit.

Subsect. 2 provides that "Where an insured person appears to be entitled to any such compensation or damages as aforesaid, and unreasonably refuses or neglects to take proceedings to enforce his claim, it shall be lawful for the Society or Committee concerned either (a) at its own expense to take in the name and on behalf of such person such proceedings, in which case any compensation or damages recovered shall be held by the Society or Committee as trustee for the insured person, or (b) to withhold payment of any benefit to which, apart from this section, such person would be entitled." If the Society or Committee take proceedings and fail, they shall be liable for costs. Now, of all branches of the law in which uncertainty exists, the Workmen's Compensation Act has proved the most difficult to construe. The Court of Appeal and the House of Lords are constantly divided in opinion as to whether compensation is or is not payable, and the number of appeals has been enormous. Are the Societies to undertake speculative actions?

And are their funds to be liable for costs under the House of Lords? Worse still, is the insured person to be deprived of every benefit to be compelled to take the plunge into the vortex of litigation, and in his case where the costs to come from? Lastly, will not insurance companies withhold payments on the chance of making the insurance funds liable and will not litigation be increased?

Besides the questions under subsect. 1 (a), Societies and Committees have to determine that difficult question—the weekly value of a lump sum, and an appeal lies from the decision, in the case of a Committee to Insurance Commissioners, in the case of a Society according to its rules, but with ultimate appeal to the Commissioners (sect. 67).

Practical considerations appear in many ways to have been laid aside in this hurriedly conceived piece of legislation, and we are present only at the beginning of troubles in connexion with its administration. The past of the Act and its subsequent administration irresistibly recalls to mind a line from a nursery rhyme, which is applicable in many ways: "Send for a doctor, quick. Anyone will do."

LAND REGISTRATION.

At the meeting of the Law Society some adverse comments were made upon the Memorandum recently issued by the Land Registry, to which we alluded in our issue of June 14 last, and a paper was read upon "The Land Transfer Problem," by Mr. J. S. Rubenstein, in which he advocated registration deeds in place of registration of title; but the question was rather shelved, as an amendment to a resolution moved by him, suggesting a conference of persons interested in land with a view to taking concerted action, was carried simply leaving the question to the consideration of the Council.

Without again entering into the merits of the system of compulsory registration, we will suggest that a long enough time has elapsed since registration was made compulsory as an experiment in the County of London for some definite conclusions to have been arrived at, and that this very partial compulsion limited to one area, and only applied in its least useful form to "possessory titles," prejudices property in that area, and therefore some steps should be taken either to extend or, far better, to terminate an experiment which has been tried now for some twelve years.

It will be remembered that even in the Memorandum issued by the Land Registry was stated that the object of the Acts was to attain registration with absolute title, but that "it would obviously be impracticable to complete registration of an absolute title in all cases. The registration of possessory title, it was explained, was a sort of compromise, and, as possessory titles take a considerable time to mature, the benefit of the system was not appreciated. Such a makeshift experiment must operate to the disadvantage of the one area in which it is made compulsory, and where everyone is turning to the overburdened land with a view to increasing taxation we submit that their energies might first be better directed to devising a cheap and efficient form of transfer."

A MODERN INQUIRY.

THE *Times* on September 23 published a form with a schedule of inquiries marked "Private and Confidential," which, it is alleged, is for use by the Committee who are to inquire into the occupation and ownership of land. It is also assumed that the Chancellor of the Exchequer is associated with this inquiry. It is surely essential that the constitution and authority of this Committee should be made clear, for if it is a private investigation it is a piece of impertinence, whereas if in reality it is countenanced in official quarters its private and confidential character not only forms an entirely new departure, but is a development of Star Chamber practices. Besides an army of valuers and two or three regiments of

Mayfair (Messrs. G. Trollope & Sons and Colls & Sons, Ltd.).—Consent.

St. George, Hanover-square.—Erection of an iron and glass shelter in front of No. 38, Hertford-street, Mayfair (Messrs. Starkie Gardner & Co., and the Artificers' Guild, Ltd., for Mr. Levey).—Consent.

St. Pancras, South.—Retention of advertisement hoardings abutting upon Euston-road, Bidborough-street, and Judd-street, St. Pancras (Willing's Billposting Company, Ltd.).—Consent.

Wandsworth.—Temporary wooden rack in front of No. 103, Balham-hill, Wandsworth (Messrs. Young & Co.).—Consent.

Wideth of Way.

City of London.—The erection of a forecourt boundary at less than the prescribed distance from the centre of Bell-yard, Gracechurch-street, City (Mr. W. Campbell Jones for the Hong-Kong and Shanghai Banking Corporation).—Consent.

Pinsbury, Central.—Erection of a building to abut upon High-street, White Lion-street, Seabrook-place, and Angel-mews, Islington (Mr. H. Harrington for Mr. Davis).—Consent.

Hammersmith.—Erection of a building on the eastern side of British-grove, Hammer-smith (Chibbald's Bakeries, Ltd.).—Consent.

Hammersmith.—Erection of a building at the rear of Nos. 106 and 108, King-street, Hammersmith (Messrs. J. S. Quilter & Son for Mr. J. C. Platt).—Consent.

Kensington, North.—Erection of an addition at Nos. 15A, 14A, 15A, and 16A, Colville-mews, Notting Hill (Messrs. Thackray & Syms).—Consent.

Levensham.—Erection of an addition to Pentland House, Old-road, Lea, with a forecourt boundary (Mr. R. S. Ayling for the Worshipful Company of Goldsmiths).—Consent.

Paddington, North.—Erection of an addition at No. 12, Shirland-mews, Paddington (Messrs. Cuthbert Lake & Co.).—Consent.

St. George, Hanover-square.—Erection of an addition at the St. James's Club, Piccadilly, at less than the prescribed distance from the centre of the roadway of Brick-street (Messrs. Maple & Co., Ltd.).—Consent.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ADLINGTON.—Addition to works for the Pincoft Dyeing and Finishing Company.

BARBUGH.—Electricity generating-station (25,000kV) for the Yorkshire Electric Power Company.

BEDWORTH.—Church, Coventry-road, for the Trustees of the Croxhall-street Baptist Church. Birmingham.—Warehouse, Warstone-parade. Messrs. Riley & Smith, architects, 135, Colmore-row, Birmingham. Factory, Charlotte-street; Mr. F. Suffield, architect, 57, Colmore-row, Birmingham. Theatre, Station-street; Mr. S. N. Cooke, architect, King's Court-chambers, Birmingham. J. Bowen & Sons, builders, Balsall Heath, Birmingham. Extensions to Council House and Art Gallery (57,068sq. ft.); Messrs. Barnsley & Sons, builders, 102, Ryland-street, Birmingham. Bognor. Town-planning scheme; Mr. O. A. Bridges, Surveyor. Town Hall, Bognor.

BRIGHTON.—Headquarters (2,500kV) near Grand Parade for the Brighton Imperial Service (Cable Corps; Mr. J. W. Hawkes, architect, North-street Quadrant, Brighton).

BURY.—Additions to saw mills for Messrs. J. Atherton & Co., hardwood merchants.

BURY ST. EDMUNDS.—Additions at infirmary (3,270kV); Messrs. Grimwood & Son, builders, Sudbury, Suffolk.

CAISTON.—Unionist hall; Mr. A. S. Hewitt, architect, Regent-street, Great Yarmouth.

CARSHALTON.—Auction hall and offices, North-street, for Messrs. G. E. Hough & Co., auctioneers and surveyors, North-street, Carshalton.

CHICHESTER.—Proposed bacon factory; Mr. F. H. Chadwick, J.P., Chairman, West Sussex Farmers' Union.

CHORLEY.—Schools (4,000kV) for the Trustees of St. Joseph's Roman Catholic Church, Harpenden, Chorley.

CLEATOR MOOR.—Branch premises, etc., at Kells for the Co-operative Society.

COATBRIDGE.—Additions and alterations to ranger's house, Dunbeth Park (360kV); Surveyor, Burgh Hall, Coatbridge.

DALKEY.—Forty-four houses, Carraway-road, for the Dublin United Tramways Company.

DARWEN.—Alterations at St. George's Church (1,000kV) for the Vicar.

DAVENTRY.—Enlarging isolation hospital (1,000kV); Mr. J. B. Williams, Surveyor, Town Hall, Daventry.

* See also our list of Competitions, Contracts, etc., on another page.

DOUGLAS (Isle of Man).—Opera house for the Directors of Derby Castle, Douglas.

DUBLIN.—Stables for the Corporation (574kV); Messrs. B. Pemberton & Son, builders, Wellington Lodge, Serpentine-avenue, Ball's Bridge, Dublin.

DUDLEY.—Conveniences, Market-place (967kV) and Holly Hall (443kV); Messrs. Jakeman & Round, builders, Vicar-street, Dudley. Plans have been passed for extensions to electric theatre, High-street, for the Wolverhampton and Dudley Breweries, Ltd., and for extensions to offices, Washington-street, Netherton, for Messrs. N. Hingley & Sons.

DUKINFIELD.—School; Vicar of St. Luke's Church, Dukinfield.

DUNDEE.—Additions and alterations to the Royal Infirmary (1,780kV) for the Governors.

ECCLES.—The following plans have been passed:—Ten houses, Harrison-street, Peel Green, for Mr. James E. Owen; works and store, Irwell-terrace, for Messrs. Barnak, Ltd.; extensions to warehouse, Silk street, for the Eccles Industrial Manufacturing Society, Ltd.; additions to Salvation Army Hall, St. James's street, for Mr. W. B. Booth.

ELTON.—Extensions at dyeworks for Messrs. S. Smethurst & Sons, Ltd., cotton dyers; extensions at foundry, Wood-street, for Messrs. Charles Walmesley & Co., Ltd., wholesale iron-founders.

ERITH.—Hall, etc., Avenue-road, for the Trustees, Wesleyan church.

GARSTANG.—Council offices, Lancaster-lane; Messrs. Collinson & Sons, builders, Nately, Garstang.

GREENOCK.—Five houses, Serpentine-walk, near Crescent-street; Mr. A. J. Turnbull, Master of Works, Burgh Hall, Greenock.

GRESFORD.—Conservative club; Messrs. Swainson & Sons, architects, 42, Regent-street, Wrexham.

HALMEREND.—School; Mr. J. Hutchings, Education Officer, Stafford.

HAREFIELD.—Rebuilding Swan public-house for Messrs. T. Wethered & Sons, Ltd., brewers, Marlowe.

HAYES (Middlesex).—Factory, Silverdale-road, for the Orchestral Company, pianoforte manufacturers, Hayes.

HEATON.—Electric theatre; Mr. Percy L. Browne, architect, Pearl-buildings, Northumberland-street, Newcastle-on-Tyne.

HEBDEN BRIDGE.—Church (8,000kV) for the Trustees, St. John's Mission Church, Hebdon Bridge.

HERNE BAY.—Extensions to pavilion; Mr. F. W. J. Palmer, Surveyor, Urban District Council Offices, Herne Bay.

LISCARD.—Addition to the Lancashire and National Sea Training Homes for Poor Boys for the Navy League, 11, Victoria-street, S.W.

LLANWRIN.—School; Mr. L. Phillips, Montgomeryshire Education Officer, Newtown.

LUTON.—Baths (12,595kV); Mr. T. Higgs, builder, Moore-street, Northampton.

LUTTERWORTH.—Seven houses, buildings, etc., Misterton Estate; Mr. S. Pick, County Architect, Millstone-lane, Leicester.

LYME REGIS.—Thirty-two houses (1,595kV); Messrs. W. Caddy & Sons, builders, Lwesden, Lyme Regis.

MEDOMLEY.—Church; Mr. J. Eltringham, architect, Railway-terrace, Blackhill.

MENSTONE.—Hospital (5,500kV); Mr. E. C. Newstead, Clerk, Wharfedale Guardians' Offices, Otley.

NELSON.—Weaving shed (2,000 looms) for Messrs. Nelson & Sons, manufacturers, Nelson.

WEAVING SHED (1,500 looms); Mr. J. E. Atkinson, builders, Shaw-street, Colne.

NEWTON.—School (6,500kV); Mr. A. H. Collingwood, Education Officer, Carlisle; architect to be appointed by competition.

NEWTOWNS.—Factory, South-street, for the Irish Tapestry Company.

NORMANTON.—Picture theatre, St. Thomas's-road; Messrs. Ford & Sons, builders, Summerhill, Victoria-street, Derby.

NORTON.—Picture hall, Welham-road, for the Universal Bioscope Company.

NORWICH.—Headquarters of children's homes (2,365kV); Mr. S. E. Hodge, builder, 69, Gort-rude-road, Norwich.

PETERSFIELD.—Additions, etc., to the Petersfield and District Steam Laundry for the proprietors.

PLYMOUTH.—Workshops at Compton Tramway Depot (800kV); Mr. C. R. Everson, Tramways Manager, Town Hall, Plymouth.

PRESTWICK.—One hundred and fifty houses; Manager, Prestwick Colliery Company.

RAWENSTAN.—Alterations to central station; Mr. J. Johnson, Surveyor, Town Hall, Rawtenstall.

REDFORD.—Isolation hospital; Mr. J. D. Kennedy, Surveyor, Market-square, Redford.

RHVL.—Drill hall, etc. (4,000kV); H.M. War Office, Whitehall, S.W.

RICARTON JUNCTION.—School for the Castle-ton School Board.

ROCHESTER.—Additions to King's School, The Precinct, for the Governors.

RUGBY.—Motor garage at works of British Thomson-Houston Company, manufacturing electrical engineers; alterations to premises, High-street, for Messrs. Ltd., chemists.

SALFORD.—Plans have been passed for Withington-street, Pendleton, and Farnley-road and Strawberry-road, Pendleton, lodged for works, Meadow-road, Broughton and electric theatres, Great Clowes, Broughton-lane, Broughton, and Devon-street, Broughton.

SALTCOATS.—Plans have been lodged for theatre in Hamilton-street by Mr. George Kemp.

SOUTHAMPTON.—Extensions to underground convenience, Pound Tree-road (260kV); J. A. Crowther, Engineer, Town Hall, Southampton. A plan has been passed for lodging No. 17, High-street for Messrs. W. Burnett. Plans have been lodged for houses, etc., Leighton-road, by Mr. C. Soper.

SUNDERLAND.—Institute, Moorgate (850kV); Messrs. Caws, Steel, & Caws, Agents, 22, Fawcett-street, Sunderland. Thornton.—School, Heys-street (2,872kV); H. Litter, architect, 16, Ribblesdale, Preston.

UPWAY (Dorset).—Pumping station, (8,162kV); Messrs. Jesty & Baker, builders, Castletown, Portland.

WALKER.—Proposed garden suburb houses; Mr. Frederick J. Holford, Architect, Town Hall, Newcastle-on-Tyne.

WAVERTREE.—School, Thingwall-road (places); Mr. J. Legge, Education Officer, Liverpool.

WESHAM.—Additions to premises for Wesham Mill Company, Ltd., cotton spinners.

WILLESBOROUGH.—Additions to works of Albemarle-road, for Messrs. Earl & Balfour.

WOLVERHAMPTON.—Nursing infirmary, T. & S. Ham, builders, Manders-road, Wolverhampton.

YSTRADFELLE.—Memorial hall; Mr. G. Hann, architect, 39, Castle-street, Swansea. Mr. T. Davies, builder, Aberdare.

FOREIGN AND COLONIAL

Building in Bavaria.

Mr. Ehrenbacher, British Consul, reports on the building trade of Bavaria for states that private building, as well as for Government and municipal purposes, was very brisk, and in consequence of the generally good, it has so far found impracticable to syndicate building tractors, in consequence of the difficulty of reconciling conflicting interests and aims; this is further intensified by the dissimilarity of the trade. The sales of near building materials, the Consul continues, exceptionally large in the spring of the year under review. During the height of the extended terms had to be granted for deliveries. The continual heat which set in on checked trade, but in November, December business became again more favourable to the open weather, which was good profits were only realised by manufacturers of such articles as cement, cement iron girders, reed mats, etc. For these at minimum sale prices were fixed by associations or syndicates, and thus the cutting down prices had, to a large measure, been avoided. On the other hand, prices had been low articles for which manufacturers were syndicated, especially for tiles, gypsum, plaster of Paris sheets, etc.

Roads in the Dominican Republic.

Laws have recently been passed with object of carrying out city improvements road-making generally in the Dominican Republic. The scheme includes the construction of roads designed to connect the main provincial cities with commercial harbours, also the erection of houses in the towns and extensions are needed.

Public Works in Austria-Hungary.

The municipal authorities of Reichen (Austria) have decided to apply to the Government for powers to contract a loan for purpose of carrying out public works. The estimated cost of the scheme is estimated at a sum of 732,000kV, which will be required for the carrying out of drainage, street paving, waterworks, etc., abattoir improvements, the construction of barracks, and other purposes.

Building Material and Accessories.

The municipal authorities of Nagyvér (Hungary) will invite tenders shortly for erection of workmen's dwellings at a cost about 34,600kV.



Cardiff Fire-station Competition : First Premiated Design.
By Messrs. E. Vincent Harris & T. A. Moodie, A.A.R.I.B.A.

CARDIFF FIRE-STATION COMPETITION.

is somewhat uncommon problem presented the planning of a fire-station probably on this competition elicited, and also for the fire standard reached by the premiated designs. At the time of reviewing only the four placed by the assessor, Mr. A. Marshall McKenzie, A.R.S.A., were available for examination, so it was impossible to judge of the competition as a whole. A first casual glance at the several schemes seems to suggest inconsistency in the award, which may perhaps have been attributable in a problem which admitted of more than one solution. Of this and other points it will be possible for competitors to judge later, when the whole of the drawings are to be exhibited at the City Hall, Cardiff, this and part of next week.

We have briefly noted the result in our last issue. The site is on an angle formed by the junction of a narrow street with a broad thoroughfare (Eastgate-street), with the greater frontage to the latter. The cost limit, 15,000*l.*, seems, from reports attached to the designs, to have been ample to allow of satisfactory treatment. The design placed first, that by Messrs. Vincent Harris & Moodie, of London, illustrated here, consists of a rectangular main building fronting along the principal frontage, with a smaller block placed at the rear and along the rear frontage to the narrower street. This resulted in a compact-looking scheme, in which all the firemen's quarters are provided in the engine-room and contingent departments, but it is effected at the cost of taking the building an additional story to those required in the conditions. The superintendent's office is in an isolated position—a feature unique amongst the premiated designs. The fire vans and ambulance housing arrangements might be criticised on the score of convenience, and, as far as the present horse-drawn arrangements are concerned, a certain amount of re-arranging would be necessary within the engine-room to get them into their places after being swung down, as the duty stalls block ingress into the yard. A good feature is the additional cases at the south end of the building from the engine-room quarters. The quarters are quite compactly arranged, and the sliding pole arrangements are very suitably placed. There is a convenient fire engine store extending practically under the main building, but which is, however, badly lit.

The elevations are treated on broad and suitable lines. A curious note in the report is to the effect that the "buildings are isolated from surrounding properties in case of fire"! This scheme is priced at 14,690*l.*

The second premiated design, by Messrs. Jones & Thomas, of Cardiff, shows an immense engine-room, 85 ft. by 35 ft., rather more than half as large again as asked for. The hose tower is placed entirely within this room, which does not strike us as a convenient arrangement. The watch-room is entirely dependent upon borrowed lights, and to reach the superintendent's office from the engine-room one has to traverse a corridor and cross the main entrance passage to the firemen's quarters. The position of the escape house in this design seems very questionable, as the apparatus would have to be run out into a very narrow thoroughfare and swung immediately it was through the doors. On the upper floors the tenements are cramped,

and the living-rooms overshadowed by balconies—a fault easily remedied by placing them in the front of the building, as was the case with most of the other designs.

The elevations are "neo-Greek" in character, and would have made an interesting façade. The drawings comprising this design are beautifully executed, and may have influenced the assessor to some extent in his decision to give the scheme second place.

Messrs. Mangnall & Littlewoods, of Manchester, receive third position with a scheme which cannot be considered one of outstanding merit. An undue proportion of the ground floor of the main building is given up to the superintendent's living accommodation, and to the prison van and ambulance store, with the consequence that other required rooms and offices, stores, etc., are disposed about the yard, reducing its area, which was noted as being an important feature on account of its intended use for drill purposes.



Cardiff Fire-station Competition : First Premiated Design.
By Messrs. E. Vincent Harris & T. A. Moodie, A.A.R.I.B.A.



"Dura Den," Beckenham Place Park.

Mr. A. C. Morris Edwards, A.R.I.B.A., Architect.

The tenement arrangements on the upper floor are in places quite a jumble, with long dark passages; in one case a larder is entirely enclosed and without light, and in another light and ventilation is got from solely the main staircase hall.

These elevations are far too pretensions and quite unsuited to a fire-station. The central tower, which appears to dominate the Westgate-street front, in reality stands alone in the yard, far back from the building, and could never have anything like the effect it has in illustration.

The fourth premiated design is by Messrs. Wilmott & Smith, of Cardiff, and is somewhat unique. At the same time it is difficult to understand why it received serious consideration at the hands of the assessor. The lay-out takes the form of a triangle consisting of three blocks of building, enclosing a washing space for engines, and with a flat roof forming the drying yard for clothes, etc., over. This means that the enclosed yard and one side of each block facing it would be absolutely dark. It seems quite an error of judgment to cut off the drill-yard from the main building by an intervening block. The tenements are all arranged in the Westgate-street front portion, and form a symmetrical block.

One was forced to the conclusion that, with the exception of the design placed first, none of the premiated ones would have proved a satisfactory solution of the problem in execution.

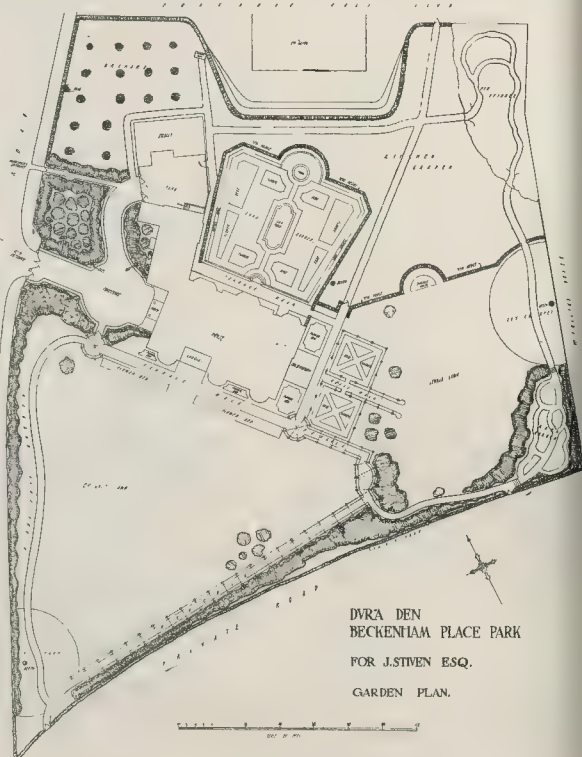
"DURA DEN," BECKENHAM PLACE PARK.

THE planning of this house was largely influenced by its position being on the boundary of the Foxgrove Golf Links, with an extensive view across them. It is built of 2-in. red bricks in varied tints, with half-timbering of solid English oak on the first floor left to weather of its own accord. Sand-faced Loughborough tiles of a dark strawberry colour have been used for roofing purposes.

The best outlook facing north-east causes the reception-rooms to be separated on plan, and this determines the large central panelled corridor which leads from the hall to the conservatory, and from which the reception-rooms are approached. These are also panelled, oak being employed for this purpose in the case of the dining-room and billiard-room. The house is entirely built on two floors with the exception of the smoking den, which has been placed in a tower at the south-east corner of the building, and commands extensive views of the surrounding country.

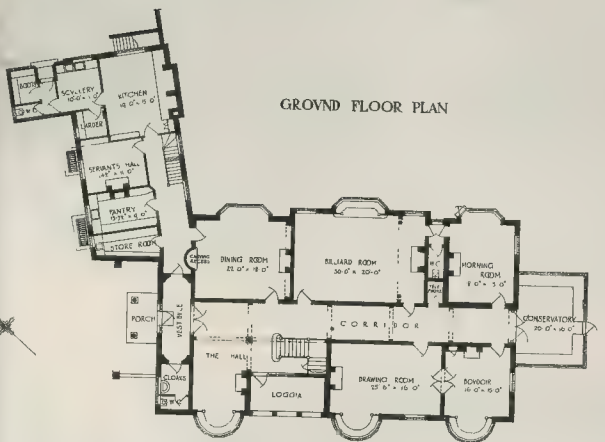
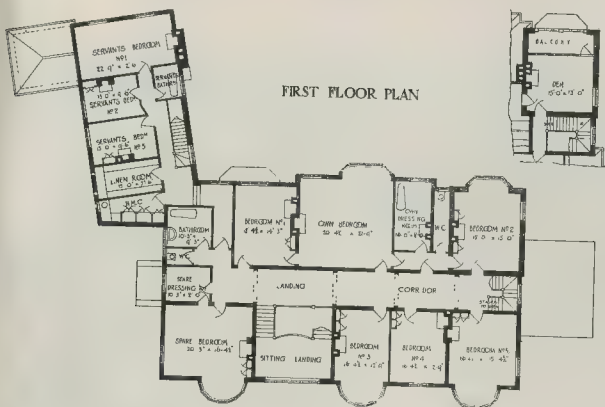
The laying-out of the garden has been considered in due relation to the house and links. The main entrance is approached through a circular forecourt with a road to the garage

on the left and an entrance to the garden the right. On the north-east front there is a sunk garden with lily ponds between the house and the links. The rest of the garden



DURA DEN
BECKENHAM PLACE PARK
FOR J. STIVEN ESQ.
GARDEN PLAN.

Mr. A. C. Morris Edwards, A.R.I.B.A., Architect.



"Dura Den," Beckenham Place Park.
Mr. A. C. Morris Edwards, A.R.I.B.A., Architect.

is given up to tennis and croquet lawns, patios, and walks, etc.

The contractors were Messrs. W. F. Blay, Ltd.; Messrs. C. H. Norris supplied the 2-in. bricks; Messrs. G. Tucker & Son the roof tiles; Messrs. Drew, Bear, Perks, & Co. the steelwork; Messrs. Wontner Smith, Gray, & Co. the heating and domestic hot-water supply; Messrs. Wing & Webb the door and window furniture; Messrs. Marten van Straaten the floor and wall tiling; Messrs. Strode & Co. the electric installation; Messrs. Doultons the sanitary fittings; the Bromsgrove Guild the modelled plasterwork and electrical fittings to reception-rooms; Messrs. Salway Bros. the entrance gates; and Messrs. Cheal & Son the garden.

CHALET AND RESIDENCE, RIDDLEDOWN COMMON.

This building was designed by Mr. Sydney Perks, F.R.I.B.A., to accommodate school-children for teas, etc., and the house adjoining is planned for one of the keepers of the Common.

BUSINESS PREMISES, CONDUIT-STREET.

THESE showrooms (p. 394), for Messrs. Rolls-Royce, Ltd., are situated in Conduit-street, W., and have just been redecorated from the designs of Mr. E. Keynes Purchase, F.R.I.B.A., in the style of Charles II.

The plan of the main showroom may be said to be divided into four distinct bays, separated from each other by oak pilasters, having finely-carved caps and bases of the Ionic order. The walls are treated entirely in English oak panelling, with large bolection mouldings and folded panels. All the oak was treated with a dark stain, which was applied while hot and worked in with the aid of wire brushes, the latter also tearing the grain of the oak and giving it a more or less antique appearance. The heavy oak cornice, with the gilded ornament applied to same, taken from an original example of the period, give a characteristic finish to the panelling and leads up to the ceilings, which are finely enriched with typical ornament. One of the features seen immediately upon entering the showroom is a finely-carved and gilded side-table, with marble top and mirror frame above, the upper panel of the frame being filled with old red silk having an old "cartel" clock of the period fixed in it. This feature adds interest at this

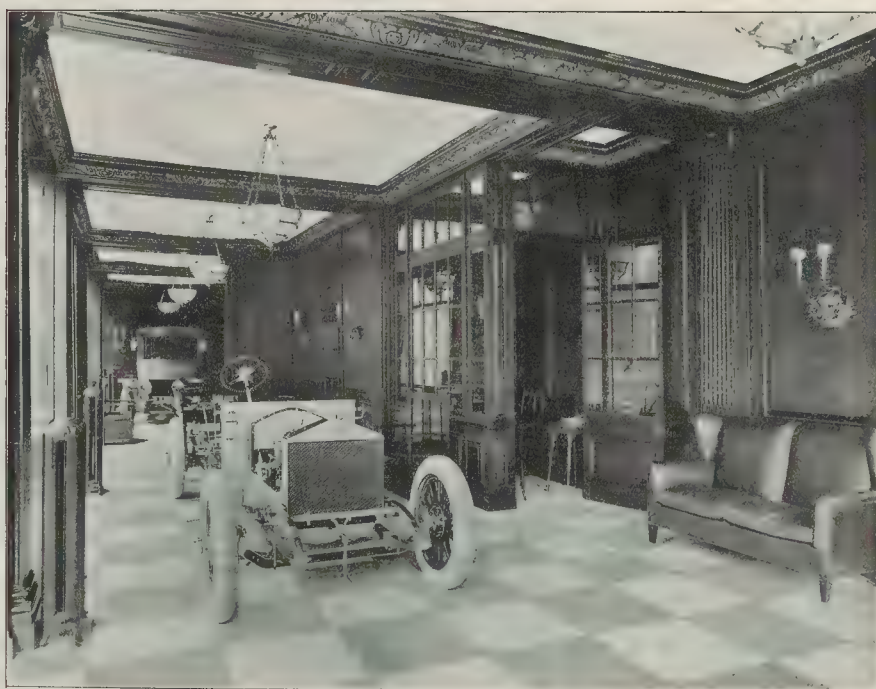
Chalet and Keeper's Residence Riddlesdown Surrey





Business Premises, Conduit-street.

Mr. E. Keynes Purchase, F.R.I.B.A., Architect.



Business Premises, Conduit-street. (See page 393.)

Mr. E. Keynes Purchase, F.R.I.B.A., Architect.

The council has been recommended to approve the widening of Ashcombe-road Bridge at an estimated cost of 3,000*l*. Slab-paving is to be substituted for brick-paving in the footpaths of the road for a distance of 100 yds. at a cost of exceeding 105*l*. A sun-road at 300*l*. is provided for in the next half-year's estimates for tar-paving works in Coombe-lane. The Borough Surveyor has been directed to prepare a plan showing the extent of the cost of making up the Ashcombe-road. The same savings have been received from the Local Government Grant—793*l*. for "Roadmaking" paying in High-street 1,210*l*. for woodblock paving in Torprie-road, Hill-road, Broadway, and Mersey-road—800*l*. for foundations in connection with above.

Monk, 55, Fitzjohn's-avenue, Hampstead, in-
vites tenders for two seven-roomed houses in
Donkville-avenue. See advertisement in this
issue for further particulars

WOOD.

WOOD (Continued)

JOHNSTON'S WOOD (Continued).			
	£ s. d.	£ s. d.	£ s. d.
Danish and Stettin Oak Logs—			
Large, per ft. cube.....	0 3 0	0 3 0	0 3 9
Small ".....	0 2 6	0 2 6	0 2 6
Wainsot Oak Logs—			
Large, per ft. cube.....	0 6 6	0 6 0	0 8 0
Dry Wainsot Oak, per ft. sup. as inch.....	0 10 0	0 10 0	0 1 0
do.....	0 0 8 1/2		
Dry Mahogany—Round Fe- tasso, per ft. super. as inch.....	0 10 0	0 10 0	0 1 1
Selected, Figury, per ft. super. as inch.....	0 1 6	0 2 6	
Dry Walnut, American, per ft. super. as inch.....	0 10 0	0 10 0	0 1 0
as inch.....	18 0 0	22 0 0	
American Whitewood planks, per ft. cube.....	0 5 0	0 6 0	
Prepared Flooring, etc.—		Per square.	
1 in. by 7 in. yellow, planed and shot.....	0 13 6	0 17 0	
1 in. by 7 in. yellow, planed and matched.....	0 14 0	0 18 0	
1 1/2 in. by 7 in. yellow, planed and matched.....	0 16 0	0 1 0	
1 1/2 in. by 7 in. yellow, planed and shot.....	0 12 0	0 14 6	
1 in. by 7 in. white, planed and matched.....	0 12 6	0 15 0	
1 1/2 in. by 7 in. white, planed and matched.....	0 13 0	0 16 8	
1 1/2 in. by 7 in. yellow, matched and shot for 7-jointed.....	0 11 0	0 13 6	
1 in. by 7 in. ".....	0 14 0	0 18 6	
1 in. by 7 in. white ".....	0 10 0	0 11 0	
1 1/2 in. by 7 in. ".....	0 15 0	0 15 0	
6 in. at 6d. to 9d. per square less than 7 in.			

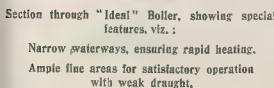
JOINERS' WOOD

JOHN'S WOOD.	At per standard.
White Sns: first yellow decks	
3 in. by 11 in.	24 10 0 ... 25 10 0
8 in. by 9 in	22 10 0 ... 23 10 0
Red " 3 in. and 5 in.	17 0 0 ... 18 0 0
Second yellow decks	18 0 0 ... 19 0 0
" " 3 in. by 9 in.	18 0 0 ... 19 0 0
Battens, 3 in. and 5 in. by 7 in.	14 0 0 ... 15 0 0
Third yellow decks	18 0 0 ... 19 0 0
11 in. and 9 in	14 0 0 ... 15 0 0
Battens, 3 in. and 5 in. by 7 in.	11 10 0 ... 12 10 0
Peters, 3 in. by 11 in.	22 10 0 ... 23 10 0
Do, 3 in. by 9 in.	18 10 0 ... 19 10 0
Second yellow decks	14 0 0 ... 15 0 0
11 in.	16 10 0 ... 17 10 0
Do, 3 in. by 9 in.	15 0 0 ... 16 0 0
Third yellow decks	12 0 0 ... 13 0 0
Third yellow decks, 8 in. by 11 in.	13 10 0 ... 14 10 0
Do, 3 in. by 9 in.	13 0 0 ... 14 0 0

White Sea and Petersburg

White Pine and Petersburg	20	0	0	0	0	0
First white deals, 3 in. by 11 in.	15	0	0	0	16	0
" " 3 in. by 9 in.	14	0	0	0	14	10
Battens	11	10	0	0	12	10
Second white deals, 3 in. by 11 in.	14	0	0	0	15	0
" " 3 in. by 9 in.	14	0	0	0	14	10
Battens	10	10	0	0	11	0
Pitch-pine: deals	19	0	0	0	21	0
Under 2 in. thick extra	0	10	0	0	1	0
Yellow Pine—First, regular sizes	48	0	0	0	upwards.	
Oddments	32	0	0	0	"	
Sunds, regular sizes	33	0	0	0	"	
Oddments	33	0	0	0	"	
Kauri Pine—Planks, per ft. cube.	0	4	6	0	0	8

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WORKS: Agents (BAXENDALE & CO., Ltd., Miller Street Works, MANCHESTER.
HULL, Yorks. carrying Stocks } WILLIAM MACLEOD & CO., 60, 62, & 64, Robertson Street, GLASGOW.

METALS (Continued).

Iron (Continued)—		For ton, in London.	
		£ s. d.	£ s. d.
Sheet Iron Black—			
Ordinary sizes to 20 g.	.....	10 5 0	—
" " 24 g.	.....	11 5 0	—
" " 26 g.	.....	12 15 0	—
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to			
3 ft. to 20 g.	.....	15 10 0	—
Ordinary sizes to 22 g. and 24 g.	.....	16 0 0	—
" " 26 g.	.....	17 0 0	—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	.....	18 10 0	—
" " 22 g. and 24 g.	.....	19 0 0	—
" " 26 g.	.....	20 10 0	—
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. by 2 ft.			
" " 22 g. and 24 g.	.....	15 5 0	—
" " 26 g.	.....	16 15 0	—
Best Soft Steel Sheets, 5 ft. by 2 ft.			
to 3 ft. to 20 g. and thicker.	.....	12 10 0	—
Best Soft Steel Sheets, 2 g. & 24 g.	.....	13 10 0	—
" " 26 g.	.....	15 10 0	—
Cut Nails, 3 in. to 6 in.	.....	11 10 0	—
(Under 3 in., usual trade extras.)			

LEAD, &c.

	£ s. d.	
LEAD—Sheet, English, 4 lb. and up	25 15 0	—
Pipe in coils	27 5 0	—
Soil pipe	30 5 0	—
Compo pipe	30 5 0	—
ZINC—Sheet—	In casks of 10 cwt.	
Vielle Montagne	33 15 0	—
Silesian	33 15 0	—
Zinc, in bundles, 16 per cwt. extra.		
COPPER—		
Strong Sheet	per lb. 0 1 1	—
Thin	" 0 1 2	—
Copper nails	" 0 1 0	—
Copper wire	" 0 1 0	—
BRASS—		
Strong Sheet	" 0 1 0	—
Thin	" 0 1 1	—
Trs.—English Ingots	" 0 2 3	—
SOLDER—Plumbers'	" 0 10 0	—
Timmen's	" 0 1 1	—
Blowpipe	" 0 1 3	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.			
15 oz. thirds	24d.	28 oz. fourths	34d.
" fourths	2d.	32 oz. thirds	54d.
21 oz. thirds	24d.	" fourths	44d.
" fourths	3d.	Fluted Sheet, 15 oz.	3d.
26 oz. thirds	44d.	" 21 oz.	4d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.				
$\frac{1}{8}$	Rolled plate.....	2½d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Mottled, and Rolled Cathedral, white.....	3½d.
$\frac{1}{16}$	Rough rolled and rough cast plate..	2½d.	Ditto, tinted.....	5d.
$\frac{1}{4}$	Rough rolled and rough cast plate..	3d.		

* Not less than two crates.

* Not less than two crates.

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes	per gallon 0 3 0	
" " in barrels	" 0 3 1	
" " in drums	" 0 3 2	
Bolled " in barrels	" 0 3 2	
" " in drums	" 0 3 3	
Turpentine in barrels	" 0 2 7	
" in drums	" 0 2 9	
Genuine Ground English White Lead, per ton	30 15 0	
Red Lead, Dry	27 10 0	
Best Linseed Oil Putty	per cwt. 0 10 6	
Stockholm Tar	per barrel 1 12 0	

VARNISHES, &c.

	Per gallon	£ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0

VARNISHES, &c. (Continued). Per gallon.

	£ s. d.
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 13 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knocking	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 5 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100L, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BARKISLAND.—For erection of a scullery-house. Mr. T. Hutton, surveyor, Barkisland.
Mason, Excavator, and Plumber: W. Parker, Norland £150 0 0
Carpenter and Joiner: S. W. Normanston, Barkisland 36 15 7
Slater and Plasterer: J. Hoyle, Lower Deerplay Triangle 18 10 0
Painter: W. L. Moore, Barkisland, Hull 5 7 10

BOSTON.—For alterations and additions to White Hart Hotel Annex, Boston, for Mr. C. J. Mather. Mr. Frederick Parker, F.S.A., architect, Boston.
Lucas & Sons £325 | Pinder & Son* £453
Sherwin & Son 480
[All of Boston.]

BOSTON.—For alterations and additions to premises, New-street, Boston, for Messrs. J. & J. Beaulah, merchants, Boston. Mr. Frederick Parker, F.S.A., architect, Boston.
W. Greenfield £330 | Pinder & Son £238 0
Sherwin & Son 257 | Lucas & Sons* 227 15
[All of Boston.]

BROADSTAIRS.—For erection of a water-softening house and construction of a ferro-concrete tank, for the Urban District Council.
Yorkshire Contracting Co. £1,197 18
W. W. Martin 1,025 0
J. T. May 1,019 0
Ellett & Co., Cliftonville, Margate* 944 0

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LIVERPOOL.—For erection of a mortuary at the Workhouse, Browlow Hill. Mr. T. W. Haigh, architect, 2, Exchange-street East, Liverpool.
Woods, Benson, & Co. £1,588
C. & G. L. Denner 1,450
W. Hall & Sons 1,573
Hall & Jamieson, A. Pople & Co. 1,535
Liverpool 1,440
L. Marr & Son 1,335
A. Lloyd 1,507
Rimmer Bros. 1,507

MILNTHORPE.—For reinstating the farm buildings at Viver Pump, Milnthorpe, and for building additional byres. Mr. J. Stalker, M.S.A., architect, 57, Highgate Road, Kendal.
Hodgson & Nelson £254 0 0
C. Scott, Milnthorpe* 229 1 9

SULLY (Isle of Man).—For erection of a new chapel (Weelayan), for Trustees. Mr. Jos. E. Teare, architect, 46, Athol-street, Douglas, Isle of Man.
J. Callow & Sons, Ramsey, I.O.M. £1,827

WEYMOUTH.—For the completion of the nave and west end of St. Paul's Church, Westham, Weymouth. Plans by Mr. Geo. H. Fellows Fryme, F.R.I.B.A., 6, Queen Anne's-gate, Westminster. Quantities by Mr. R. Henry Hale, F.S.I., 6, Queen Anne's-gate, S.W. :—
J. Longley & Sons £3,849 0 0
Jesty & Baker 3,389 11 11
W. E. Blake, Ltd. 3,320 0 0
J. Honour & Sons 3,250 0 0
Goldard & Sons 3,200 0 0
Webster & Cannon 3,170 0 0
R. Wilkins & Sons 3,144 0 0
W. L. F. & Co., Ltd. 3,050 0 0
A. Whitts Bowman 2,780 0 0
Theo Conway, Ltd., Weymouth* 2,770 0 0

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 5630.

OCTOBER 11, 1912.

ILLUSTRATIONS.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER. MESSRS. LANCHESTER & RICKARDS, F.R.I.B.A., ARCHITECTS.

ILLUSTRATIONS IN TEXT.

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OFFICIAL ARCHITECTS.

WITH the increasing complexity of modern life and the multiplication of public bodies and authorities all requiring buildings for various purposes, the question of the best way in which they can utilise the services of the architectural profession naturally comes to the front. There are many signs that the whole question, affecting as it does the interests of members of a great profession, must be carefully thought out in the near future, and that the Royal Institute of British Architects and its allied societies must, in the interests of both architecture and architects, adopt some definite and well-defined policy.

It is necessary for this policy to be based on one consideration only if it is to carry weight with the public, and that must be the means by which the public are best protected and obtain the services of the best men in the profession on reasonable terms. Architects as a body cannot expect to be avowed at the ratepayers' expense, and must make out a case defensible and reasonable on public grounds.

The present position is this: We have town and county councils who are responsible for public buildings

within their areas; boards of guardians, Government departments like the Board of Trade, Office of Works, the Post Office, the War Office and Admiralty, the Home Office, and a number of smaller bodies all having important buildings to erect which are almost entirely carried out by salaried officials.

Most Governments have their own architectural advisers, though in America representations made by the profession have resulted in a large number of commissions for important buildings being placed in the hands of outside architects—a precedent which deserves careful consideration here, where we are disposed to believe the obstacles to a change in the existing régime are so great as to render it impossible.

Most county authorities have now their official architects, and since the abolition of the school boards and the relegation of their work to committees of town and county councils these architects usually carry out the schools in their respective areas. The towns and cities for the most part do not employ their own architects, though the London County Council, the Corporations of Manchester, Glasgow, Sheffield, Bradford, and a large number of other towns which might be cited form important exceptions

to the rule, and the practice appears to be steadily on the increase. Boards of guardians usually employ outside architects, but their functions may at any time be handed over to other authorities or be exercised by some new department to be created with a corresponding alteration to that which took place when school boards were dissolved and the architects employed by them were replaced by the newly-appointed official architects of the town and county authorities.

On all sides there is abundant evidence that the field of the outside architect is being restricted and that of the official architect correspondingly enlarged. This, though serious from the point of view of the outside architect, cannot be expected to be a point about which the average man will trouble himself unless it can be clearly shown that his interests are affected thereby.

The arguments of a public body in support of appointing an official architect are as follows:—Firstly, it is said that the cost of his salary, plus that of his staff, represents a smaller average sum to the community than the fees of an outside architect doing the same work. Secondly, it is claimed that the fact that he is continuously employed on

similar problems gives him a greater power in mastering them successfully; and, thirdly, it is considered to be an advantage to be able to demand his whole time and to always have him more or less under "control." The latter consideration is not perhaps openly stated, but we believe it appeals to the average member of a public body very strongly.

As to the question of economy, it must be borne in mind that economy in fees may be no economy at all if (as is sometimes the case) it carries with it economy in brain power. To see any set of competition drawings would convince almost anyone of this fact; to see a number of sets of competition drawings would convince most men that there is no certainty, because we find a certain man has thought out the best solution of one problem, that he will be equally successful with another. All we can predicate is that he is likely to produce work of a certain degree of merit and taste, that he will, or will not, be vulgar or commonplace. A further point is that many men's power of work varies at different periods of their lives, and that if a man receives an appointment it is in most cases one which he holds for life, in the period of which his powers may either wax or wane. In this way the public body is taking a risk and committing itself to what in the nature of things can but be an experiment. Again, we may say that it frequently happens that the best men in a profession are conscious of ability, and, this being so, will not, as a rule, consent to take positions which tie them down. For these reasons we feel that the public body will often fail in obtaining the best of all economies—the service of the most able men in the profession.

The second form of economy—the question of the relative remuneration for services under the two methods—is somewhat more difficult to deal with. It is said that one can prove anything by figures, and it is largely true. Naturally, the official when appointed wishes to justify the system, and there are many ways in which this can be done. Certain buildings may be designed several times, and it is easy to make out that certain fees would, as a rule, be paid to the outside architect for each separate operation. As a matter of fact, the knowledge that an architect has to be paid fees renders the employer explicit in his instructions, and most architects know that it is unwise to charge fully for every item of their services, and do not do so. Then, too, there are items for rent of offices, materials, and other details, in some cases superannuation allowances, and the fact that an official once appointed cannot easily be got rid of, whether his services are required at a given time or not, which tend to render the system an expensive one. A borough surveyor's work or that carried out by a town clerk or medical officer must in the nature of things be continuous, or nearly so, but the demand for buildings (even by a large public body) is frequently intermittent. Accordingly the tendency must be to create a staff which can deal with work at a period of maximum pressure, which staff cannot be got rid of when

work is less plentiful, whereas the outside architect is paid for what he does and that alone. The tendency induced by the official system is to make work in slack time and to press its necessity on members of the public body who are frequently very naturally largely in the hands of their expert advisers. For these reasons we believe the system is not an economical one for the public either indirectly in leading to the employment of the most competent men or directly in saving by means of paying less in salaries than in fees.

We do not quote figures, as these are difficult to obtain, nor are they of very great reliability or value until they have been carefully examined by independent authorities who have no case to make out either for or against the system.

Another point of the greatest importance to be considered concerns the effect that the growing practice of appointing officials will have on the profession at large. It is easy to foresee a time in which the practice may have grown to such an extent that nothing but a church or a house may remain in the hands of independent practising architects. A fair number of chief officials, say 150 to 200, would be needed at the heads of great departments in different parts of the country; besides these there will be no place for any but subordinates working in different capacities under the heads. These men, some of them good, some indifferent, would for the most part have no chance of making a name by any individual work, however good it might be. The credit of any such work would naturally go to the chief. And another absurdity of the system comes in here. The chief of a big department might be a first-class designer, but the official and routine work involved—seeing committees, supervising, and like matters—is so great that he would have little or no chance of exercising his powers of design. We claim that under the completely organised official system the profession of architecture could offer but few inducements to men of the highest class of ability, unless indeed all other callings are destined to be "municipalised" in a socialistic world, and then all that can be said is that we should be equally unfortunate with others.

We feel that the system cuts clean across two of the greatest inducements to create great architecture, which are the ambition to excel and the natural wish to obtain the individual credit for what is done. Both desires may be selfish, but, though we may be altruistic in contemplative moments, most of the progress in the world has been due to the sense that individual effort resulting in success brings with it an individual reward. We repeat—the safe berth under an official régime will not be a sufficient inducement to attract the best man; the chance of rising to the head of an official department will carry with it the certainty of having insufficient time for the chief work of an architect, design; the whole tendency will be to starve the greatest of the arts by making those who wish to practise it do so in a socialistic treadmill; we shall encourage the humdrum man who wishes for a safe

billet at the expense of the man who has gifts and ambitions.

We are not discounting the excellent work which has been produced under official systems both for the London School Board and the London County Council; the former, however, was the work of an architect appointed in the infancy of a great movement and an opportune psychological moment, and however excellent many of the more recent schools are in planning and arrangement, they do not reach the same standard in design as those carried out under Mr. Robson's régime. We think that the excellence of much of the work of the County Council is due to the fact that the services of several hundreds of men are available who are largely squeezed out of private architectural practice by the fact that a large bulk of the work in London is the monopoly of the County Council, and, judging by the contemporary public work, there is no reason to assume that the work done would be less efficient or less good if it were placed in the hands of outside architects.

There is little in the argument that only continuous practice in designing one class of building is necessary for the best solution of a given problem to be reached, and that for this reason the official system is the best. In almost every large competition competition may be divided into two groups—those with special knowledge of the subject and those without any such special knowledge; success falls, if anything more often into the hands of a novice in a particular type of building. The fact seems to be that general aptitude and practice in design is the essential required, and, having acquired that, the designer can readily acquire the special knowledge requisite for a special type of building.

In summing up the case we may say that there are, in our opinion, positions in which the services of official architects are urgently needed, but that these positions are those of an advisory and not an executive capacity. There is ample room for the services of men of ability in advising municipal bodies on general schemes of development, in laying down broad lines which should govern their policy, and in seeing that public rights are not infringed upon. But a mistake seems to us to be made when (as in the case of the London County Council) it is given to one and the same authority to act in both the administrative and executive capacities, for in the one they are judging the suitability of outside architects' work, and in the other they are in direct competition with them in supplying public wants.

The work devolving on the head of the architectural department of a body like the County Council is greater than that which the most able member of the profession can be reasonably expected to deal with; the mere organisation of a staff of 400 or 500 men engaged (not in manual, but in mental capacities) would be considered an impossibility for any architect in a private capacity even though he would be unfettered by the enormous responsibilities which fall on the shoulders of the official advisers of the London County Council.

We may appear to some to take an exaggerated view of the position, but it is reasonable in considering it to think that its ultimate extension will lead to it. It is logically right and reasonable in the case it should be in another, and follows that if every school and training college which is supported and paid for out of the rates can be dealt with by local architects for the 6,000,000 people of London, the same reasoning may be applied to the same result throughout Great Britain. The City Corporation instituted a competition for the Central Criminal Courts; the County Council, on the other hand, propose to give their architect the new Sessions House. We may be sure that more and more public work will be carried out as time goes on at the public cost. The question is decided is whether or not we wish the architectural profession to occupy the position of Civil Servants.

THE ARCHITECTURE OF NEW DELHI.

THE *Times* of the last week has contained some notable contributions on the question of the type of architecture which can be most fittingly adopted for the new centre of Government of the Indian Empire. These closely follow on the theme suggested by our leader on Imperialism and Architecture in the issue of September 27. In the *Times* of the 3rd the subject is discussed in a long and able article by Mr. Herbert Baker, as well as being referred to in a leader, and on the 7th Lord Curzon has contributed an interesting letter full of sound suggestion, and the subject is further dealt with in a letter by Mr. B. B. Havell on the 8th.

We are glad to note that both Mr. Baker and Lord Curzon agree in considering that it would be a mistake to allow any native style. The latter aptly puts it that "First and foremost it is the spirit of British sovereignty which must be imprisoned in its stone and bronze"; and also "If the question is left to politicians they may not improbably, as is their wont, seek some spurious compromise which would be defended as a generous appeal to the natives of India in their art and history."

Mr. Baker discusses the various styles which might be adopted, dismissing Moghul and Saracenic architecture as being alien to Hindu sentiment, and concludes by pointing out that in our own architecture of the period of Wren and Chambers we have a basis on which we might reasonably work for the new capital, and points out that the very fact which rendered the adoption of the architecture of the Renaissance here a slow and gradual process was its greater suitability to such a climate as that which is possessed by India.

Lord Curzon, in rejecting the idea of trying to adopt any Eastern style, says: "What will be the use to which the new buildings will be put when erected? Will it be a use that finds any parallel in the purpose for which the masterpieces of Indian architecture were raised which excite the admiration of every observer?"

In a following paragraph he very ably analyses the entire differences which exist between these two purposes, and sums up a convincing letter by suggesting that a "colonial adaptation of the Palladian style" is that which appears to be most suitable for the new capital, but adds that he is "far from suggesting that it should be reproduced in its severe and inartistic simplicity at Delhi," and that it "might be possible to adapt some richer and more imaginative variant of the classical conception" as evidenced in Spain and other southern countries.

He feels that the selected architect "may in the models which he sees round him, in the spirit of the East, or in the talents of native craftsmen," find something which will "give a similar native flavour, a native *aura* to the forms of the West."

Mr. Havell's contribution to the controversy is one of the familiar appeals to build in the indigenous style of the country, which, we feel, is hardly sound, nor does the claim rest on a sufficient logical basis.

India is not, and never has been, "a country." It is a convenient geographical expression for the land lying to the south of the Himalayas; a land which is an epitome of a continent, containing people of every conceivable religious creed and race; a land which has not, even in the great days following the Moghul conquest, been completely under one sovereignty till the days of our own Empire. When Mahometan hates Hindu and Hindu Mahometan, and where both consider the Buddhist and Christian alike as followers of illusions, it would, for political reasons alone, be a mistake to adopt a style which must be identified with one and not all of the races which alike are ruled by the British Raj.

Nor is there any reason why we should work in fetters because those of another faith have done so. The Mahometan must eschew all forms of nature and life in his ornament, contenting himself with intricate pattern-work. The Hindu styles are characterised by a mass of ill-digested ornament having their basis in a mythology alien to us and to Mahometan alike.

While we agree with the greater part of Mr. Baker's article, we feel that it would be a mistake to adopt an English type of Renaissance for our starting-point, because it has been by Wren and Jones so absolutely adapted to the wants and requirements of our own climate.

The starting-point should, we believe, be that of the purer and more ascetic type of the Italian Renaissance, the true heir and successor of Roman architecture modified to suit the wants of modern life, and even here there must be reservations and differences imposed by the circumstances of the problem.

The Italian Renaissance was the product of a period in which some of the greatest and most gifted of individual art-workers lived.

It would be clearly impossible to import into India great numbers of individual workers; the bulk of the work must be such as can be consistently carried out by natives. This means the general avoidance of sculpture other

than carving, which may be described as "ornament," a greater determination to seek satisfaction in mass and simplicity and a general avoidance of what is complicated and difficult in construction. We believe in building in all Eastern countries it is also necessary to allow for the fact that the native workman has to use materials not as good as those generally used here; allowance has to be made for a greater surplus of strength and mass than would be necessary under European conditions. All these difficulties will not, however, prevent the carrying out of architecture in a broad Imperial spirit like that which distinguishes Roman architecture, and we may hope that, fired by the determination to mark fittingly the greatest glory of our history—the wise and beneficent government of the toiling millions of India—our architects may take a departure which will add new achievements to the history of architectural development.

ON BEAUTIFICATION.

AS a pastime we have lately visited a number of old churches, pointing out to our companion this and the other thing of interest—a Norman chancel arch, mediæval arcading, a window, anything, in fine, representing style in the manifold variety of many centuries, or which helps to explain the growth of a building from its foundation—to make conversation upon, or to criticise indulgently, as one does unconsciously with all old things. The red-lacquer and gold of some poppy-heads, fragments of ancient glass, an epitaph more curiously worded than the wont, or a fine piece of groining would move us with a fresh delight again and again. Yet—and we speak it with sorrow—our delight was tempered with regret, for always some base metal peeped out blatant and unmistakable from the fair coin stamped by the centuries. The alloy was the XIXth century.

We do not here speak of "Restoration," which is bad enough, but for which some excuse may be found in the inclemency of our climate, but of "Beautification." It would be almost safe to say that no church in England, however poor, but has found money to indulge itself in this vice. The metropolitan cathedral of St. Paul called it "decoration" and covered its walls with mosaics, until either from lack of funds or adverse public opinion a period was put to the works. It is supposed to be an added merit that these decorations are done after an ancient mode, that the tesserae are laid *in situ* with wide interstices between them. We have, however, seen the mosaics of St. Mark's, at Venice, and those at Palermo; we have, again, seen some of the most exquisite panels built up of minute tesserae taken from Pompeii, and do not find that the St. Paul's mosaics bear any resemblance in style or effect to either of these kinds of works. It does not matter to which goal we aim so long as we arrive there, but when we attain elsewhere it were wise not to notify our ineptitude to the world.

These decorations are neither better nor worse than many we have seen lately;

only from the publicity given to them, from the importance of the building in which they have been placed, they are known to everybody.

This recollection was induced by a pulpit, "remarkable," as the guide-book says, "for its beautiful modern mosaics by Dr. Salvati, of Venice," but which in reality is a very indifferent specimen of a poor kind of work. Not to put too fine a point on it, the pulpit is vulgar—its effect, placed as it is in the dimly-lighted space in front of a splendid chancel, which is raised by many steps to an unusual height above the nave, is like the braying of brass instruments, breaking the fine filigree of Mozart music. This is not all, for the reredos is little better; it does not, it is true, strike so blatant a note as the pulpit, it is merely a discord. It "has figures carved out of a single block of Carrara marble by Mr. —, R.A.," and represents "the Entombment of Our Lord." The inference is that the reredos acquires merit because of the material in which it is made, or because of the fragment of the alphabet at the conclusion of the author's name. We have seen so many beautiful "entombments" that we looked naturally for imagination, dignity, knowledge of the human body, for some quality capable of invoking pity, in this work. We could find none, nothing to touch one with a sense of reality, with any sense of beauty, with the Divine significance of the subject. A Victorian sentiment seems to pervade the whole conception, to inspire the stiff attitudes of the ministering angels, filling out their poor draperies with we cannot express what insipidity. But enough, it is unnecessary to give its details, which are all conceived in the same spirit.

Our peregrinations brought us to the top of a considerable hill, whence, on a fine day, can be seen the coast of France. It was once a Roman town having a port at the foot of the hill. Now a small Norman church rests there like a lonely tired sentinel, looking over the changeless sea. Obviously it has stood for many centuries, and will stand. It has not been much restored; many curious features telling of exigencies in the construction are still apparent. The story is so easy to understand that he who runs may read. Yet the "beautifier" has introduced a solecism into the direct and simple narrative. At the east end, above the altar, he has introduced a row of trefoil arches filled in with saints in mosaic; whether laid in the ancient or modern manner does not really matter, for they are very garish and ugly. Nothing could well be more unnecessary, nothing more certain to blot the fine "scutcheon of simplicity" which the tiny building displays. Yet obviously it was a thing of cost, this mosaic, and the church goes naked of proper benches and the like.

Perhaps it is only a font which obtrudes its commercial origin into what has always been a work of love, but it is sufficient to show the careless tendency of that dreary penultimate period, late Victorian. In our wandering we saw several of these, whose trite symbols were elaborately explained in the printed cards put up for the information of visitors, but which, beyond their very obvious utility, could have no kind of æsthetic purpose

whatever. Many of the churches were decked out with imitation mediæval pews in pitch-pine, with machine-cut poppy-heads at so much a hundred; others, again, had bright-brass altar-rails, pseudo-Gothic in the ornaments, XIXth century in the essential or rigid constructional portion of the thing; some were "beautified" with cheap oil-lamps, some with cheap lacquered brass memorial plates. And yet cheek by jowl with them would be splendid Dutch candelabra with their great bulbous bodies and tier upon tier of candles, or mural tablets with goodly lettering, or those quaint old brasses with stiff effigies of knight and lady engraved on them. The pomp of heraldry in all its richness and variety finds a place on the walls of these churches side by side with whitened sepulchres of the same in white marble.

The goodly carpet of the earth with its flowers, the floor of the sky "patined with bright cloud," are things to which the Church turns continually for illustration of what is comely and beautiful. Yet she fills her chancels with flooring of the most garish kind. The rude paving of quarry-tiles or stone, the fairer pavement of marble, are replaced by painted tiles of the most mechanical and ugly kind, without any apparent sense of the incongruity of such a proceeding.

These things, and many others which it would be too tedious to enumerate—bad as they undoubtedly are—are not yet so flagrant as entirely to spoil our pleasure in an old church. But the modern stained-glass window does. We do not wish it to be thought that we deprecate the work of certain artists in this most difficult branch of art. We wish them well, and only desire to see more of their work, but the usual kind of stained-glass window we should like never to see again. In one church, during our pilgrimage, we saw designs for such windows, pinned up with the intention of extracting money from the sentimental traveller to convert them into glass. Each design was marked with a price, significant enough of the kind of work to be expected, if that were not clearly enough implied by the firm of glass-stainers whose signature flourished in a corner of the drawing. We tried to fortify ourselves with the recollection of windows we had seen in Florence, hung up, with richer colours dight than those of Nature, between ourselves and the light; of the rich mantle of colour formed by the windows of York; of the flamboyant glory of the late glass of Fairford Church, without being able to reconcile ourselves with these designs.

A dim religious light is not obtained by shutting out the light of day; it is rather a quality derived from certain principles of design, which begin with the foundations and work up through "the fretted aisle" to the roof. As larger windows became the fashion, the poet's "dim religious light" was banished until the daily coming on of evensong. But the modern system is to break up the light by means of painted glass in a million kaleidoscopic colours. Better far is the window of plain quarries! We all laugh at "Munich glass," but "much modern glass is in effect little better.

Yet our pastime has not proved unfruitful, for we have seen many old

churches whose every stone is pregnant with story, and which have a soul of their own that cannot altogether be destroyed. Yet it seems most regrettable that the clergy and their congregations do not take the best advice before "beautifying" their churches. In most cases they have a noble nucleus to work upon, very often from a religious and human point of view beyond the means of modern art. Yet they encourage and give admission to what is not art at all, but a spurious thing bought and sold at shops.

NOTES.

WE are used to blame the Profession and not to pity, which renders us doubly grateful for a letter in the *Westminster Gazette* by Harold Begbie, entitled "The Profession and its Rewards." We often feel we are not paid, but it is balm to our souls to be told that this is indeed so. Mr. Begbie points out the ridiculous remuneration which an architect receives for his labours in designing a small house as compared with the literary agent or other professional worker. "Men," he says, "become architects because they love the art, or because they have no energy to do anything else."

We have heard of many reasons for the choice of an architect's career, some good and some bad, but never the latter, and we should be inclined to say that such a man would find he had made a grievous miscalculation, as we think few callings require more energy and, we might add, patience. But as to the question of remuneration, we feel the profession may complain somewhat unjustly. The bulk of people who build small houses have to consider every pound. The abused 5 per cent. is a minimum, it is for us to say whether we will charge more, if we can afford to let the work go. Very often it would mean our possible client going straight to a builder. We quite agree with Mr. Begbie's graceful appreciation of the work of our younger men.

THE *Times*, in a short article entitled "City Traffic and St. Vedast's," in its issue of the 5th inst., calls attention to the dangers which may threaten St. Vedast's if the question of the new Post Office extension is not considered in relation to possible traffic developments, which will be rendered still more urgent when St. Paul's Bridge is opened. In saying that "the opinion of competent architects should be taken before great works involving large architectural issues are sanctioned" the *Times* is doing service both to architects and to the public. We called attention to this most important subject some weeks ago (p. 195), and in this issue publish a further letter on the same subject, and we are of opinion that these suggested plans should be carefully considered by those in authority before being relegated to the limbo of impossible schemes.

St. Vedast's and the Traffic Problem.



Sketch Design for Almshouses in a Country Town. By Mr. C. P. Wade.

Croydon By-pass. THE Croydon Borough Council having at last adopted a scheme for a new road from Thornton Heath to Purley, which will divert the through traffic from the centre of the town, it is to be hoped that at last has been heard of the threatened destruction of Whitgift Hospital, against which we have so frequently protested. Archaeologists and lovers of antiquity may now join hands with town-planners in approval of the scheme. There is little doubt that in the great majority of cases this method of beating by-passes where main traffic routes pass through towns and villages is sound one. Where the widening of the main street of a town would involve the destruction of artistic or historic monuments it is the only conceivable one. Properly handled, a new road skirting a village or town may be made a source of added beauty. The junctions with the old road more particularly afford opportunities for some skill in arrangement, if only in the artistic grouping of trees. No doubt the Croydon Borough Council will bear in mind this aspect of the question. Owing to the general road widening that is now in progress throughout the country this problem may be expected to present itself frequently, and will, we hope, be solved in the same way.

The Grosvenor Gallery. A new gallery for the exhibition of pictures has opened in Bond Street and taken the name of the Grosvenor Gallery. We do not happen to know under whose or what auspices it is started, but Mr. Martin Wood's name appears in the catalogue as Secretary and Curator, and, apart from the present exhibition, the exhibitions of the International Society, the National Portrait and other societies are to be held within its walls. In the months of June and July we are to have an exhibition of the works of Albert Besnard, which will be welcomed by all who are interested in French painting. The galleries themselves are charming, and the method of hanging and arrangement of the present show are adhered to in future exhibitions we shall be able to look at pictures with much greater pleasure than is the case at most galleries. The crowded element which we are accustomed, and which is not less trying to the pictures themselves than to the spectator, is wholly absent. All the pictures are shown to

excellent advantage; there is no confusion or awkward contrast, so that the general effect is serene and harmonious. The inaugural exhibition is promising. It is not restricted to unexhibited works, but the admirable arrangement, in which there is no skying, often presents a familiar work in a new and more attractive aspect. We noticed this particularly in regard to a picture of Mr. Strang. The artists represented are among the more advanced men of the British school, including the present and future Academicians of the Chelsea group. Mr. Philip Connard, Mr. Alexander Jamieson, and Mr. G. W. Lambert all show characteristic work. The entrance hall is occupied by some striking lithographs by Mr. Pennell. Mr. Charles Sims has "In the Coming of Spring" sent one of his happiest compositions, in which a nymph and children (there is genuine inspiration in Mr. Sims's observation of the charm of infant life) are disporting in an Italian landscape. And there are many other delightful works. But the exhibition conceals a mystery. One of the rooms is devoted entirely to the work of Walter Greaves. We were unable to ascertain from our cursory glance that any of these pictures had a date or a signature. On entering the room we felt momentarily that we had been transported to the gallery at Millbank, where Whistler's nocturnes and symphonies have recently been on view. Here were all Whistler's effects over again—the "Cremorne," the "Grey and Silvers," and the rest. What is the explanation of the mystery? Has Mr. Greaves up his sleeve, as it were, further stores of accumulated works with which to fill galleries at request—or what?

THE POST-IMPRESSIONIST EXHIBITION.

THERE can be no finality in artistic points of view; opinion here, as in other regions of thought, is susceptible of ebb and flow, and readjustments will from time to time occur which make for artistic life and progress. With the best will in the world, however, we are unable to sympathise with the intellectual readjustments which the present exhibition of the Post-Impressionists at the Grafton Galleries would impose. Nor do we take the show of pictures altogether as a joke. We know too much about the history of the movement for that. It is certainly no matter for mirth to its disciples, and it has secured adherents among men of

eminently serious ability both abroad and in this country. The movement cannot very well be dismissed as one of no importance. To ourselves it is interesting not as a manifestation of art, but as a curious intellectual phase of the human spirit in the early part of the XXth century. The Post-Impressionist movement is not an art movement; it is essentially a movement of criticism; it is, we daresay, in some of its aspects idealistic; it is, above all, a movement of theory and experiment. We suggest that it is a movement of criticism because it seeks to revolutionise hitherto accepted standards, and it is idealistic because in a spirit of strange asceticism it rejects any appeal to the merely sensuous. We are not prepared to discuss its theories, not because they appear to us illogical and, in some instances, irreconcilable, but because any new appearance in art is not a matter of theory and criticism but of creation. In a general way the history of art may be summed up, first, by the painting of this picture or that, by the modelling of this piece of sculpture or that; this is followed by the explanation of the person who looks on, the critic, as to the impulses which stirred the artist in the birth and elaboration of his conception. Here æsthetic considerations and theory step in. So far as the artist himself is concerned, he is often silent, but if he formulates a theory at all it rarely precedes the creation of his work. Theory in any case with an artist is, in the first instance, subconscious, and if it is developed later it is usually formulated according to the measure of his own competence in a certain given direction; which is to say that it is personal, not abstract. There is in nature no such thing as an artist whose theories are not influenced by his own capacity. All, however, that we wish to imply is that theory does not precede artistic production, but follows it and completes it. And so it is with the Post-Impressionists, or rather (because there is a difference), so it was. If we trace for a moment the history of the movement, what do we find? We find that the end of the last century produced in France three artists of intense individual talent (it is too early yet to call it genius), Cézanne, Gauguin, and Van Gogh (who was of Dutch extraction), who were drawn to the art of painting by some natural and idiosyncratic desire for that form of art expression. They painted, for the most part, pictures that were unsaleable, or only saleable at a price which provided not a living, scarcely *du pain sec*; their brother artists and the critics said that they could not draw and could not paint. They lived more or less their individual lives in poverty and died without any sort of recognition that could matter to them. Two of them, at least, Van Gogh and Gauguin, probably desired to paint the same sort of pictures as their more successful fraternity among the Impressionists, but they were barred by their own freakish and personal instinct, by their limitations, by what we

may call defects in character, from attaining the artistic standard of their period. They could not subordinate their temperament, their view of nature, and the general spectacle and emotion of things, to conditions other than those which had been imposed upon them by their own temperament; and they probably found small consolation for their want of success in the fact that they could not be other than themselves. It would be absurd to argue that these men were the slaves to a conscious artistic theory, that their life was devoted to the fulfilment of a programme in aesthetics, or that they were propagandists in a new cause: although they were probably all these. That they could not draw or paint is now almost a forgotten animadversion. So far as drawing is concerned, we have only to look at the photographs of their work which are on view in the small room on the staircase which leads to the exhibition at the Grafton Galleries to realise that it possessed qualities denied to artists of more correct performance. Those who were wont to laugh at their work do so no longer. Collectors and dealers have begun to find their profit in these so-called "Old Masters" of the Post-Impressionist movement, and trade does not throw away its money on works of art which have not an intrinsic as well as a commercial value. Critics have built up artistic theories on these productions, and later painters have imitated them. The result is the present exhibition at the Grafton Gallery—and Henri Matisse!

In many respects the exhibition is frankly ridiculous. It is an exhibition of theories, and of absurd theories. The field which they offer for genuine artistic incompetence is sufficient proof of it. It would not, we think, be difficult, in any case, to show the fundamental error of formulating a series of art principles on the work of the artists who are hailed in this movement as its precursors. With some few exceptions (and we would particularly include the Russian group of artists whose work often expresses real visionary power), the members of the Chelsea Arts Club could within a month provide a show of equal merit without asking us to take it seriously. Sincere and creditable art does not lend itself so readily to facile imitation. We have, we believe, read most of the literature which has been published on the Post-Impressionists; it makes delightful reading; it is so eminently serious and well done. In the quality of this writing there is not a touch of Post-Impressionism, and the arguments which occasion it are worth thoughtful attention. But the illustrations, as presented at the Grafton Gallery, do not justify all this bolstering up. The time has probably arrived when we shall see some change in the painter's convention; in every phase of art, as indeed in every phase of life, there are suggestions that the modern world is in the travail of a Renaissance. The outcome will undoubtedly involve new points of view; it may establish a new order of things. We are all perhaps waiting for it, some so anxiously that even such passing expressions of misapplied theory and affectation as the exhibition at the Grafton Gallery are, for the moment, taken seriously.

THE BRITISH SCHOOL AT ROME: SCHOLARSHIP IN ARCHITECTURE.

Candidates who are eligible to compete in the Open Qualifying Examination for the Scholarship in Architecture at the British School at Rome, offered by the Commissioners for the Exhibition of 1891, particulars of which were announced in the *Times* on August 17, must apply in writing to the Hon. General Secretary, British School at Rome, 54, Victoria Street, London, S.W., for particulars of the subject set for the examination on or before October 31. The subject will be forwarded by post on November 5 to intending candidates, who must be careful to write distinctly in their applications their full names and addresses.

TOWN PLANNING FROM AN ENGINEERING ASPECT.

At a meeting of the Society of Engineers (Incorporated), held on Monday, a paper on "Town Planning from an Engineering Aspect" was read by Mr. Ernest R. Matthews, Assoc. M.Inst.C.E., F.G.S.

The author divided his subject under two main headings:—(a) Town planning in a residential district, and (b) Town planning in a manufacturing area. He illustrated the former by a brief description of Bridlington's town-planning scheme, and stated that one of the principal points to be considered in the preparation of a scheme was the direction, width, and method of construction of main arterial, secondary, and subsidiary streets. He suggested that these should be 75 ft., 50 ft., and 28 ft. or 30 ft. in width respectively, that they should be constructed of tar macadam with grass margins, asphalt footways, and trees, and that the buildings should be set back 25 ft. in the 75-ft. and 50-ft. streets, and 20 ft. in the subsidiary streets. He gave a description of the method of construction that he would recommend for the foundation of the streets and for the tar macadam roadway. The author did not agree with the idea of making the foundation of the roadway in a subsidiary street less substantial than that in a wider street. He deprecated the practice of putting in heavy kerbing and flagged footways in residential districts, and thought that grass margins with asphalt footways not only effected a saving in cost, but presented a more rural and pleasing appearance. He thought that the road requirements of our by-laws were unreasonable, and resulted in houses being built with a narrow frontage and deep back, instead of a wider frontage and shallow back, which he considered far preferable.

In designing a town-planning scheme it would sometimes be found necessary to allow for the widening of some of the existing roads, and also of the diversion of certain public footpaths; this had been so at Bridlington. Open spaces should be left for parks, tennis-courts, bowling-green, children's playground, garden enclosures, sites for public buildings, etc.

The sewerage and sewage disposal of the area were matters of great importance, and the engineer must ascertain if the existing sewers and disposal works were capable of taking the drainage from the proposed area, also whether the levels permitted the area to be drained into the existing sewers, and he must devise a scheme for dealing with the storm-water. The lighting of the area by means of gas or electric light was also a matter of great importance, as was that of water supply.

Town planning in a manufacturing area was very different from that of a residential area, and the points which must be considered include:—(1) The position of the proposed industrial area; (2) its proximity to railway sidings; (3) the facilities for vehicular traffic to and from this area; (4) the necessity for constructing any new roads leading to this area in a substantial manner, so that they would carry

the heavy traffic likely to come upon them (4a) the provision of roads for rapid and local traffic; (5) the area to be occupied by workmen's dwellings; (6) the supply of electric energy for power and lighting purposes; (7) the position for wharfage if water carriage available; (8) supply of water and gas; (9) sewerage and sewage disposal; (10) disposal of storm water; (11) size of area; (12) direction of prevailing winds; (13) advisability of constructing subways under the main arterial road. Several other points were of equally great importance from the engineer's point of view.

THE NEW GRESHAM COLLEGE, E.C.

THE site of the new Gresham College is a main frontage of over 71 ft. to Gresham street, and a return frontage of over 58 ft. to Basinghall-street. The building is now in progress. Portland stone will be used.

The contents of the building will be as follows:—

The basement will contain large lavatories, heating chamber, and ample provision for storage purposes, etc.

The ground floor will contain the Great Hall about 65 ft. long by about 40 ft. wide; this with a gallery at one end, will provide accommodation for about 500 people. There will be a retiring-room for the professors, and a main entrance hall in Basinghall-street; there will be two large folding doors as extra exits direct into the street in case of alarm. There will be an electric lift from the entrance hall for access to the gallery and all upper floors.

The first, second, and third floors will be available for letting as offices. Each will be divided into rooms as required by the tenants. Certainly eight good rooms can be provided on each floor. The committee-room and office of the Gresham Committee will be on the third floor. The fourth floor will contain six offices and rooms for the caretaker.

By an arrangement with the Corporation of London an agreement was entered into which has enabled the Gresham Committee to build a much finer hall than was at first contemplated. The right of way into Basinghall-street has been abolished, and will be built upon, and the yard between Gresham College and the City of London Court will be partly built over, consequently the Great Hall is nearly 5 ft. wider for its entire length than it would have been had the arrangement not been made, and the entrance hall will be 6 ft. wider and about 5 ft. deeper.

The agreement entered into is mutually beneficial in that the City of London Court can now be raised considerably.

The design for the building (p. 407) was exhibited in the Royal Academy and will be carried out subject to certain alterations made by the Gresham Committee—e.g., there will be no bay windows or main pediment to the Gresham street façade.

The contractors for the foundations were Messrs. Cubitt & Co., and the contractors for the superstructure are Messrs. Holloway Bros. The total cost of the building will be about 28,000*l.*

The architects are Messrs. Sydney Perks and Dendy Watney.

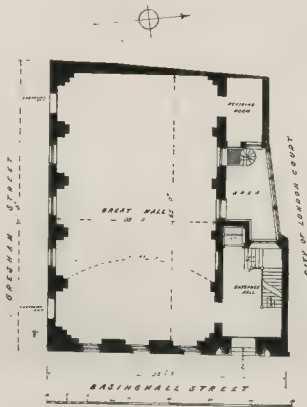
GENERAL NEWS.

The New Penny Postage Stamp.

The new penny postage stamp has been issued. The head of the King is the same as in the new twopenny stamp, which was issued a few weeks ago. The head of the King is the same as on the coins designed by Mr. Bertrand MacKenna, A.R.A.

Middlesex Memorial to King Edward.

The Duke of Bedford presided on Tuesday at the Caxton Hall at a meeting of the Executive and General Committee of the Middlesex Memorial to King Edward VII. After inspecting the work of nine different sculptors who had at some time or other executed likenesses in marble of the late King the Sub-Committee recommended to the Memorial Fund Mr. P. Bryant Baker, of Fulham-road, Chelsea, for the execution of the bust of King Edward which is proposed to place in the Middlesex County Hall at Westminster. It was agreed that Mr. Baker should be commissioned to execute the bust.



The New Gresham College, E.C.

Sanitary Institute Congress at Exeter, 1912. The Council of the Royal Sanitary Institute accepted an invitation from the City Council of Exeter to hold the next Congress and Exhibition of the Institute in Exeter from July 7 to 12, 1913.

The Guildhall Improvement.
A special meeting of the Corporation was held at the Guildhall yesterday to discuss the scheme and plans submitted by the City Council Committee for the improvement of the Guildhall. Three amendments were on the agenda. Mr. Brinsley-Harper proposed that the scheme be referred for consideration and report to three architects to be nominated by the President of the Royal Institute of British Architects and approved by the Corporation. Mr. J. Ganton, F.R.I.B.A., suggested that the Guildhall should be entirely remodelled to allow a proposed Court on either side of the Guildhall-yard to be properly planned, lighted, and ventilated—the whole being dominated by the West Gallery—and that the design generally could be revised with a view to keeping the height of the new buildings of the east and west wings of Guildhall-yard below the height of the existing front elevation. Mr. H. P. Monckton,

F.R.I.B.A., suggested that the Committee should obtain designs from six architects to be selected by the Committee and submitted to the Court for their final choice of one of them.

The Danger in the Use of Celluloid.
The Home Secretary has appointed a Committee to inquire and report as to the precautions necessary in the use of celluloid in manufacture and the handling and storage of celluloid and celluloid articles. The names of the members of the Committee are:—The Earl of Plymouth (Chairman); Professor James J. Dobbie, D.Sc., LL.D., F.R.S., Principal Government Chemist; Captain Maurice B. Lloyd; Mr. H. M. Robinson, Deputy Chief Inspector of Factories; and Mr. Edwin O. Sachs, F.R.S. (Edin.) Chairman of the Executive of the British Fire Prevention Committee.

The "Dip" in Piccadilly.
In view of the rebuilding about to take place on the site between the Savile Club and the Junior Athenaeum Club, the Westminster City Council approved a plan prepared by the City Engineer showing an improved level which would get rid of the existing "dip," provided the necessary arrangements could be made.

The plan also proposed a setting back of the railings of the Green Park to allow of a widening of Piccadilly westwards from the Ritz Hotel. In a report which was to come before the City Council yesterday the Improvements Committee recommended the Council, in view of the opposition to the proposal, not to proceed further with it at present. The report shows that the Savile, Isthmian, and Junior Constitutional Clubs object to the scheme for raising the "dip."

Lectures on Reinforced Concrete.
A special lecture and practice course of fifteen lectures on "The Principles of Design in Reinforced Concrete" is being delivered at the London County Council Westminster Technical Institute, Vincent-square, S.W., by Mr. Percy J. Waldram, F.S.I., on Fridays at 7.15 p.m. The series commenced on the 4th inst. The course is designed to meet the needs of architects and architectural draughtsmen. The theory and construction of all formulae are explained, and a large number of diagrams have been prepared by means of which the formulae can be used without calculation. Arrangements have been made for making and testing experimental beams and members.



The New Gresham College, E.C.
Mr. Sydney Perks, F.R.I.B.A., and Mr. Dendy Watney, Architects,

(Royal Academy Exhibition, 1913.)

Examples of design will be worked out during the lectures, which will be illustrated by diagrams, models, experiments, and lantern slides.

Disfigurement of Runnemede.

The Egham Urban Council have resolved to ask the Postmaster-General to accord his consent to the laying underground of the telephone cables across Runnemede, instead of the erection of unsightly poles. The matter, we gather, has also engaged the attention of the Society for the Protection of Ancient Monuments.

Kingston Bridge.

Operations for the widening of the bridge have just been begun, and a temporary bridge will be erected for traffic when the present bridge is closed. Mr. Basil Mott, C.E., has made the plans, which will involve an outlay of some £4,000, for constructional work that will occupy about eighteen months.

Dee Bridge, Chester.

Sir Francis Fox, C.E., has made an examination of the old Dee Bridge, and, in the result, steps have been taken, under his advice, to repair some cavities in the masonry caused by the continued scouring effects of the stream. The bridge was built towards the end of the XIIIth century at the crossing of the river, guarded by the castle, on the south side of the city.

British Museum.

The principal trustees have appointed Mr. George Francis Hill as keeper of the Department of Coins and Medals in succession to Mr. H. A. Grueber, F.S.A., who retires from the service; and Mr. John Alexander Herbert is appointed assistant-keeper, Department of "Coins of the Roman Republic in the British Museum," 1910, 3 vols., the subject being treated geographically and chronologically, with catalogue, tables, indexes, plates, etc. Both Mr. G. F. Hill and Mr. J. A. Herbert are the authors of important books. Mr. Hill is known not only by his works on numismatics and allied subjects, but by his "One Hundred Masterpieces of Sculpture"; and in 1911 Mr. Herbert published "Illuminated Manuscripts," the result of much research. The retirement at the close of the current month, after forty-two years' service, is announced of Dr. G. K. Fortescue, keeper of Printed Books, who compiled and printed a most useful catalogue of books upon British topography in the Museum.

The National Trust.

The National Trust appeal for 600*l.*, the balance of the purchase price, 4,000*l.*, to save from building operations (already begun) the head of Windermere and of Borran's Field, where, and around, have been found the remains of an important Roman settlement, with a fort constructed of stone. Contributions also are asked towards the purchase of Finchamstead Ridges, being 60 acres, and portion of the late Mr. Arthur Walter's Bear Wood estate, Berks, at a price of 3,000*l.*, towards which Mr. John Walter has promised 500*l.*, and further subscriptions of 2,000*l.*, or more, have been made. The acquisition of the land will preserve the fine prospect westwards and southwards to as far as Highclere Beacon and Hindhead; nearer are Eversley, Strathfieldsaye, and the valley of the Blackwater, with Winchfield beyond.

Art Exhibitions.

Mr. Gordon Craig's exhibition of models and designs for the New Theatre at the Leicester Galleries will close on Saturday, 12th inst., when on the same day there will be opened an exhibition of paintings and drawings by Mr. George Clausen, R.A.

Later in the month Mr. Arthur Rackham's water-colours illustrating "Æsop's Fables" and some new drawings for "Peter Pan" will be shown in these Galleries, together with the collection of nearly one hundred drawings by the late Phil May formed by Mr. Lear J. Drew.

The Arts and Crafts Exhibition Society, founded in 1888, will hold their tenth exhibition at the new Grosvenor Gallery—a gallery just erected at 51A, New Bond-street—during the months of November, December, and January next. It will be remembered that this Society has been in the habit of holding triennial exhibitions since the year 1900, and that these exhibitions have never been run for profit, the

Society being satisfied if its expenses are paid, as the main object is to find opportunities of placing the best English contemporary work in design and craftsmanship before the public. Mr. Walter Crane is the President and Mr. Edward S. Prior, Hon. Secretary.

BOOKS.

Porches and Fonts. By J. CHARLES WALL. (London: Wells Gardner, Darton, & Co., Ltd. 10s. 6d. net.)

THE porch as a feature of ecclesiastical architecture often commands an individual interest. As the duality of the title of this work indicates, however, the author views his subjects from the standpoint of ecclesiology as well as architecture. To him the significance of the porch consists in its direct relation to the font. It is the relic of the *atrium*, the place set aside for catechumens—the unbaptised—while the font offers the first step towards reception into the privileges and ritual of the church proper. There is the other view. The porch is one of the *exedrae*, or outer buildings, referred to in early authorities as fit places for baptism, which ceremony was regarded as a purely public transaction. And the porch has certainly retained this character of an outbuilding suitable for public uses and performances of one kind and another. To many of these the author refers. It is, as we know, still the place where statutory notices are displayed. The civil arrangements connected with the marriage ceremony were conducted in the porch. Marriage settlements were there signed and sealed. Above the porch there often exists a room, known generally as a *parvise*, used as a muniment-room or library, sometimes as a school. An illustration of the fine porch and library over it, at St. Mary, Redcliffe, Bristol, is given, and due recognition is made of the remarkable flint panel work and freestone tracery that distinguished the porches in the eastern counties, as at Ardleigh and Great Bromley, in Essex, and Southwold, Halesworth, and Blyford, in Suffolk. Details of some of these porches were published in the *Transactions of the Royal Institute of British Architects*, 1884, with a paper by Mr. Frank Baggeley. But such characteristics are shared with the buildings to which they belong, and one must not push the individual claim of the porch too far. Those more distinctive porch forms, the narthex, as we see it at Lincoln and Peterborough, and the Galilee, as we see it at Chichester and Durham, have naturally not been overlooked by the author. Neither such prevalent features as sundials, stoups, and niches for the patron saints.

The special claim of the font is more readily accorded to. There are fonts whose beauty is not only of the most distinctive kind, but beauty of design of a very high order. The finest Norman fonts are pure Byzantine art, with the bowl sometimes square, as at Toftrees, sometimes round, as at Bodmin—both magnificent specimens.

The XIIIth-century font, as we find it at St. Giles, Oxford, Barnack, and Eaton Bray, is splendid also, and one may contrast the reticence of design in the St. Giles's example with the luxurious handling shown at Eaton Bray. With the XIVth century comes an obvious falling off in creative power. The bowls are small, and appear more insignificant still by their pedestal treatment and their position upon platforms. The "tub" font in Burford Church is, however, a notable exception.

When we reach font-covers, as we do towards the close of the book, it is again to find that the eastern counties show some of the best examples. Suspended with a counterbalance from the roof, or from four-post canopies, they are fine pieces of workmanship. Then there is the cabinet type, which gives access to the font by means of doors, of which there is a good example at Plymstock, Devon.

A handsome display of font-covers is, as we remember, given in an earlier work on the subject by Mr. Francis Bond. There is an earlier one still by F. A. Paley. But the present book is distinguished by possessing excellent original illustrations by the author, while Mr. Bond was satisfied with photographs, and engravings. If in this respect only, Mr. Wall may claim precedence, while we may add that those who seek ecclesiological information upon "liturgical observances" will find them duly considered.

Fire Prevention and Fire Protection as Applied to Building Construction: A Handbook of Theory and Practice. By J. K. FREITAG, B.S., C.E. (New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 1912. Pages viii. and 1,038. 17s. net.)

THIS book is an outcome of the elaborately specialised study which of late years has been given to the protection of life and property against fire. That absolute safety is attainable without the sacrifice of convenience to an undurable extent, is doubtful; but great progress has of late been made in reducing risk by suitable methods of construction and arrangement as well as by increased efficiency in what have been called the "fire-fighting arrangements and staff, and the work before us gives a very comprehensive statement of the present position from the points of view indicated by its title.

The earlier chapters are devoted to the subject of fire losses and statistics connected therewith, from which the author arrives at the conclusion that the buildings of the United States are very inferior in fire-resisting capacity to those of Europe. He states that "our veritable fire waste, according to European experience, amounts to more than 360,000,000 dollars annually, or nearly enough to build the Panama Canal each year."

After a chapter on the "Theory and Practice of Fire Insurance," there follows one on "Slow burning or Mill Construction," which would perhaps come more appropriately later in the book. "Fire Tests and the Materials of Fire-Resisting Construction" are dealt with next, occupying four chapters; and then follow thirteen chapters on "Fire-resisting Design," seven on "Special Structures and Features," and nine upon "Auxiliary Equipment and Safeguards."

The chapters on materials and construction contain many notes of general interest upon modern methods of construction, that devote to the questions of permanency and corrosion of metal being worthy of especial notice. The author very strongly condemns the jerry building which appears to exist in the United States as in the United Kingdom, and attributes its prevalence to undue haste and consequent carelessness, the craze for lightness and cheapness, and to actually dishonest design and construction. He says:—"In more than 95 per cent. of the fireproof buildings erected during the last five years the mistaken economy of owners has prevented the adoption of good fireproof construction," although the difference in cost between a poor and a first-class method has in no case been in excess of 2 to 4 per cent. of the cost of the building. We have heard an architect on this side assert that a great proportion of our own jerry building is the fault of the employer or client for whom it is done—and there is much truth in the statement. The desire to get more for one's money than can honestly be had does not seem to be peculiar to any one continent! The types of construction described and illustrated are very many and of varying degrees of merit, and the explanatory comments are clear and useful. It is noted that forms of construction which may very satisfactorily resist fire are not always equally good from the standpoint of general permanency. The many forms of floors, partitions, etc., commonly used, in which steelwork is permanently hidden from view but surrounded by air-space, must, of course, deteriorate at a speed varying with individual conditions, but in many cases too rapid to be at all reasonable in connexion with important buildings.

The great fires at Paterson in 1902, at Baltimore in 1904, at San Francisco in 1906, at Chelsea (Massachusetts) in 1908, as well as many fires in very large office and other blocks, theatres, and other public buildings furnished illustrations, details of which are copiously drawn upon by the author of the actual resistance and efficiency, or the reverse, of modern types of construction.

The carefully-organised experiments made at the testing-stations of the British Fire Prevention Committee, the United States Government, the Berlin Royal Technical Research Laboratory, and elsewhere are also referred to and details cited where necessary.

The best-known special types of doors, windows, and shutters of fire-resisting glass, and other means of separating fire-risks and of checking the spread of fire, together with the arrangements and construction of fire-escape staircases and fire escapes, are explained at

length. The placing of staircases and wells is one of the points which most seriously hamper the planner of buildings and most vital to the safety of occupants and the ready action of the fire-brigade in the event of fire. They must be ample in size and number, simple in arrangement, without con- ditioning turns, must have good lighting, must have openings exposed to possible flames from other buildings, or, if this condition be possible of fulfilment, they must be made of fire-resisting frames and similar glass. If they are outside the building they should be so arranged as not to pass windows or other openings from which flame may make its exit; this condition is often violated, the Iroquois Theatre contributing a typical example of the fatal fault. The proximity of lift wells or other vertical shafts must be considered. The details of construction must, of course, vary with the type of the building, though always complying with the general principles of fire-resistance, of which perhaps the most often overlooked is the fact that non-flammability and fire-resistance are by no means synonymous terms. These and similar considerations are discussed in connexion with the building of theatres and schools, residences, factories and garages, safes and vaults.

The last section of the book is devoted to appliances and systems intended to check and extinguish fires. In this we find sprinkler and alarm systems, extinguishers, hydrant pipes, the organisation of private fire-brigades, fire-watches, and drills all very well explained.

The volume is an excellent epitome of the despatch ramifications of its complex subject, and it is impossible in the space available in these columns to do more than indicate some of its contents.

The work should certainly be in the hands of those who are especially interested in fire prevention, and there can be few practising architects whom it would not be helpful.

BOOKS RECEIVED.

ARCHITECTURAL DRAWING AND DRAUGHTSMANSHIP. By Reginald Blomfield, A.R.A. (London: Cassell & Co. 10s. 6d. net.)
WATER SUPPLY AND DRAINAGE. By C. E. Ousden. (London: Longmans, Green, & Co. 6d.)
COMPETITION POINTS FOR GAS SALESMEN. By A. E. Bezanet. (London: Journal of Gas Lighting. 3s. 6d.)
LITCHWORTH (GARDEN CITY) AND HITCHIN. By the late George Aylott and W. P. Westell. (London: The Homeland Association, Ltd. 6d. net.)

CORRESPONDENCE.

Education in Architecture.

SIR,—A proposal has been made to my mind by some of the more prominent men in the architectural profession to the effect that the Society of Architects should organise a system of education on similar lines to the

ateliers of the Ecole des Beaux-Arts. In addition it is proposed to institute a method of examination which will tend to eliminate from amongst the students all those who show no real aptitude for the profession and whose energies could therefore be more profitably employed in some other calling.

It is felt that this proposal constitutes a wise development, and one which should prove most popular with all grades of the profession, and my Council are anxious that it should be introduced at the earliest possible moment. They have therefore appointed a Committee to confer on the subject and to consider ways and means. In addition to three of their own members appointed by my Council, the Right Hon. Lord Saye and Sele, Sir George Riddell, Mr. H. V. Lanchester, F.R.I.B.A., and Mr. A. J. Jefferies, F.R.I.B.A., have consented to serve on the Committee referred to, and it is anticipated that other prominent educationalists will also co-operate.

I shall be glad to hear from any other gentlemen, particularly architects, who sympathise with the scheme and who are willing to assist the Society in putting it into operation at an early date.

C. MCARTHUR BUTLER,
Secretary of the Society.

St. Paul's Bridge and the G.P.O. Buildings.

SIR,—The new road proposed by Mr. Arthur Crow in your issue of August 9, and illustrated in your issue of August 16, should certainly commend itself to the authorities and be adopted for carrying out some time in the future.

There are two or three points in connexion with it that I believe were not touched upon. In the first place, the street would pass through the Wood-street "danger zone," and thus by giving better access greatly minimise the risk of serious outbreaks in this part.

Secondly, the amount of time lost through the congestion of heavy traffic in the narrow street must be immense, and such a new street should go a long way towards remedying this.

Thirdly, if trams are taken across St. Paul's Bridge, this street would give a direct connexion between the bridge and the existing tram terminus at Finsbury-pavement.

Fourthly, the new street can be planned axially with the dome of St. Paul's, the grouping of which with the Church of St. Vedast in the foreground would give a picture second only to that which would have been obtained if the new bridge had been planned axially with St. Paul's.

The plan reproduced herewith shows this, and also shows a further extension of this route by a new street connecting Liverpool-street with Whitechapel High-street, at its junction with Commercial-road, thus forming a new through route from the Post Office to the east. About half of this new road is shown along the line of the Metropolitan Railway, which at this part is not covered in and built over. A further length of it is through some very low-class property, and thus the cost of the road should not be excessive. A second and better route is shown on the plan by dotted lines, but this would probably be barred on the ground of cost.

R. DANN.

St. Martin's le Grand.

SIR,—In all that has been written around the demolition of the old General Post Office—the opportunity for a new thoroughfare, the saving of Wren's church in Foster-lane—a noteworthy piece of City architecture has, seemingly, been overlooked which we might reasonably have expected to claim some attention in this matter. The Goldsmiths' Hall has perhaps not been so considered from the fact that it is hidden behind the old Post Office buildings in the characteristic fashion of the City's best buildings, approached by narrow lanes, and defying the modern tendency to isolate any great architectural presence from the intimate setting of its surroundings.

When this area is cleared of the present buildings there will not be a few to whom the revelation of the Goldsmiths' Hall will come as a surprise. That it has escaped notice at the present juncture is proof enough that it still awaits discovery by many. Faithful to Portland stone—stone here almost uniformly bleached throughout the structure in a striking degree—there is hardly a finer building within the precincts of the City: none which so completely expresses the dignity of a great City company and the history of the City itself reflected therein. The scale of the whole building, with its really nobly conceived Corinthian columns and pilasters, evinces a rare sense of architectural form and proportion which is nearer the true Greek feeling than the results achieved by the Renaissance. The Goldsmiths' Hall is a striking contrast to what its architect, Philip Hardwick, R.A., attempted to express, so inappropriately, at Euston, and among all his work it must be considered his masterpiece, well worthy of a little attention just now, when we are hearing so much of the evolution of the classical style. What I wish to suggest, however, is that the building, forming one self-contained block, is one of the determining factors in the re-planning of the old Post Office site and the cutting of any new thoroughfare to relieve the City traffic, as I think will be made very manifest as soon as the existing buildings are demolished.

MAX JUDGE.

INTERCOMMUNICATION COLUMN.

Utilising Roof Tops.

SIR,—A propos your note to the above paragraph (p. 328 ante) anent the "woefully wasted" space beneath high-pitched roofs, can any of your readers advise whether such space can be satisfactorily used as a "fruit room," viz., for the proper storage and preservation of apples and pears, etc., from one's garden? If so, I am sure many would welcome some hints as to the way such space should be ventilated for this purpose.

ENQUIRER.

Stained-Glass Specimens.

SIR,—Will any of your readers kindly inform me where the best specimens of modern stained glass can be seen within, say, 40 miles of London?

E. A. COLLETT.



Proposal for New City Thoroughfares.

ILLUSTRATIONS.

New Wesleyan Church House.



OUR plates this week are devoted entirely to the new building recently inaugurated at Westminster. An article on the subject begins on p. 411.

MEETINGS.

FRIDAY, OCTOBER 11.

Royal Technical College, *Architectural Craftsmen's Society, Glasgow*.—Mr. A. S. Paterson, M.A., on "Scottish Architecture: XVth to XVIIIth Century."
Institution of Municipal Engineers.—Fourth annual general meeting, London.

SATURDAY, OCTOBER 12.

Aberdeen Architectural Association.—Mr. G. M. Fraser on "The Bridge of Dee." 7.30 p.m.
Institution of Municipal Engineers.—Fourth annual general meeting (concluded).

MONDAY, OCTOBER 14.

The Architectural Association.—Opening meeting of the session. Presidential address by Mr. Gerald C. Horsley. 8 p.m.
Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.
University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Constructive Principles of Gothic Architecture." 5 p.m.

TUESDAY, OCTOBER 15.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Elementary Science: Physics, Chemistry." 7 p.m.
Institution of Municipal Engineers (Eastern District).—Meeting at Godmanchester.

WEDNESDAY, OCTOBER 16.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., A.R.I.B.A., on "Building Materials." 7 p.m.
The Institution of Heating and Ventilating Engineers (Incorporated).—The autumnal general meeting, University College, Gower-street, London, W.C. The members are invited to attend a lecture to be given by Mr. A. H. Barker, B.A., B.Sc., Wh.Sc., in the Botanical Theatre of the University College, on "The Theory and Limitations of Approximate Calculations in Heating and Ventilation." 5 p.m.

THURSDAY, OCTOBER 17.

University of London (British Museum).—Mr. Banister Fletcher on "The Tomb Palaces of the Egyptians" 4.30 p.m.

COMPETITION NEWS.

A list of current competitions is printed on page 423.

Isolation Hospital, Easington.

The Easington Rural District Council have adopted, by fifteen votes to eight, the design of Mr. Hugh Hedley, of Sunderland, for the proposed new isolation hospital.

Students' Prizes, Society of Architects, 1912-13.

The list of quarterly competitions for students of the Society of Architects has been published. The subject for the Travelling Studentship is "Alms-houses," and the assessor is Mr. E. C. P. Monson, F.R.I.B.A. The date for sending in is May 1, 1913.

Municipal Buildings, Padimah.

Messrs. Pollard & Pollard, of Bank-chambers, Padimah, have been awarded the first premium (40*l.*) in this competition. The second premiated design is by Messrs. Matthew Watson, Landless, & Pierce, 4, Nicholas-street, Burnley. The designs are to be exhibited at the Technical Schools, Padimah, from October 11 to 15.

Library and Museum, Sofia, Bulgaria.

The Commercial Intelligence Branch of the Board of Trade is in receipt of particulars of a competition of designs for a national library and museum, which it is proposed to erect at Sofia at an estimated cost of 2,000,000 fr. (80,000*l.*). Premiums of 4,000 fr. (160*l.*), 2,500 fr. (100*l.*), and 1,000 fr. (40*l.*) are offered. Designs, in sealed envelopes, must reach the "Euphorie"—Frères Evloguie et Christo Guerguieff, Sofia, not later than December 1 next. Full particulars can be obtained from the same address. A copy of the programme (in French), together with blue prints, may be seen by British architects at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

ANCIENT ARCHITECTURE.

MR. BANISTER FLETCHER, F.R.I.B.A., gave the first of a course of twenty-four University Extension Lectures on "Ancient Architecture" in the Assyrian Salon, at the British Museum, on Thursday last week.

He dealt with the nature of the lectures to be given under the auspices of the University of London during the coming winter, saying that

he would trace the evolution of ancient architecture in Egypt, Assyria, Greece, Rome, and Byzantium on broad lines. Architecture, the lecturer explained, was the visible exponent of civilisation, and all present-day buildings were founded upon old art adapted to modern needs. The study of architecture was thus necessary to architects, craftsmen, and art students, and it would be difficult to find anyone to whom a knowledge of the subject would not be useful. The author, journalist, photographer, and antiquary all required a knowledge of the evolution of architecture to help them in their work. The teaching profession now also adds to the interest of history by referring to the dwellings and the temples constructed by the different peoples to suit their social, religious, and political requirements. A knowledge of architectural history also added much to the enjoyment and benefit of travel by enabling people to take an intelligent interest in the monuments of the past. By the study of the most beautiful buildings of bygone ages an improvement in the architecture of our own country would assuredly result.

Mr. Fletcher next gave a short illustrated review of ancient architecture, and referred to the different influences—geographical, geological, climatic, religious, social, political, and historical—which aided in the evolution of typical buildings. He touched lightly on the world-famous Sphinx—a sentinel of the past—the massive temples and tombs of the Egyptians, the palaces of the Assyrians, the temples of the Greeks—*e.g.*, the Parthenon and the Erechtheion—and their open-air theatres, the great buildings of the Romans, including the Baths of Caracalla, the stupendous Colosseum at Rome, the Arches of Triumph, and the dwellings at Pompeii, the churches of the Early Christians, and the peculiar types of buildings erected under the influence of Byzantium. The lectures are to be illustrated by some 1,200 views. This is one of the courses recognised as qualifying for the new diploma in the History of Art just established by the University.

ARCHITECTURAL SOCIETIES.

Glasgow Technical College: Architectural Craftsmen's Society.

The first meeting of the seventeenth session of the Architectural Craftsmen's Society was held in the Royal Technical College, Glasgow. Mr. Alexander H. Purdie, the President, occupied the chair and read a paper on "Comparative Costs of Various Methods of Construction." Alternative methods of constructing walls, floors, roofs, and partitions were discussed, and the paper concluded with a reference to probable costs in connexion with competitive designs.

The Gloucestershire Architectural Association.

Mr. J. A. Gotch, F.S.A., F.R.I.B.A., gave an interesting lecture on Thursday last week at Northgate Mansions to the Gloucestershire Architectural Association upon "The Homes of Queen Elizabeth's Courtiers." The President of the Association (Mr. Walter B. Wood, A.R.I.B.A.) occupied the chair. Mr. Gotch, who illustrated his lecture with a great number of beautiful lantern slides of typical examples, said that under the safe and sound rule of Elizabeth at a time when the dissolution of the monasteries had placed much wealth in certain secular quarters, there was a great zest for building. The ponderous contrivances for ensuring safety gave place before the fulfilment of a desire for better and more comfortable homes. This busy building period lasted for about sixty years, throughout the reigns of Elizabeth and James I. Before it there had been the Tudor period, still distinctly Gothic, and after it came a period distinctly classic. The Elizabethan period had a distinct individuality. The culture of Italy at the time had affected the whole civilised world, and Elizabethan architecture was marked by many Italian features applied very largely to the Gothic forms, which had clung to English builders from their youth; the whole developed with certain distinct characteristics, in accordance with the demands of English climatic and other conditions. From whatever source these characteristics came, they were developed upon a body entirely English, namely, the plan. The buildings had to coincide with the established requirements and customs of English life, and they were built so as to fulfil the great desire for magnificence, for more privacy, and for more light. The great size of the buildings made them so

magnificent that in many cases they were beyond the resources of modern incomes, many descendants of the Elizabethan courtiers had had, perforce, to leave the tremendous homes of their ancestors; privacy was gained by large addition to the number of rooms built into the mansions; and light had been supplied by a larger number of windows more conveniently placed. Indeed, such a change in the latter respect did this Elizabethan architecture bring into vogue that Lord Bacon recorded that "One could not tell where to become out of wind or sunlight." Among the interesting examples of the period which Mr. Gotch showed were several buildings geometrically planned—strictly square, oblong, triangle—after a fanciful manner, which given place in our time to strict utility, hearty vote of thanks was passed to the lecturer on the motion of the President of the Association.

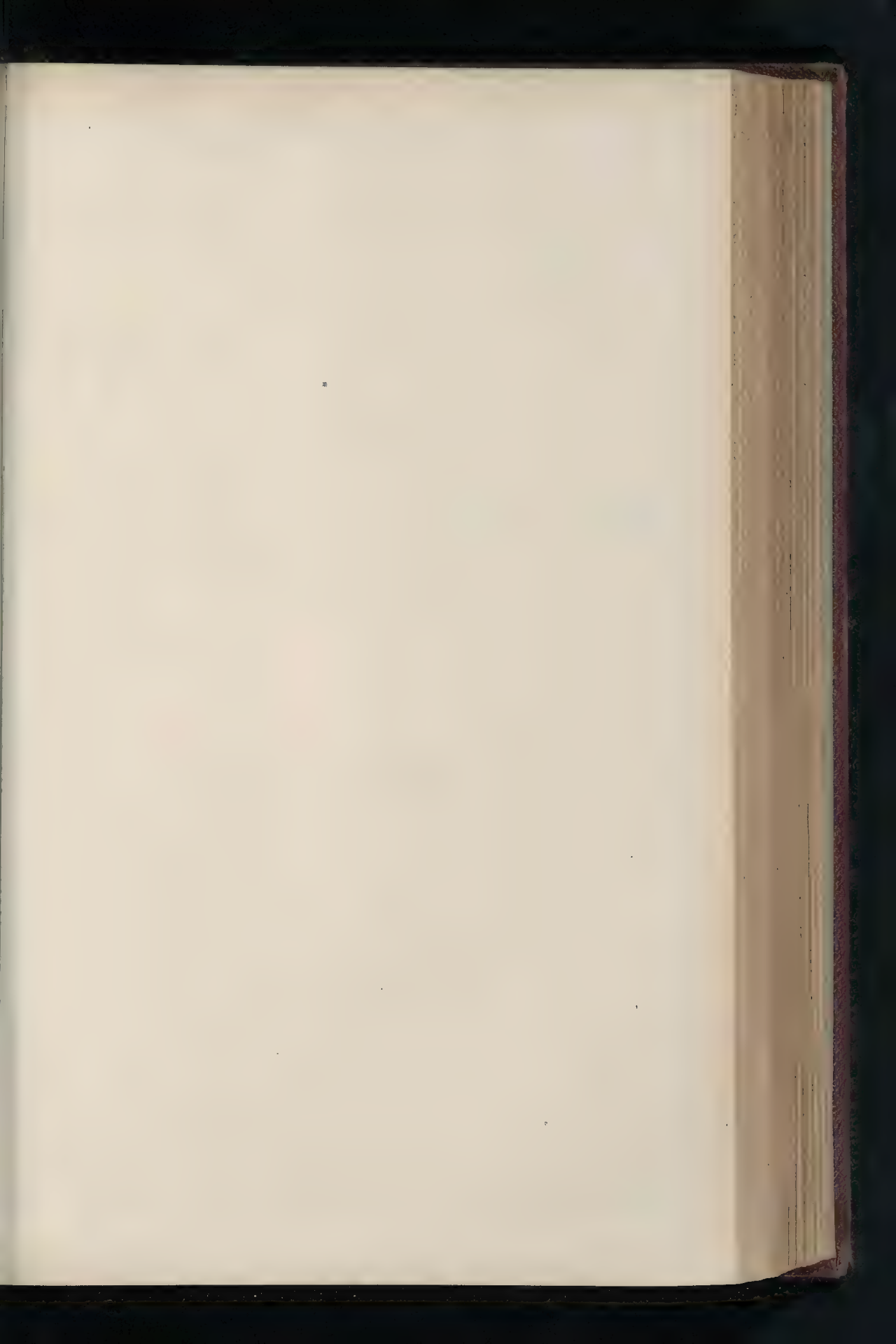
FIFTY YEARS AGO.

From the *Builder* of October 11, 1862.

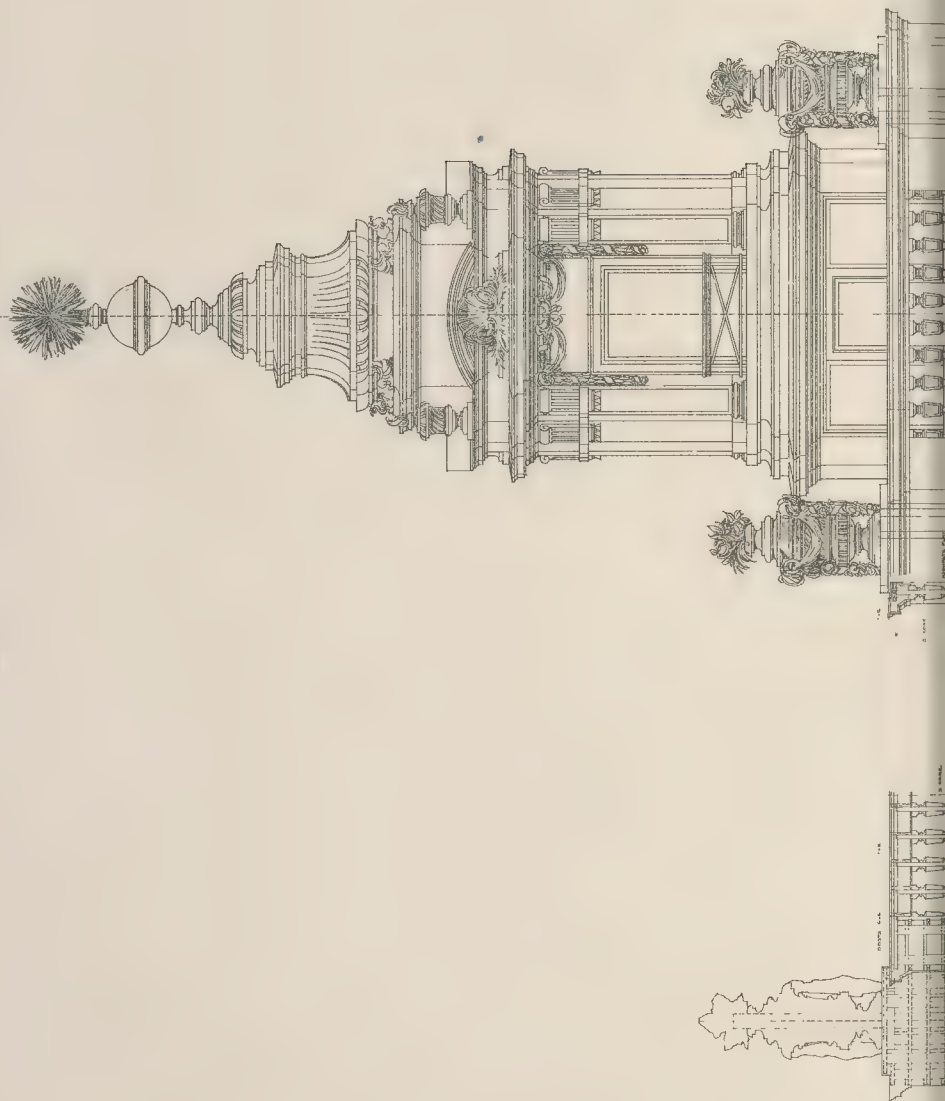
Electro-Telegraphic Progress.

A NEW discovery has been made. Telegraph without wires can pass through earth and sea, and everyone may establish his own. It is at present a very great secret in scientific circles, adds our authority. It is evident that wonders will never cease. The idea of an electric telegraph without wires, however, though not yet fully realised, far as we know, is not so new as our authors appears to imagine. A Dundee gentleman lately deceased, actually laid (if we may speak) an electric telegraph across Portsmouth harbour, without wires, and worked it too, by permission of the Government. He also telegraphed across the Tay in the same way. Although no wires crossed the river or the harbour, however, a wire was earth plates at right angles was requisited either side.

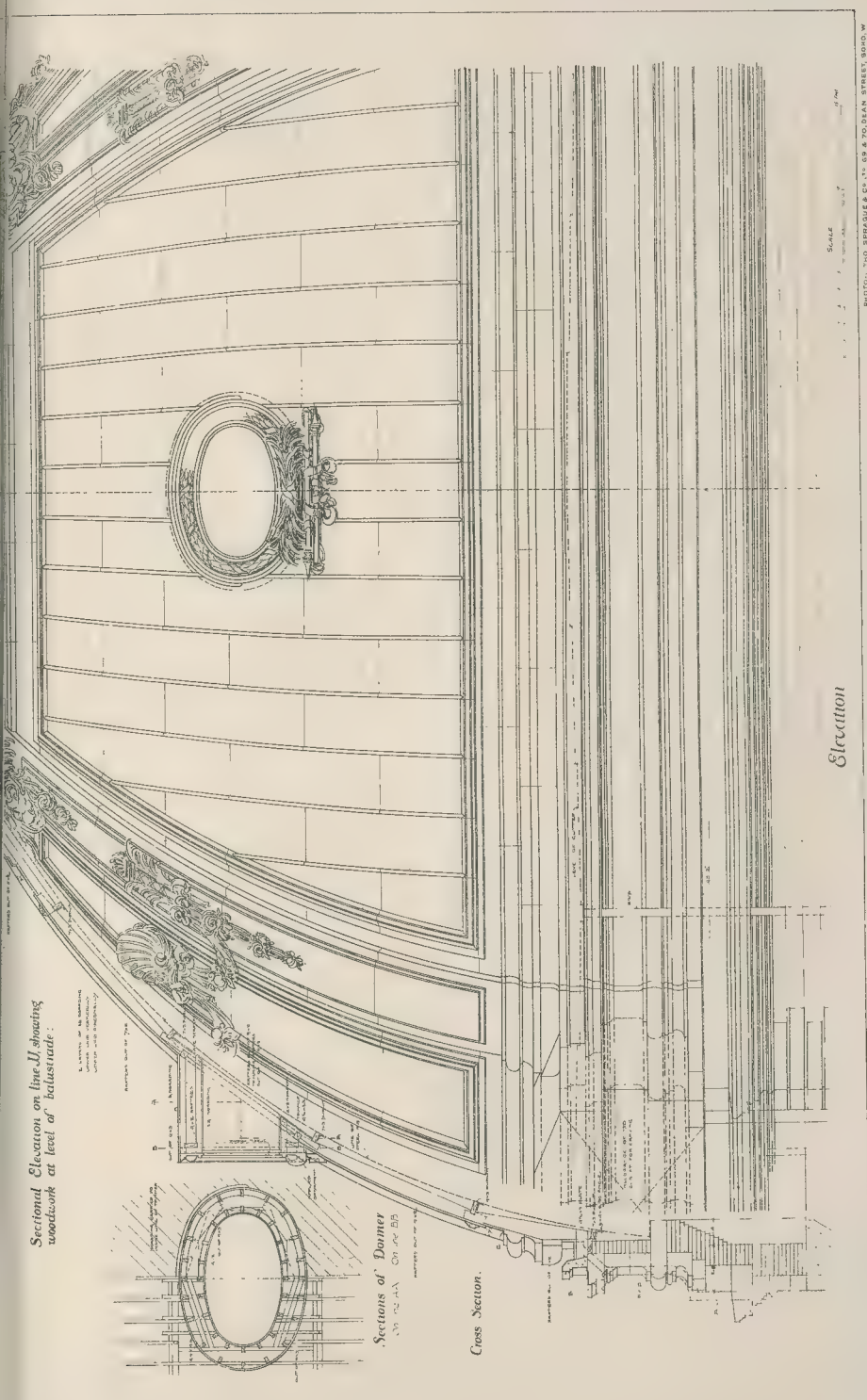
** The Seventh Wonder of the ancient world was the Pharos, or Watch Tower, completed by Ptolemy Philadelphus, King of Egypt, about 283 B.C. The fires on the early lighthouse, at a height of 550 feet, could be seen by sailors at a distance of 42 miles. This means of communication, namely, the beacon fire, was serviceable until the XIXth century. At Blakeney, in Norfolk, the Church of St. Nicholas possesses a delightful miniature tower which with its lights, used to enable mariners to approach the port in safety by day or night. Later in civilisation came the electric telegraph, and in consequence the disfigurements to the country which have been continual worry to those of æsthetic temperament. The telephone followed, and again complaints sprang up from various quarters where unsightly attributes were placed. Only a few weeks ago the Egham Urban Council had to face protests because it proposed to place telephone poles of historic Runnemede. Will these objectionable accessories to lightning communication eventually disappear? It seems probable, for the greatest wonder of the modern world is rapidly insinuating its invisible witchery into our daily life. We could have foretold that the experiment briefly touched upon in the *Builder* five years ago would have developed into the fantastic yet practical wireless telegraph of the present day? The new era in communication was firmly established when wireless messages were sent in 1901 from Poldio in Cornwall to St. John's, Newfoundland. Since then the efforts of Mr. Marconi have been applied to the perfection of this amazing discovery, and "marconigrams" have taken an increasing share in the history of civilisation and commerce. There is a ground round the earth, and "speeding up" more prevalent than ever. Within twelve months we believe it will be possible to transmit messages direct from the Strand to New York, and those who are alive to do it will smile at the leaden slowness of the present day.—Ed.



THE BUILDER, OCTOBER 11, 1912.



Sectional Elevation on line II showing
woodwork at level of balustrade.



Sections of Dome
ON LINE II

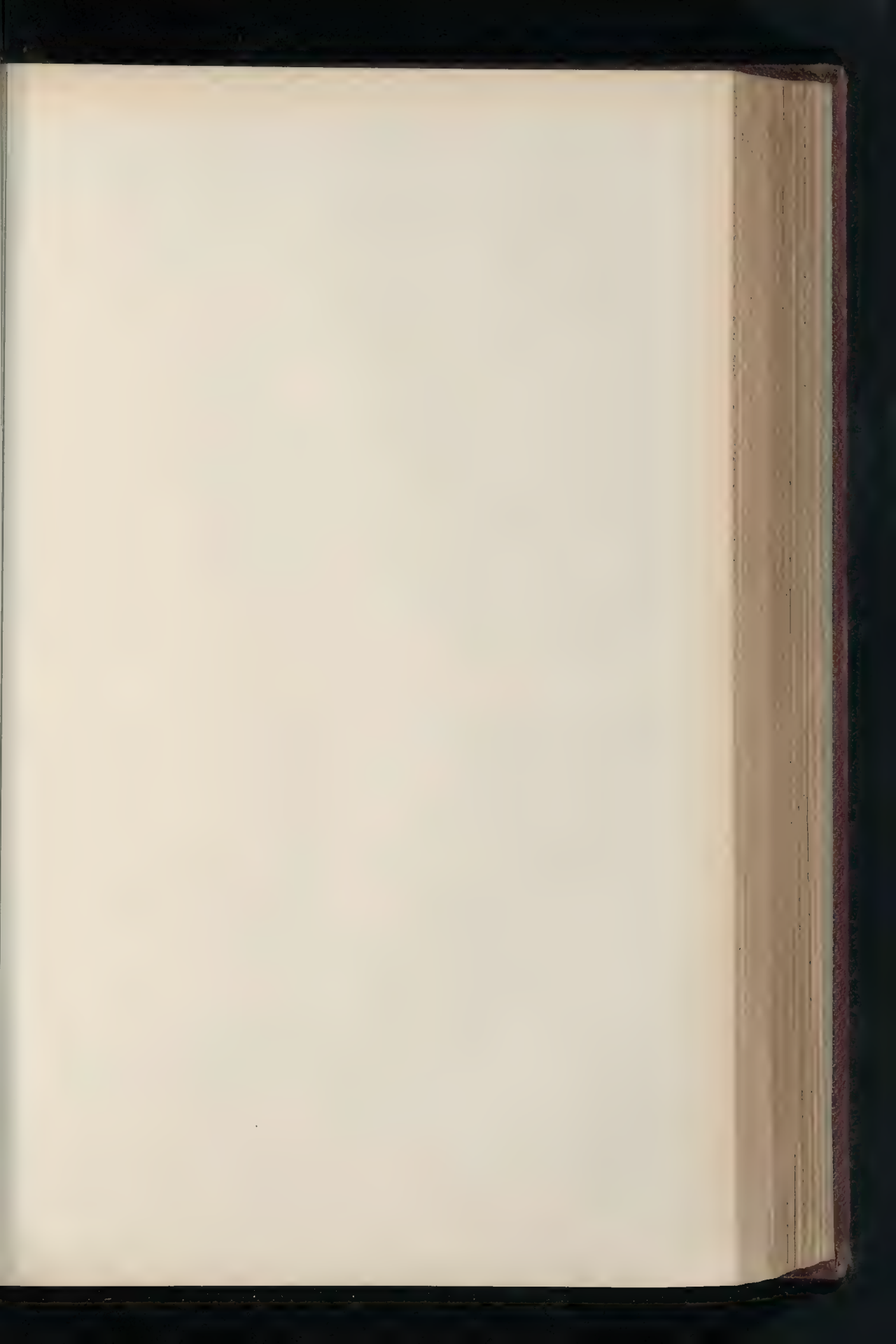
Cross Section.

Detail

DETAIL OF DOME AND LANTERN.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—MESSRS. LANGHESTER & RICKARDS, F.F.R.I.B.A., ARCHITECTS.

PHOTO. "THE SHED" & CO. 11, 13 & 15, OLD LONDON STREET, BOSTON, U.S.A.



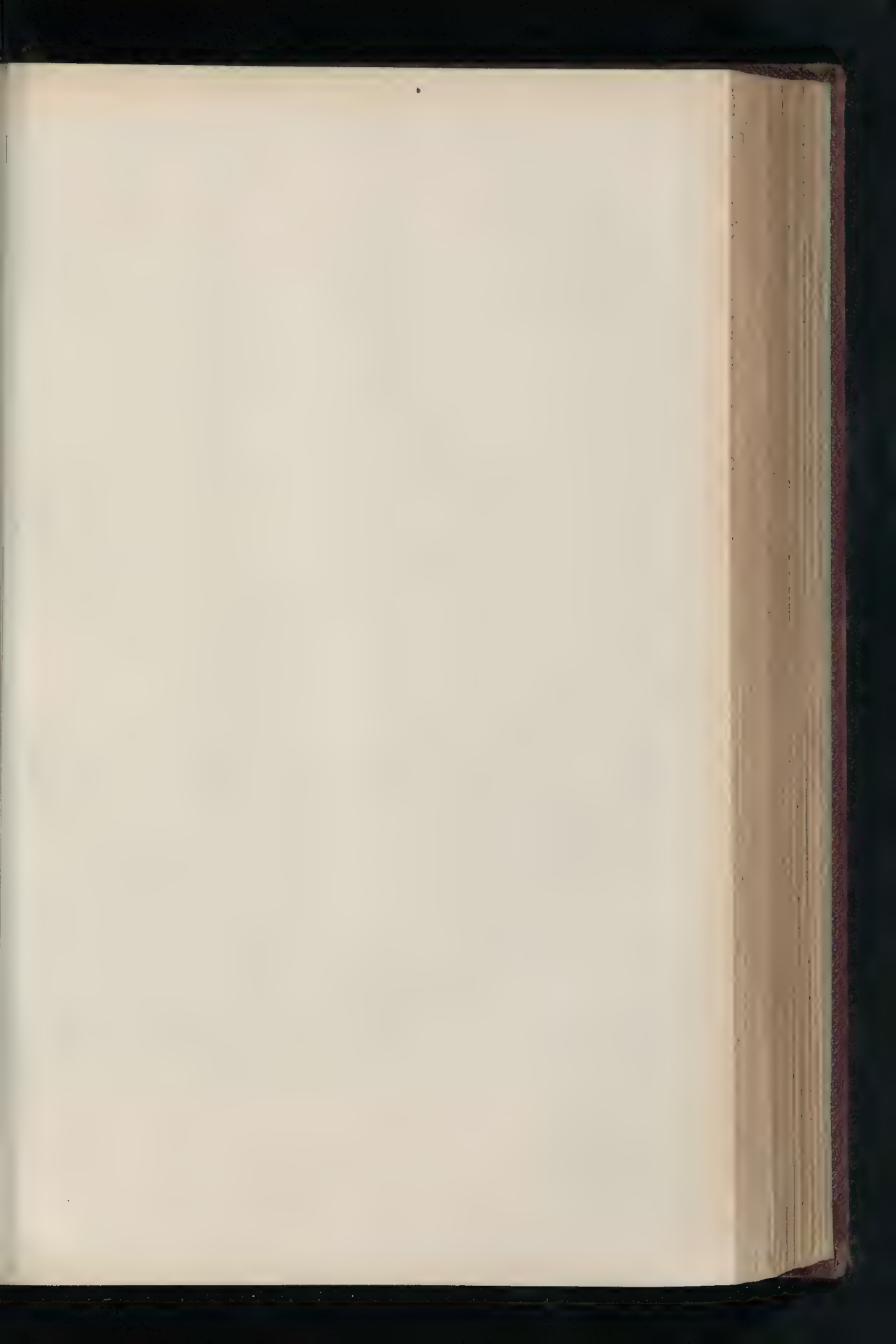


INTERIOR OF THE LARGE HALL.



INTERIOR OF THE SMALL HALL.

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., Soho, W.





Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

DETAIL OF DOME.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER. MESSRS. LANCHESTER & RICKARDS, F.F.R.I.B.A., ARCHITECTS.

THE BUILDER, OCTOBER 11, 1912.



Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W

GENERAL VIEW.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER. MESSRS. LANCHESTER & RICKARDS, F.F.R.I.B.A., ARCHITECTS.

THE BUILDER, OCTOBER 11, 1912.



Sprague & Co., Ltd., Printers 69 & 70, Dean St., Scho W.

DETAIL OF MAIN FRONT.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.—MESSRS. LANCHESIER & RICKARDS, F.F.R.I.B.A., ARCHITECTS

MONTHLY REVIEW . of . CONSTRUCTION.

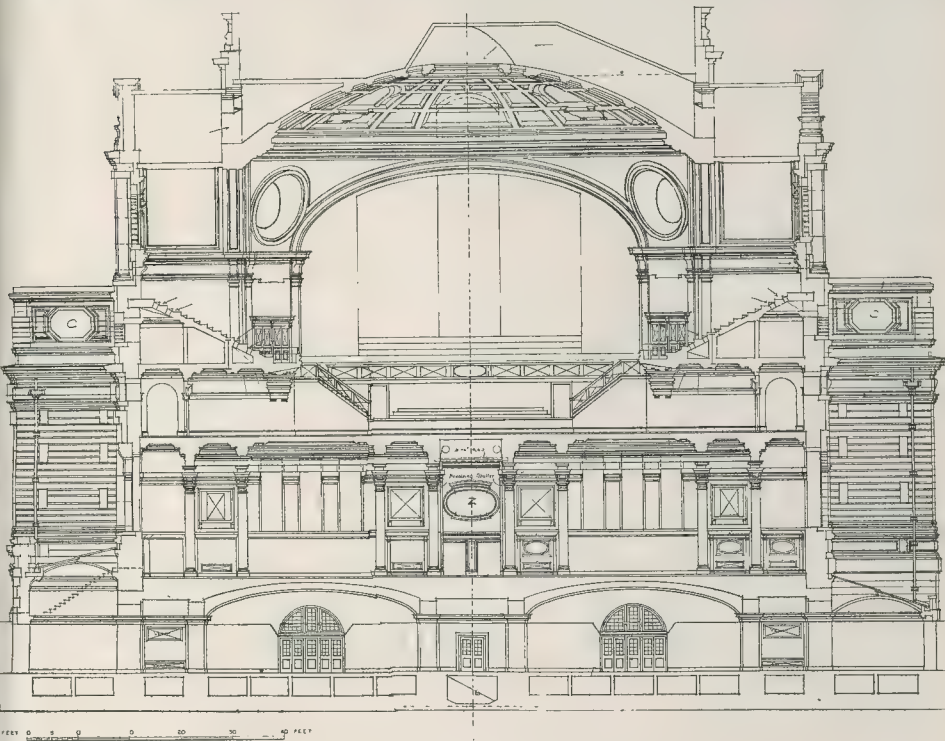


Fig. 1. Cross-Section.

THE NEW WESLEYAN CHURCH HOUSE, WESTMINSTER.

THE new Hall for the Wesleyan community which has been erected on the site of the old Aquarium, in Westminster, on the designs of Messrs. Lanchester & Richards, is without parallel as an example of modern construction in London. Owing to the nature of the planning, which is essentially old in its conception, some extremely interesting problems in construction arose, and these have been scientifically and successfully dealt with by the extensive use of reinforced concrete, which was executed on the Kahn system. To thoroughly appreciate the nature of the construction it is necessary to understand the general arrangement of the building and also its magnitude. The large Conference Hall was obviously the chief factor to be considered in the planning, and this is situated on the first floor and filled with a large dome, as shown on the cross-section, Fig. 1. This apartment measures practically 110 ft. by 80 ft., and galleries are provided on three sides, constructed on the cantilever principle to give the maximum amount of floor space below and to avoid obstructions. A large gallery for the chorus is also provided at the west end of the hall, with provision for a platform in front of same. Other features of interest on this floor are the piers and ante hall, which exhibit much care in planning. There are two other important parts in addition to the first floor, viz., the ground and basement, as distinct from various mezzanine floors which were introduced to

economise space where the heights required for the principal apartments would have been excessive for the smaller rooms. The ground floor contains a great deal of accommodation, including the Library, Small Hall, small Conference Hall, committee-rooms, and a bank, and the disposition of these rooms in relation to each other and the entrances and staircases is carefully studied, as will be observed on reference to the illustration of this plan in Fig. 2. The large tea-room which occurs in the basement is the chief feature of this floor, and the construction of this, described below, is interesting. The total height of the building from the pavement to the springing of the large central dome is about 92 ft., and the basement floor is 16 ft. in height, while the overall dimensions of the site are about 190 ft. by 180 ft. The system of construction employed is not that of a reinforced concrete building throughout, although the greater number of the principal features are constructed on these lines, but rather a combination of steelwork and reinforced concrete with brick arches in certain positions where the architectural treatment rendered this possible. The most important part of the steel construction is provided by the eight large lattice stanchions, described elsewhere, which carry the main dome, these being situated in four pairs at the angles of the square plan from which it springs, and being connected together immediately under the dome by reinforced concrete girders; while large steel girders are also introduced into the construction of the galleries in the main hall. The load on these steel stanchions has been

calculated at about 550 tons each, making a total load on each pair equal to 1,100 tons, and this is carried on a grillage foundation constructed of eight 10-in. by 5-in. rolled steel joists, resting on seven 14-in. by 6-in. joists, each of the latter being about 30 ft. long, and the whole is embedded in cement concrete about 7 ft. thick. The soil consists of a good dry bed of sand and gravel, and the foundations were designed to distribute the loads in such a manner that the pressure did not exceed 2 tons per square foot at any portion. A solid concrete platform is constructed over the whole site, having the under-surface at one uniform level throughout, viz., 7 ft. 6 in. below the basement floor level. The least thickness employed was 1 ft. 3 in., any addition to this being applied upon the upper side, and the effect of this system is to give space at certain points under the basement floor where the concrete is at the minimum thickness, which was utilised for the conveyance of water and drainpipes, ducts, cables, etc. With the exception of the grillage foundations, mentioned above, extra loading or reduced thickness of concrete was compensated for by the introduction of reinforcement in the form of Kahn trussed bars, varying from $\frac{1}{2}$ in. to 1 in. in size. The cross-section previously mentioned (Fig. 1) gives a good idea of the level concrete platform with the space available at certain points. The work in the basement floor is chiefly remarkable for the domed concrete ceilings over the tea-room, and upon studying the details of this work, illustrated in Fig. 4, some idea of its unique character can be gathered. Owing to the large size of this room and the little

*A perspective and plan were published in the Builder, June 24, 1905, and details of the façades, December 28, 1907.

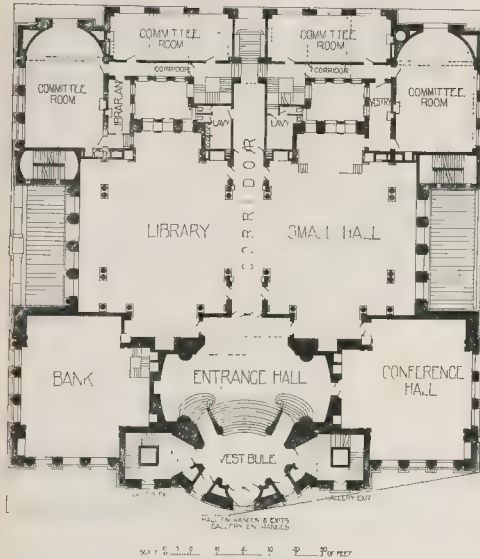


Fig. 2. Ground Floor Plan.

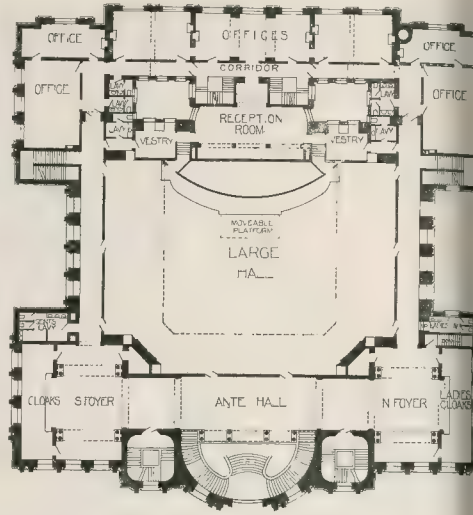


Fig. 3. First Floor Plan.

height that was available, it was quite impossible to obtain a dome with a large rise, and, again, a great deal of the architectural character would have been lost if any other than a flat dome had been employed. These domes are elliptical and cover the central portion of the room, which measures about 42 ft. by 29 ft., with a rise of about 6 ft. only; upon reference to the key plan in Fig. 4 it will be seen that the dome in each instance springs from a rectangular plan, which rendered the work extremely difficult to set out accurately, especially in the case of the pendentives. The total size of the tea-

room is approximately 65 ft. by 170 ft., and the ceiling and floor above are carried by twelve reinforced concrete piers, these latter being connected by curved concrete ribs, each 3 ft. 3 in. wide and reinforced with four 1½-in. Kahn bars at top and bottom. It is doubtful if this work could have been successfully constructed in any material other than reinforced concrete, and is a typical example of the possibilities of this system of construction. The thickness of the concrete forming the domed ceilings was 9 in., and reinforcement was provided in the form of ½-in. Kahn bars, spaced at 12-in. centres. The

horizontal floor above the dome is formed 5 in. of concrete reinforced with ½-in. bars at 12-in. centres, and this is attached to the domed ceiling at the crown of the latter only, thus leaving an open spandril space between the two. The piers carrying this work and the columns over are 4-ft. square constructed of concrete reinforced with eight 1-in. Kahn bars and 1-in. by ½-in. hooping at 3-in. pitch, the vertical bars being extended upward for a short distance into the lower part of the connecting ribs thus forming one complete construction. The ascending to the ground floor the most interesting

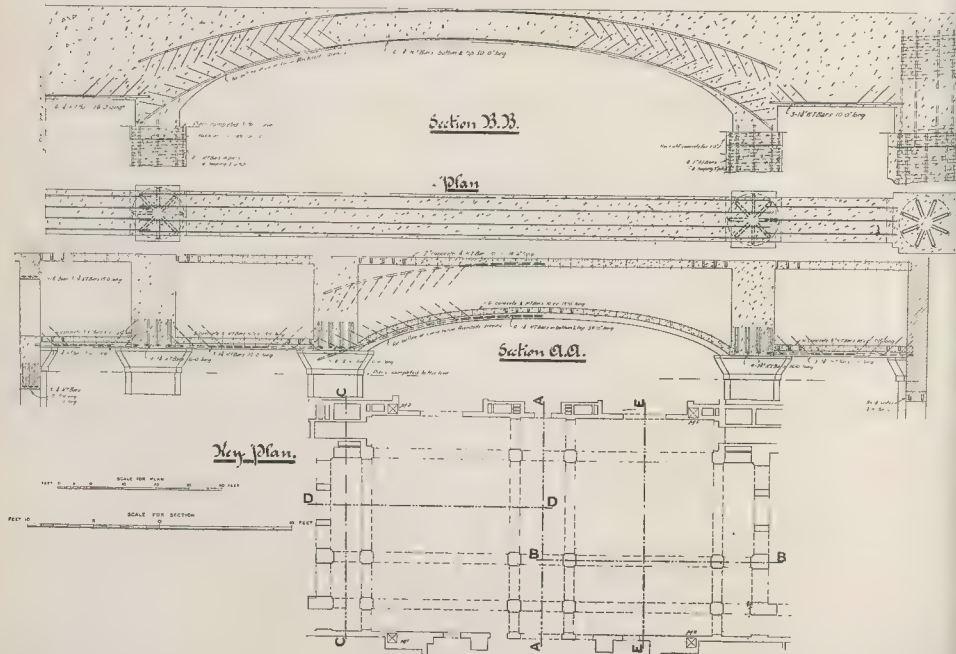


Fig. 4. Details of Ceiling and Floor over Tea-Room.

structural item is provided by the columns of the Small Hall and Library, Fig. 11, which are provided with special regard to the architectural treatment of the rooms in which they are situated. The function they perform is that of supporting the floor of the large Conference Hall above, and have a height of about 28 ft., while the diameter is 2 ft. In forming these columns an attempt was made to avoid the necessity of making a large amount of "making out" by plasterer such as usually occurs in the case of a constructional column which, when completed, forms a decorative feature requiring an entasis, and in consequence the entasis was actually formed in the concrete and a surface was provided on which the plasterer could work direct, using a finishing coat of a uniform thickness. This entasis was so accurately formed that the column in every instance could be completely finished with a coat $\frac{1}{2}$ in. in thickness. The base, cap, and entablature above were also actually formed in concrete, this method saving a great deal of labour when applying the finishings, and making a much more satisfactory job. A very careful setting-out and accurate centering were necessary to obtain the objects aimed at by this method, and especially in the case of the columns, which thus required to be set with a certain portion quite vertical and the remainder having a slight curve corresponding with the required entasis. The boxings were made in separate sections, each being about 4 ft. high, and consisted of narrow strips placed vertically, which could easily be bent to the required curve, and these were fastened to horizontal pieces that were set out, and their outer edges plumb, while the inner edges were formed to a curve coinciding with the diameter of the column at each particular height, these horizontal pieces occurring at intervals of 2 ft. throughout the height. The reinforcement to these columns consists of eight ribbed bars with $\frac{3}{8}$ -in. hoopings at 6-in. centres, the bars being kept back $\frac{1}{2}$ in. from the surface of the concrete.

The work on the first floor is full of interest and account of the large Conference Hall, with its dome, and a few particulars of the dome should prove of value. The galleries are situated on three sides of the hall, and although they are formed in reinforced concrete, large steel plate girders are introduced to aid in carrying the weights. The drawings of the work illustrated in Fig. 5 give a good general idea of the method employed. It will be seen that two steel girders are used, the back girder acting as the anchorage for the sloping portion, which actually carries the ties for the sloping purposes, while the front girder acts as a support, beyond which there is a projection about 14 ft. 6 in. A continuity of reinforcement was preserved as far as possible by carrying the bars from the sloping portion out to the end of the projecting portion, and then turning same back in the horizontal portion until the lower part of the steel girder was encountered. Many of the bars in the sloping portion were also turned back and continued up the slope again in the upper surface. The sloping portion, making an angle of about 32 deg. with the horizontal, is reinforced through in one length of about 38 ft., it has a minimum thickness of 10 in. For

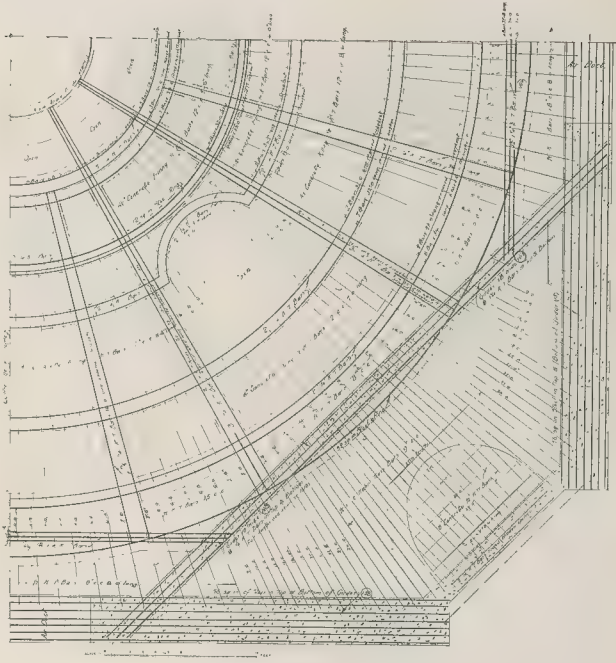


Fig. 6. Part of Plan of Inner Dome.

the sake of lightness hollow tile blocks, 12 in. by 8 in., are introduced, spaced 6 in. apart in the clear, the space between being filled in with concrete reinforced with four 1-in. rib bars, two in the upper and two in the lower surface. These bars were hooped together with $\frac{1}{2}$ -in. wire hoops placed at 12-in. centres, and the tiles were covered with a minimum thickness of 2 in. of concrete.

The horizontal cantilevered portion was reinforced with $\frac{3}{4}$ -in. Kahn trussed bars at 18-in. centres carried out between the rib bars in the slope previously mentioned, and the whole was wired together with $\frac{1}{2}$ -in. by $\frac{1}{2}$ -in. flat hoopings at 6-in. centres.

The floor under the gallery is constructed on the same principle as the sloping portion of the gallery, with 12-in. by 12-in. hollow tile blocks at 18-in. centres, with reinforcement between the blocks consisting of two trussed bars, $1\frac{1}{2}$ in. and $\frac{3}{4}$ in. respectively. A large reinforced beam, 48 in. by 36 in., carries the greater portion of the weight from this floor, the reinforcement consisting of six $1\frac{1}{2}$ -in. trussed bars.

The reinforced concrete dome, which occurs

over the large Conference Hall and has a diameter of 80 ft., is one of the principal features in the building, both from the point of view of design and construction, and the writer is not aware of any reinforced concrete dome in this country of a similar size. This dome, which is coffered and visible from the Hall itself, is covered with an external dome, visible from the exterior of the building, constructed of a light steel framework, it being impossible to get a single dome which would have afforded a satisfactory treatment both internally and externally. The construction of the inner dome is formed by sixteen radiating ribs and five circumferential beams, which project below the filling, and thus form the coffers on the underside, these ribs and beams being well reinforced, as shown on the drawings of this dome, illustrated in Figs. 6 and 7. It will be seen that a circular central opening is formed in the concrete, and this has a 9-in. by 4-in. angle frame. Metal rings are also provided at two other points, one of these being at the springing, and having a sectional area of 32 sq. in., with a diameter of 83 ft., while the other has a diameter of 37 ft. 6 in. and a sectional area of 12 sq. in. The filling between the ribs and beams consists generally of 44-in. concrete reinforced with $\frac{1}{2}$ -in. Kahn bars at 12-in. centres. The pendentives are formed with 8-in. concrete reinforced with $1\frac{1}{2}$ -in. Kahn bars at 9-in. centres. It will be seen, upon reference to the plan, that the octagonal plan is brought over to circular form by large concrete girders 18 in. wide, which carry the ends of the main radial ribs over a span of 50 ft., and these girders have a depth of 8 ft., and are reinforced with eight 14-in. Kahn trussed bars in top and bottom surfaces, and $\frac{3}{4}$ -in. rib bar ties taken right round both sets of reinforcement. The ends of these large girders are in turn carried by still larger girders, which transmit the whole of the loads from the dome construction to the lattice stanchions previously mentioned. These latter girders span a distance of 70 ft., and have a depth of 13 ft. and a width of nearly 4 ft., with no less than 56 sq. in. of steel in both tension and compression areas. Openings are formed on the centre of each girder for the purpose of conveying an air duct through same, these openings being arched at the top. The construction of this dome and the method of transmitting the loads to the foundations is extremely interesting and worthy of particular mention as

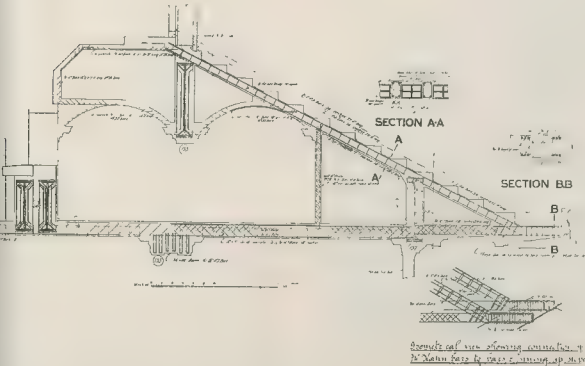


Fig. 5. Section through East Gallery.

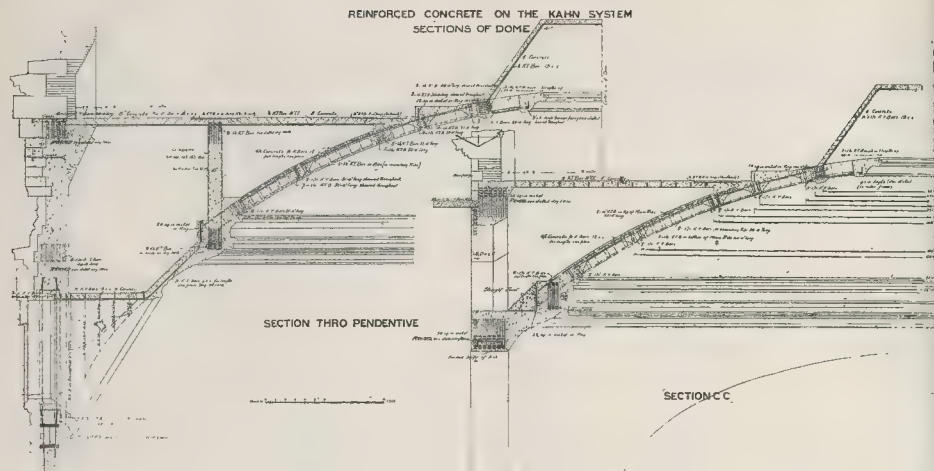


Fig. 7. Sections of Inner Dome.

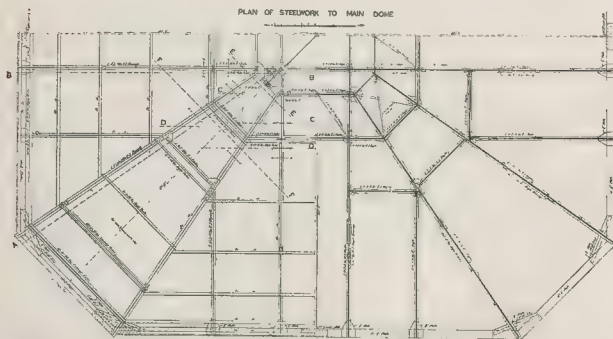


Fig. 8. Plan of Steelwork to Outer Dome.

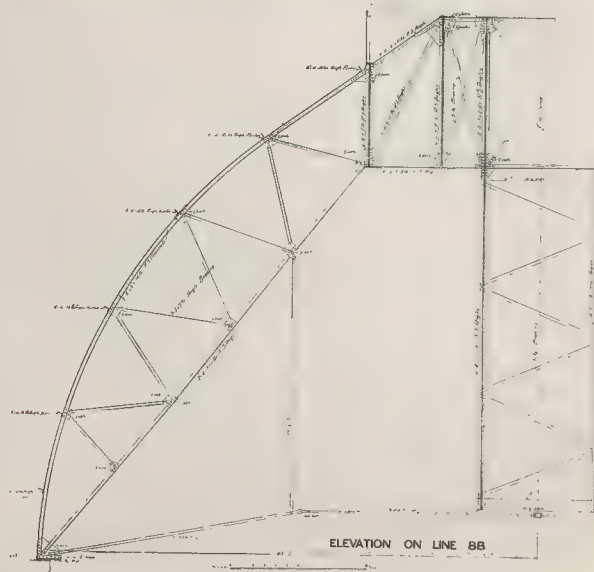


Fig. 9. Detail of Steelwork to Outer Dome.

an example of modern work, which shows the possibilities of reinforced concrete as a structural material.

The steelwork carrying the outer dome, illustrated in Figs. 8 and 9, this consisting of eight principals, which were placed at 45° angles and connected at the foot by a steel plate, 14 in. by 3/4 in., well tied at the lap sections. The principals consisted generally of two 6-in. by 3-in. by 14-lb. rolled steel channels which acted as the principal rafter, well braced with 3-in. by 3-in. angles, and with two 4-in. by 3-in. angles to form a tie. Six angle purlls were introduced to carry the woodwork, and the principals were also braced together to stiffen them laterally, and tied at the foot with rods. Each truss had to span practically a distance of over 43 ft., and had a rise of 48 ft. The steel lattice stanchions, which were previously mentioned as carrying the load from the dome, are illustrated in Fig. 10, and it will be seen that these have a total height of 82 ft. 9 in. the upper part of which, however, for a distance of 22 ft. 7 in. is constructed as a compound steel stanchion, with a section composed of two 18-in. by 7-in. by 75-lb. R.S.J.'s, and four 18-in. by 3/4-in. plates. The lower lattice portion was built up with four 10-in. by 8-in. by 70-lb. R.S.J.'s, and four 10-in. by 3/4-in. by 28-lb. Zed steels, braced by horizontal angles 3/4 in. by 3/4 in. by 3 in. at 3 ft. 6 in. distances, and similar angles placed diagonally between the stanchions, acting as illustrated. The two stanchions, acting as a pair, were also braced together by a truss 11 ft. deep at the top of the lattice portion, and another truss of similar type at the head of the compound portion. The base plates to the stanchions were 6 ft. square and carried grillage foundations, as previously described.

The exterior treatment of the building, striking on account of the bold detail and excellent grouping of the several parts, and although a great deal of ornament is applied, the general effect is one of repose and grandeur. The omission of the two towers on either side of the principal entrance detracts greatly from the possible effect of the composition as a whole, but, despite this fact, there is a sense of magnificence about the building which is produced by the maintenance of good proportions and outline, culminating in the splendid dome which is undoubtedly the feature of the design. The whole of the façades are in Portland stone, and the style adopted is somewhat free in treatment, the main window openings having semi-circular heads and being separated by columns with composite caps treated in an original manner, while large *modifs* occur over the windows, each appropriately carved with emblematical ornament. The frieze is cut up by window openings, and carved brackets occur over the columns and support the large cornice forming the crowning member of the Order. The treatment of the dome is full of interest, and it is a splendid example of leadwork, the whole dome being covered with this material. The plan of the dome is practically a square.

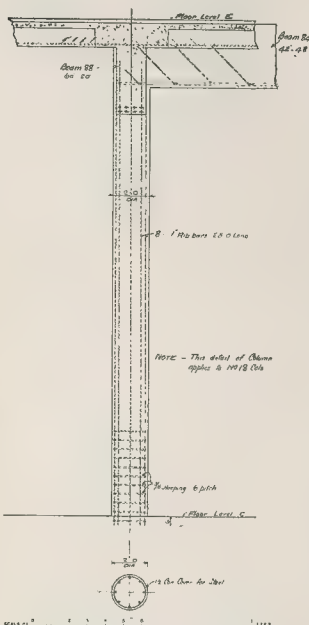
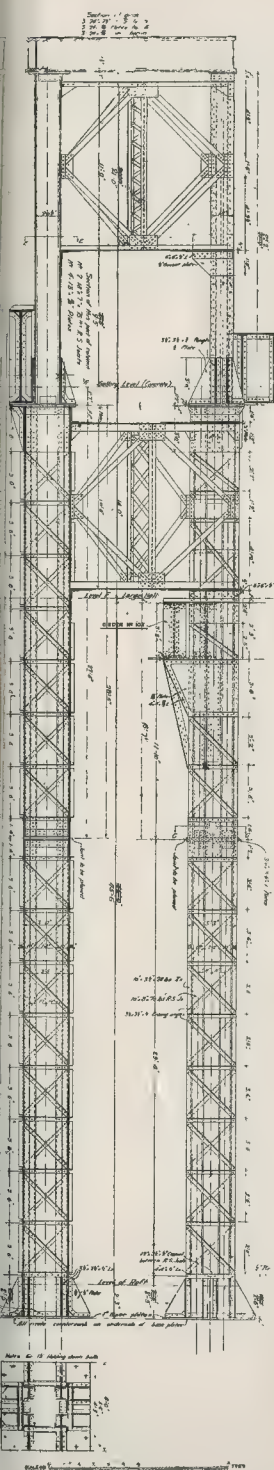


Fig. 11. Detail of Reinforced Concrete Columns supporting Main Hall.

with the corners cut off, giving four large faces and four small surfaces, and at the bases of the latter are ornamental lead trophies, 24 ft. 6 in. by 13 ft. 6 in., these being modelled by Mr. H. Poole and cast by Messrs. J. W. Singer & Sons, of Frome. At the gallery level and on the lantern are four lead vases, and the dome is

further enriched with a frieze of leaf-work and swags consisting of flowers and shells, executed by the above firm and modelled by Mr. Henry C. Fehr from the architects' designs. The top of the lantern is surmounted by a copper gilt finial, which, although not symbolical, has aroused some interest and discussion since being placed in position. The general treatment and effect of this dome can be seen in the illustration of this portion of the work, which is a reproduction of the architects' original drawing. The interior treatment cannot be classified as any distinct style—although exhibiting traces of French influence—it being obviously the creation of the designers without any attempt at a slavish copy of any particular period of architecture. The treatment of the Large Hall is somewhat simple in character, there being no columns, as the galleries are constructed on the cantilever principle to prevent obstruction in the body of the hall. A very fine organ is situated at the west end of the hall, and this forms quite a feature with a well-designed case of oak. This latter material is employed for all the woodwork, including the seats; and the doors leading to the galleries are treated with overdoors somewhat ornate in character, having curved pediments terminating with scrolls and vases containing flowers, which are excellently carved. The domed ceiling is enriched with coffers, and has a central feature of plaster ornament masking a ventilation opening. Four large electroliers are suspended from the dome, and these are of bronze with the lights placed within moulded glass, each electrolier containing twenty-four lights, twelve of which are placed inside the main body of the pendant and the remainder in groups of three suspended around same. These fittings, together with the wall brackets, were carried out to the designs of the architects, and must be considered as very successful.

Some excellent work is to be seen on the entrance hall and grand staircase, both as regards design and execution, the material employed for practically the whole of this portion of the building internally being Roman marble of a soft grey colour, which is a natural hard limestone capable of taking a fine gloss polish. The staircase itself is a wonderful piece of work, having flowing strings and being very bold in treatment, with wide flights and continuous ramps running up to a height of forty steps, while the newel abutments to these strings each weigh about one ton and a half.



Fig. 12. View showing Construction of Outer Dome.

The balustrade is of iron with bronze enrichments, and in connexion with this are four standards in iron and bronze, surmounted by octagonal bronze lanterns, the whole being of masterly design. The main entrance vestibule is elliptical on plan, and has the marble work carried up to the ceiling level, the walls being penetrated by a series of eight arches. The geometrical paving is also carried out in Roman marble, and similar material is used for the marble dado in the upper entrance hall, the lamp standards, and the door architraves, the latter being finished with a frieze and cornice at the head, where an example of the adaptability of the material for carved work can be seen. The whole of this work was carried out by Messrs. J. Whitehead & Sons, of Kennington Oval, who also supplied the monoliths and piers in the upper entrance hall, which were executed in "Arni Fantastique" marble.

The Library and Small Hall are very successfully treated with enriched and panelled ceilings, and columns with moulded caps and fluted neckings, all simple in character but dignified and effective, while the tea-rooms are also simple in treatment, relying greatly on the flat-domed ceilings mentioned in the constructional notes.

The heating and ventilation scheme, which was carried out by Messrs. Ashwell & Nesbit, has been carefully considered in all its details, economy and efficiency being the primary objects. The Large and Small Halls are dealt with on the Plenum system, while the smaller rooms are dealt with by means of ventilating radiators, with the vitiated air extracted by centrifugal fans. The supply of air to the Large Hall is sufficient to give 1,000 cubic ft. per hour per head to 2,700 occupants, and this is supplied by means of a large centrifugal fan, fixed in the roof space, which draws it directly from the outside and causes it to be passed over a filter screen to cleanse and purify it before it is passed into the building. After leaving the fan this air is passed over heating batteries, so that it can be raised to any desired temperature. The whole of the radiators to the small rooms, and also the heating batteries in connexion with the Plenum system, are worked on the Novacumette system, the heating medium being steam or vapour below atmospheric pressure, which enables the heating surfaces to be kept at a low temperature, and thus avoiding any unpleasant scorching of the air. The temperature of the Large and Small Halls and upper rooms is automatically controlled by means of thermostats, which shut off the heat in the radiators or batteries when the predetermined temperature is reached. An excellent system of hydrants is provided for fire purposes, and the sewage is dealt with by Shone's pneumatic ejectors.

This building must be considered as excellently equipped in every way, and architecturally it must rank with the finest buildings erected in this country of recent years, showing a bold and masterly treatment wherein the designers have realised an ideal based upon perfect proportion, which is the essence of true architecture. The general contractors for the work were Messrs. Dove Brothers, of Islington. The Portland stone used in the building came from the old-established quarries of Mr. F. J. Baines, Portland, Dorset.

The fireplaces were supplied by Messrs. Bratt, Colbran, & Co., Mortimer-street, W.

Other firms who have carried out work are Messrs. Archibald D. Dawney & Sons, Ltd., steel and iron construction; Messrs. Strode & Co., lighting; Messrs. H. H. Martyn & Co., plastering and ornamental work; and the Associated Portland Cement Manufacturing Company, who supplied cement, etc.

FACTORY BUILDING VENTILATION.

THE building recently completed for the Bosch Magneto Company at Springfield, Massachusetts, is 315 ft. long by 66 ft. wide by four stories high, being cruciform in plan, with a main stairway at the centre and similar stairways at either end of the main portion. The staircase wells have been utilised as ventilation ducts, through which air is passed by exhaust and blowing fans.

Over the main stairway there are two fans with the combined capacity of 200,000 cubic ft. per minute, and blowing fans of 30,000 cubic ft. per minute are provided for the ducts at the ends of the building.

Air is admitted into the ducts from the

corridors extending along the centre line of the building, and communicating with the workrooms on either side by means of louvres, which permit the direction and volume of the air passing through the rooms to be regulated as necessary.

In cold weather the fans over the main stairway change the air in the workrooms only twice an hour, fresh air being drawn in partly through the walls and gaps in the windows, and partly through galvanised-iron pipes along the ceilings, and passing through the outer walls. The pipes are of 6-in. diameter and suitably perforated for the supply of fresh air, which mixes with the warm air of the room as it gravitates downward.

Exhaust air is drawn away by the louvres fixed near the bottom of the partitions on either side of the corridors, and passing along the latter enters the main stairway ventilation duct, whence it is discharged into open air.

In warmer weather, when the windows of the workrooms can be opened, the air is changed more frequently, up to twelve times an hour, if thought desirable. As all the windows are opened mechanically in groups, and the gear cannot be interfered with by the workpeople, the regular operation of the ventilation system can be readily ensured.

In very warm weather the exhaust fans are run in the early morning so as to draw the cool night air through the building and reduce the temperature of the interior. During the daytime all windows are closed, and fresh air is blown in by the fans at rough cooling apparatus after having passed through the end of the building, of the waterspray type. Water for this plant is drawn from wells at the rate of about 60 gallons per minute for each apparatus, its average temperature being about 54 deg. Fahr.

The forge and hardening-rooms and some of the toilet-rooms are ventilated independently by means of the fans at the ends of the main building, with the object of keeping fumes and gases away from the ordinary workrooms.

THE INTERNATIONAL CONGRESS FOR TESTING MATERIALS OF CONSTRUCTION.

SOME idea of the importance attaching to the recent Congress of the International Association for Testing Materials may be gathered from the fact that nearly 200 papers and reports were submitted for consideration, and will be issued in five volumes, forming part of the second volume of the *Proceedings*.

The business of the Congress was opened by the Presidential Address of Dr. Henry M. Howe, and the professional work of the gathering was carried on by three sections, by which eighteen meetings were held.

Section A was devoted to metals; Section B to cement, stone, and concrete; and Section C to timber, bitumen, rubber, and other materials.

In view of the enormous number of papers presented and of the fact that many of the subjects discussed are quite beyond the scope of this journal, we mention in the subjoined notes only a few of the communications appealing more or less directly to our readers.

Section A.—A paper by Mr. H. Baucke on "The Action of Electrolytes on Metals under Stress" supports the theory that metals under stress are in a metastable state, which may pass into the stable state under the action of an electrolyte. The paper by Mr. F. N. Speller on "Comparative Service Obtained with Wrought-Iron and Soft Steel Pipes as Water Lines" contains a large amount of data collected in the United States on the corrosion of pipes, the tendency of the data being somewhat against the opinion generally entertained in favour of the first-mentioned metal. Among other papers discussed in the same section were "Testing Methods for Rivet Steels, Steel Wire, and Welded Metal," by M. Charles Frémont; "Tests for the Elongation and Ductility under the Drop-Testing Machine," by Dr. P. H. Dudley; and many others dealing with the properties and testing of metals.

Section B. In this section the Committee on the Durability of Building Stones recommended that laboratories should be asked to adopt the Hirschwald method of classifying stone in respect of durability against weathering. Mr. P. H. Bates reported that the United States Bureau of Standards had made an exhaustive investigation of building failures alleged to be due to electrolysis in concrete, and

had only been able to trace one such failure to the cause mentioned. In a paper entitled "Progressive Increase in Strength of Cement Mortars" M. E. Candiot recommended the omission of all requirements for increase of strength between seven and twenty-eight days, a recommendation supported by Mr. Ber. Blount, Dr. Dyckerhoff, Dr. F. Schott, W. C. Hanna, and others. The paper of M. A. Poulsen on "Diatom Earth as a Pozzolanic Admixture for Cement" elicited the general opinion from members present that the increased strength of such mixtures was due mainly to the extremely fine grinding and thorough mixing of the product, and Mr. E. L. Humphrey stated the view that mixing fine sand or clay with cement would be as efficacious as diatom earth. Four papers were presented on the Le Chatelier test for the constancy of volume of cements, the authors being Messrs. Bertram Blount, M. Gary, F. Schule, and J. Bied. This subject is one of somewhat controversial character, the test in question being strongly opposed by leading German authorities. It was finally decided that the task of further examining all methods of accelerated tests for the constancy of volume of Portland cements should be referred to a Committee of the Association.

Section C.—In papers on "The Volume Change in the Testing of Paint Materials," by Mr. G. W. Thompson, and the "Bitumen Content of Coarse Bituminous Aggregates," by Mr. Prevost Hubbard, attention was drawn to the fact that a statement of the proportions and percentages of the total weight may be very misleading in cases where the materials are of different specific gravities. A valuable communication by Professor Ira H. Woolson and Mr. Rudolph P. Miller contained elaborate data concerning fire tests of floors in the United States. In all, eighty-two tests were reported, and from them the following conclusions were drawn:—Terra-cotta and concrete floors can be made perfectly safe against fire; reinforcement should have 1 in. protection in slabs, 1½ in. in beams, and 2 in. in girders; structural steel beams should have 1½ in. to 2 in. protection; rock makes the best aggregate for both strength and fire resistance, but 1:2:5 cinder concrete has a high resistance to fire; its porosity being a serious defect for some uses. Tests for oil were discussed in several papers, one of the most important being by M. Emil Constantino of the Belgian State Railways. The question of testing materials for road construction was brought forward by M. A. Messager, of the Public Works Department, Paris. It is satisfactory to note that this subject will be taken up by a Committee working in collaboration with the executive of the International Road Congress.

SAFETY LOCKS FOR AUTOMATIC LIFTS.

SERIOUS accidents have happened through leaving open, or through opening at improper times, the gates giving access to the wells of automatic lifts.

Messrs. Smith, Major, & Stevens, Ltd., have devoted considerable attention to the problem of devising a lock which will prevent the opening of such gates except when the lift-cage is at the proper level relatively to the gate opened.

The lock which has been evolved by them as the result of their study differs radically in its mode of action from all other locks for lift gates. Its predecessors are actuated entirely by the closing of the door or gate; their lock is operated independently of this.

Three things have to be done, viz., shut the door or gate, latch it, give current to the machine. The faults of the old systems arise from a futile attempt to make these three things occur simultaneously, an almost impossible combination. To secure a safe result, the three things must be done in proper sequence, and with the fitting under consideration the order is as follows. Firstly, the door or gate must be completely closed; until that is done nothing more can be effected. Secondly, the gate is latched; until that is securely done it is impossible to give current to the machine. Thirdly, the current is given. On opening the gate the reverse order is equally definite; first the current must be cut off, and only then can the gate be unlatched and finally opened.

The mechanical means by which the above described results are attained are as below described. The switch is contained in a cast-

fixed on the gate or door frame at the of an ordinary door-lock. A spring latch finger rigidly connected to it are attached to the gate or door. Fixed to the cage is an striking plane. Projecting from the box, in such a position that the striking-plane operate it, is the interlocking lever. The cage to be at the floor level and the door open, in which position the lift is in control of that floor, and the cage cannot be moved by a person on any other landing. When the passenger user enters the cage, closes the door and latches it. After the latch has protruded the finger attached to it operates the circuit and closes the circuit, enabling the cage to be moved. The passenger now presses the button, and the cage moves away from the floor, of course carrying with it the striking plane which has been keeping the interlocking out of engagement. When the cage has moved about 18 in. from the floor level this is free to engage with the brush carrier, which is so enclosed that even if it break, the cage cannot escape, and the spring is successful, though broken. The lever holds the latch and switch in the closed position until the cage returns to the floor, when the foregoing operations are performed in the reverse order, i.e., the plane disengages the locking lever, the cage is within 18 in. of the floor level, the passenger is then able to move the gate, which first opens the circuit and then releases the gate, permitting it to be opened. As stated above, immediately the lock circuit is broken it becomes impossible to control the cage on any floor other than that at which the door opens. This safeguard makes entrance to, or loading of, the cage, a perfectly safe proceeding, and at the same time makes it impossible to inadvertently open a gate or door into the lift well, except when the cage is in position to it.

CONSTRUCTION NOTES.

The following is an epitome of the results of an investigation made at the University of Nebraska, as set forth by Mr. George E. Borrowsman, into the causes of disintegration as it occurs in concrete having a cinder aggregate. The investigation suggested the probability of oxidation of iron and sulphur produced stress and consequent cracking, aided, it is believed, by the general weakness produced by diffusion of soluble sulphates. This view is confirmed by finding that the efflorescence, on the surface of the disintegrating concrete, contained ferrous sulphate. These were then attempted to be brought out by substituting, for cinders, artificial iron cinders, prepared in several ways, but the results did not behave similarly. On breaking the blocks, the sulphide was found unchanged, surrounded by hard, compact concrete. Soluble sulphates being absent in the initial mixtures, the blocks had, of course, no initial strength than those containing iron sulphate, and would have withstood considerable stress had there been any applied. The lack of oxygen, in these tests, indicated that, in the case of the cinders, the necessary oxygen must come from the cinders themselves, since the concrete was equally placed in relation to atmospheric air.

This observation drew further attention to the composition of the cinders used when it was found that about one-third of it was a very soft coke. As is well known, coke, as other carbon, will persistently seclude large amounts of oxygen gas.

According to the experiments of Messrs. Lewis & Lewis, air-dried coke contains absorbed water to the extent of 0.7 cubic centimetre of water of coke, 2 to 6 per cent. of the gases evolved on oxidation observed in the Nebraska tests most pronounced where the coke was present in concrete. Some pieces of coke picked from the stock of cinder, when analysed, showed 1 per cent. of sulphur, in the form of sulphide; that is capable of undergoing oxidation.

Further experiments, some of the original cinders was exposed for a period to air moisture, until, on washing, it showed the presence of no soluble sulphate. A specimen was then made into a block of concrete similar to those prepared before, 1:1:1.

when under parallel conditions no disturbance took place, the material remaining firm and compact.

From these tests the opinion is expressed that cinders with much sulphide and sulphate in them are likely to give unsatisfactory results, and especially so if there be much coke or porous air absorbent material present. Such material may be improved by methods that bring about the removal of the injurious components, and in this direction are to be mentioned weathering, with occasional washing until the ferrous compounds and sulphur have been oxidised to their full extent, and subsequently washed out.

Leith Dock Extension.

The Works Committee of the Leith Dock Commission have approved of a scheme for dock extension at Leith and Newhaven, the estimated cost of which is about 250,000. It is proposed to carry the work out gradually, and the completion of the scheme might occupy from twelve to fifteen years. It is recommended that Parliamentary powers should be sought to enclose the area between Newhaven and the West Pier, Leith, to provide additional facilities for the shipping trade. Power would also be required to extend the Imperial Dock and to build an embankment extending eastwards from the dock. By a sea embankment between Newhaven and Leith an area of about 120 acres would be enclosed.

Glazing Tests.

The British Fire Prevention Committee has issued a further report on its series of glazing tests; this time in respect of three windows glazed with "Chadrac" electro-glazing and submitted for review by Messrs. Chater & Sons, London. A feature of the report is that whilst up to the present the limit of fire-resisting glazing has been on a panel measuring 2 ft. by 2 ft., the panel here under review is just double the size—i.e., 4 ft. by 2 ft., and this is certainly an interesting achievement for glazing under fire tests for one hour at temperatures ranging up to 1,600 deg. Fahr., followed by the application of water from a steam fire-engine at short range.

Buildings Suitable for Grinding Mills.

TWO EXPLOSIONS in November, 1911, one in Glasgow and another in Liverpool, attended with loss of life and destruction of buildings, have been reported upon by H.M. Inspectors of Factories. In the first case the millstones employed were grinding peas, beans, and wheat, and the explosion was believed to be started by a fall of dust composed of those foods from the overhead beams of the room on to a portable Bunsen burner. The dust found on some of the beams was very fine, resembling pale-brown flour, and it lay there to a thickness of 2 in. to 5 in. When tested it was found to be more readily ignited in an explosion tube than coal dust; firing at 1,050 deg. C., and the flame travelling through the whole of the tube as a bright flash.

These deposits of dust were probably disturbed by the initial explosion, and served to propagate the explosion wave throughout the entire building. In this case, as in the second one, it is recommended that naked lights be not used, in such rooms, that smoking and the carrying of matches by the workmen be prohibited, and that there be frequent cleaning of floors, beams, rafters, etc., the dust as far as practicable being removed by vacuum appliances.

In the second case, where thirty-nine persons were killed and 101 injured, the explosion originated in the basement where disintegrators for oil cake, beans, and other materials were at work. The incident which started the explosion is considered to have been the breaking of the driving belt of one of the machines—a belt 6 in. wide, running at 5,000 lineal ft. per minute.

An examination of the dust produced and scattered about by the disintegrators and the attendant elevators showed it to contain 9.63 per cent. of moisture, 6 per cent. of ash, and the remainder combustible material. This fine dust, if present in the air in small quantities, was not explosive, but if forming a dense cloud it would explode in the presence of a lighted match, an ordinary gas jet, the electric flash at the fusing of an electric-fuse wire, and the

spark produced by breaking the circuit of an electro-magnet.

The probable origin of the explosion in question was either of the two latter causes, viz., a spark or flash of light.

Where carbonaceous dust is generated, or present in dangerous quantities the rooms should not have others over them, nor should they adjoin higher buildings which might be affected by any explosion and the roof should offer little resistance to a force from within. There should be no ledges or other places where dust could lodge therein, and the grinding and elevating machinery should be dust-proof. As an aid towards avoidance of sparks, there should be provided on the entry to each disintegrator an electro-magnetic separator to abstract any particles of iron or steel that might perchance be mixed with the foodstuffs, and if allowed to gain access might cause trouble.

A Point in Reinforced Concrete Design.

In a note contributed to a French contemporary M. Koechlin draws attention to an important point which does not always receive attention by designers of reinforced concrete structures, and which if neglected may result in considerable diminution of effective resistance.

Referring to bends in round bars used as tension reinforcement, the writer points out that the change of direction of the force at the bend develops compression in the concrete, the intensity of the stress being inversely proportional to the radius of curvature of the bend.

Denoting by R the radius of curvature; d , the diameter of the bar; t , the tensile stress in the steel; and c , the compressive stress in the concrete, we have:—

$$c = \frac{R - r}{R} t \quad (1)$$

Taking into account a given limit of permissible stress in the concrete, the minimum radius of curvature for the bend of a bar will be:—

$$R = \frac{R - r}{c} t \quad (2)$$

Assuming the limiting stress, c , to be 700 lb. per square inch, the radius of curvature, R , for a bar of given diameter will vary with the tensile stress, t , developed in the steel, as shown by the subjoined table, which we have calculated by formula (2):—

MAXIMUM RADIUS OF CURVATURE FOR BENDS.

Diameter of Bar.	Tensile Stress in Steel (pounds per square inch).				
	10,000	12,000	14,000	16,000	18,000
In.	In.	In.	In.	In.	In.
2	2.8	3.4	3.9	4.5	5.0
3	3.6	4.3	4.9	5.6	6.2
4	4.4	5.3	6.0	6.8	7.5
5	5.2	6.2	7.0	7.9	8.8
6	6.0	7.2	8.1	9.1	10.0
7	6.8	8.1	9.2	10.3	11.4
8	7.6	9.0	10.2	11.4	12.6
9	8.4	9.9	11.2	12.5	13.8
10	9.2	10.8	12.1	13.6	15.0

The Preservation of Wood with Fluorides.

HERR R. NOWOTNY describes in the Austrian *Chem. Zeit.* of 1912 how that for the purpose of increasing the preservative effect of sodium fluoride on wood it is now being mixed with nitrophenols. One of these mixtures, known as "Bellit," contains 90 per cent. by weight of a sodium fluoride and 10 per cent. of dinitrophenol, the sodium fluoride being of 90 to 95 per cent. strength or purity. This mixture is used because, whilst active as an antiseptic, it does not, like free dinitrophenol, act upon the iron vessels in which the timber is impregnated. The selective phenomena observed when treating timber with mixtures of zinc fluoride and hydrochloric acid are reproduced in the "Bellit" treatment just mentioned.

Impregnation by steeping results in the solution being absorbed as a whole, but in the hydrostatic and pneumatic pressure methods the nitro-compound is absorbed more rapidly than the fluoride of sodium. Examination of telegraph poles which had been treated six to seven years previously, i.e., in the year 1905 and 1906, with copper sulphate and zinc fluoride respectively showed that, in general, the latter was much the better preservative.

THE BUILDING TRADE.

INLAND REVENUE REPORT: THE LAND TAXES.

THE fifty-fifth Report of the Commissioners of Inland Revenue has recently been issued, and those interested in land will turn to those pages which give official information up to March 31, 1912, as to the revenue from the new land taxes. It will be remembered that up to March 31, 1911, in Great Britain 10,700,000 forms had been issued and 9,600,000 returns received back. On March 31 last the position was much the same, 10,874,568 forms having been issued and 10,097,769 returns received. In consequence of the decision in *Dyson v. Attorney General* (see the *Builder*, December 1, 1911) the Report states that revised forms were issued where no returns had been received omitting the requisition held *ultra vires* requiring occupying owners to state the annual value of the land.

The number of valuations to be made as at April 30, 1909, was approximately estimated as 11 millions. On March 31, 1911, provisional valuations had been made numbering 298,204. Up to March 31 last the number of provisional valuations made was 1,799,468; thus in the year about 1½ million provisional valuations have been made. Presumably the system is in full working order, and therefore an estimate may be made of the time required to complete the original valuation as on April 30, 1909. The rate of progress would appear to show that the valuation will occupy between seven and eight years, and that in 1917-18 we may still have valuers determining the values of properties in April, 1909.

If it be urged that practice may result in greater efficiency and greater celerity it must also be recollected that as each year passes the staff will be more occupied as "occasions" arise which necessitate revaluation. In the year 1911 67,238 such "occasions" arose, but in the year 1912 they numbered 205,112; thus the time is more likely to be prolonged than lessened unless the staff is continually increased.

Interest will chiefly centre in the results attained by this herculean labour, and here the *ridiculus mus* creeps in, for increment value duty from the commencement of the operation of the Act has yielded the grand total of 6,220L.; reversion duty, 22,755L.; and undeveloped land duty, 31,298L.; total, 60,273L. These figures, of course, take no account of the cost of valuation and collection; but, turning to the Commissioners' Report for last year, it is interesting to note that the cost to the State for the services of the land valuation officers—that is to say, of those persons engaged temporarily to issue forms, etc., and whose services terminated at the close of last year, and were not connected with the actual valuation—amounted to 174,342L. Thus the yield from the land taxes up to March 31 last had paid about one-third of the salaries of those temporarily employed in preliminary arrangements.

When these figures are made the subject of public discussion the direct issue of whether the new land taxes are revenue yielding taxes is always evaded by advocates of the system by a reference to an increase in the estate duties. In this connexion it is interesting to note that in this latest Report of the Commissioners a table, No. 165, is included that we are unable to find in its predecessor. A good deal is likely to be heard of this table. It shows the amount of estates brought in by accounting parties for estate, etc., duty, and the amount by which it was increased by the valuation department. In the year ending March 31, 1911, the "increase due to official valuation" is stated to be 3,282,983L., or 744 per cent.; and in the year ending March 31, 1912, 3,900,137L., or 559 per cent. for the whole period, 7,183,120L., or 631.

In the absence of tables for former periods it is impossible to say how this increase is arrived at. There may always have been an increase on the amounts so brought in, but, however this may be, a reference to Mr. Lloyd George's Budget speeches will show that this aspect of the question was not before his mind when he introduced his celebrated Budget; he

looked upon the new taxes as substantial sources of revenue, and although he said the full benefit of increment value duty would not be experienced at once, he gave substantial estimates of the revenue which they would raise, and would have scoffed at any opponent who dared to suggest that the total yield of the three new taxes up to March 31, 1912, would be but 60,273L., as the event has proved. If the amount upon which the estate duty is assessed has been increased, this is not part of the Budget scheme, but, to use the Chancellor's own expression, is "a windfall, an unearned increment," unforeseen, which has resulted to the Government from the Act. A very ardent follower of the Government, but an astute critic, Mr. Morgan has, in his recent book, "The Blight on the Countryside," pointed out that if this increase is due to the new system of valuation it is surprising that the universal complaint should be that properties are undervalued in order that the increment may accrue. Other causes have no doubt contributed to the increase, but, in any case, it has to be remembered that this increase is not revenue itself, but a capital sum upon which estate duty varying in amount is assessed. The total yield of the estate, etc., duty assessed on really appears to be 3,013,197L., so an increase of 5.59 per cent. in the year on the sum on which it was assessed does not, after all, represent a very large increased revenue.

Against any revenue derived from the system has to be taken into consideration not only the cost of valuation, but the serious disturbance to dealings in land and its depreciation in the market as distinguished from mere valuations.

It only remains to be noticed that amongst the judicial decisions on the duties on land values contained in this Report the Scotch decision negating the possibility of increment occurring on minus values (see the *Builder*, April 26, 1912) finds no place. This decision is on appeal, and this Report contains no reference to the subject, but in the fifty-fourth Report this question was thus dealt with:—"It is to be observed that in the case of a property burdened by a heavy rent charge the assessable site value may be nil or even a minus quantity. This means that the charge is so heavy that no one would take over the bare site thus burdened unless he were paid to do so. This is especially the case in Scotland owing to the operation of the feuing system. The liability to increment value duty will not be affected, any increase of value being reckoned as readily from a negative as from a positive quantity." The italics are ours. Presumably this view is still being acted upon.

GLASGOW BUILDING TRADE.

The annual statement was made recently by the Lord Dean of Guild, Mr. Francis Henderson, at the usual meeting of the Dean of Guild Court. Mr. Henderson said that, they all knew, the general trade of the country had recently been experiencing better times. But the wave of prosperity had not yet reached those trades with the work of which a Dean of Guild Court was most intimately concerned. The building trades of the City of Glasgow were still far from an enviable position which they occupied some years ago. That might be due to many things. It might be that in those years there was to some extent over-building. But ordinary conditions had prevailed they would have heard less of the cry of over-building. The loss to the city by emigration and overflow into suburban areas was rather to be forgotten by unsympathetic critics of builders. The building trades during the year had had nothing to boast of, which doubt was to some extent owing to the fact that there are still within the old city boundaries 18,620 unoccupied houses and 44,000 unoccupied shops, etc. The returns for houses, generally, for warehouses, shops, and offices for churches and halls, for schools, and for public buildings, all showed marked decrease in value. There had been a very great attrition to his mind, satisfactory decrease in the number of houses consisting of one apartment. The returns for houses of three or four apartments and for single shops and workshops, etc., showed slight increases. In the past year was seen at its best in the returns for alterations and additions. Though the number of cases for these was much the same as in the previous year, the value of the work involved had risen from 105,880 to 169,213L.

The figures given as to the average number of persons per room was still higher than what one would like to see, but in comparison with the figures of twenty and thirty years ago they showed a very marked improvement. Apart from that, sanitary and other conveniences had made great strides. The percentage of unlet rental was on the increase. In 1902 it was only 2.29 of the total, and in 1907 it had risen to 5.35, and this year had reached the high figure of 6.34.

A NEW ALLOY.

An interesting exhibit at Olympia is shown at the stands Nos. 157 and 170 of the Melbargo Syndicate, Ltd., sole agents for the metal alloy, Ormolium. This metal has a new coloured alloy, it is quite distinctive from brass, copper, bronze, or any deposits, and has the same colour throughout.

Messrs. Wakelin & Dent, who are the sole agents to the Syndicate, have made special



The Turnpike in Tottenham Court-road, c. 1800, after Rowlandson.

Norwood.—Formation or laying-out of a new street for carriage traffic to lead from Brixton-hill to Acre-lane, Brixton (Messrs. E. Evans & Co.).—Consent.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

BARRY.—Additions to hospital (3504).; Mr. J. C. Pardoe, Surveyor, Council Offices, Barry.

Bedford.—Factory and schools; Mr. K. Gammell, architect, 17, St. Peter's-street, Bedford.

Belfast.—Roman Catholic School, Willowfield; Messrs. Fennel & Clarke, architects, 7, Donegall-square, Belfast; Messrs. Feenan & Hughes, builders, Germoyne-street, Belfast.

National school, Willowfield (5,500L.); Messrs. R. Carry, Ltd., builders, 106, University-street, Belfast.

Bishop's Stortford.—Swimming-baths; Messrs. Pollard & Tingle, architect, care of Mr. T. Swarthcliffe, Clerk, Council Offices, Bishop's Stortford.

Bournemouth.—Residence, Eastcliffe; Mr. H. E. Hawker, architect, St. Peter's-chambers, Gervis-place, Bournemouth.

Brentwood.—School; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Brighton.—Convalescent home, Ovingdean Grange Estate; Mr. Henry Tillstone, Surveyor, Town Hall, Brighton.

Bristol.—School (500 places); Mr. T. H. Yabbicom, Engineer, Town Hall, Bristol.

Broadstairs.—Bank, High-street, for the London, County, and Westminster Bank, Ltd., head office, 41, Lothbury, E.C.; additions to South Court Nursing Home for Miss Dowker.

Brookholton.—Primitive Methodist church, Hague Bar, for the Trustees.

Cardiff.—Proposed offices and workshops, Womanby-street; Mr. W. Harpur, Engineer, Town Hall, Cardiff.

Clacton.—Sheltered bandstand (9,000L.); Mr. D. Lowe, Surveyor, Council Offices, Clacton.

Cleethorpes.—Shops, shelters, bandstand, etc. (600L.); Mr. E. Rushton, Surveyor, Council Offices, Cleethorpes.

Colne.—Nineteen houses, Allendale-street, for Messrs. Higgins & Payne.

Consett.—Theatre (5,000L.); Mr. J. Chaven, builder, 459, Westgate-road, Newcastle-on-Tyne.

Coppull.—Sunday-school and parish rooms for the Vicar of the Church of St. John the Divine.

Darlington.—Surgeries (630L.); Mr. C. H. Leach, Clerk, Guardians' Offices, Darlington.

Dewsbury.—Additions at Cloth Hall Mills for Messrs. Machell Brothers, Ltd., shoddy and mungo manufacturers; warehouse, Old Bank-road, for Messrs. W. & G. Hanson; conversion of premises, Huddersfield-road, into warehouse, for Messrs. S. Stross & Son, rag merchants, Kilncroft, Dewsbury.

Eastbourne.—Houses, Langney Cemetery (667L.); Mr. H. Sisley, jun., builder, 76, Langney-road, Eastbourne. Plans have been passed as follows: Seven garages, De Walden-mews, for Mr. W. Bannister; Mr. B. Stevens, jun., architect; Messrs. Peerless-Dennis & Co., Ltd., builders. Addition to Marine Hall, Longstone-road, for the Trustees; Mr. S. G. Scates, architect. Alterations to premises, Flete-road, for the Star Brewery Company, Ltd.; Mr. F. G. Cooke, architect; Mr. T. Dunlop, builder.

Folkestone.—School, Foord District (500 places); Mr. A. H. Gardner, Education Offices, Folkestone. Plans have been passed for a nurses' home, York House, Cheriton-gardens, for Miss Edden; Messrs. Bromley & Dahl, architects. Plans have also been passed for a school in Dixwell-road for Mrs. Cooper; Messrs. Bromley & Dahl, architects; Messrs. D. Baker & Co., Ltd., builders.

Fratton.—Rebuilding offices at Council School (1,848L.); Mr. S. Salter, builder, York street, Southsea.

Greenock.—Showrooms, West Blackhall-street (2,000L.); Mr. J. M'Leod, Gas Manager, Burgh Hall, Greenock.

Glasgow.—Buildings, corner of Pollokshaw-road and Langside-avenue for Mr. James C. O'Malley, spirit merchant, Crossmyloof, Glasgow. Twelve houses, off Kelvinvale-road; Mr. Gavin Allan, builder, 218, Cathedral street, Glasgow. Electricity generating-station and water-cooling tower at Clutha Works, M'Lellan-street, Plantation, for Messrs. P. & W. M'Lellan, iron merchants. Picture hall and shops, Govan-road, for the Govan Central Picture House, Ltd.

Grimby.—School, Victoria-street (13,353L.); Messrs. J. H. Thompson & Sons, builders, 107 and 109, Victoria-street, Grimby.

Harpenden.—Children's home; Messrs. Gordon & Gunton, architects, Finsbury House, Blomfield-street, E.C.; Messrs. Phillips & Blake, builders, High-street, Harpenden.

Hinckley.—Twenty houses; Mr. E. H. Crump, Surveyor, Urban District Council Offices, Hinckley.

* See also our list of Competitions, Contracts, etc., on another page.

Huddersdon.—Addition to works, Burford-street, for Mr. T. M. Gardiner, cricketing goods manufacturer.

Hollybush.—Warehouse, Tredegar-road, for Mr. E. Brice.

Hove.—Factory; Mr. W. H. Overton, architect, 22, Ship-street, Brighton; Messrs. Lynn & Son, builders, Marlborough-road, Brighton. Plans have been passed for six houses, Lyndhurst-road and Palmera-avenue, for Mr. W. H. Overton.

Huddersfield.—Bank for the West Yorkshire Bank, Ltd.; Messrs. J. S. Gibson, Skipworth, & Gordon, architects, 5, Old Bond-street, W.; Messrs. T. Bottomley & Son, builders, Brigg-house.

Hull.—School, Boulevard (5,245L.); Messrs. C. H. Paxton & Sons, Ltd., builders, 205, Anlaby-road.

Ilkley.—Picture house (3,000L.); Mr. H. Booth, architect, 42, Regent-street, Haslingden.

Inverness.—Dairy premises, Waterloo-place, for the Farmers' Dairy Company (2,800L.); Mr. T. Munro, architect, 62, Academy-street, Inverness.

Kilmarnock.—Extensions to mill for Messrs. Douglas Revburn & Co., spinners.

Leven (Pifeshire).—Additions to Northfield House (3,000L.); Mr. A. C. Dewar, architect, 10, Durie-street, Leven.

Liverpool.—Alterations to No. 60, Hanover-street (453L.); Messrs. J. H. McGovern, builders, 26, North John-street, Liverpool.

Mansfield.—Twenty-five houses for the Mansfield field Garden City Estates Company.

Middlesbrough.—Sanatorium; Mr. E. E. Burgess, Surveyor, Town Hall, Middlesbrough.

Milford Haven.—Gas plant and purifier house (725L.); Messrs. F. Lloyd & Co., builders, Charles-street, Milford Haven.

Swansea.—Church; Mr. G. Halliday, architect, 19, Castle-street, Cardiff.

Newquay.—Block of shops; Mr. E. I. Ennor, architect, Bank-street, Newquay.

North Allington.—Eleven houses (1,870L.); Messrs. Francis & Co., builders, Bournemouth.

Northampton.—Houses, Bective Estate, Kingshorpe (24,300L.); Mr. A. Fidler, Engineer, Town Hall, Northampton. The following plans have been passed:—Rebuilding of "Bull and Butcher" Inn, Bridge-street; alterations to "Ram" Hotel, Sheep-street; additions to Franklin's Garden Hotel, Weeden-road; and garage, Cattle Market-road, for Messrs. P. Phipps & Co., Ltd.; extensions to premises, Crane-street, for the British Crane Tanning Company; drill hall, Grafton-square, for the Trustees of the Grafton Lads' Institute; three houses, Moore-street, for Mrs. C. Varnes; four houses, King Edward-road, for Messrs. A. & W. Cleaver; engineering workshops, Kingshorpe-road, for the Advance Motor Engineering Company, Ltd.; extensions to factory, Clare-street, for the Pioneer Boot Company; three houses, Loyd-road, for Mr. W. C. Throssell; four houses, Clarence-avenue, for Messrs. E. Archer & Sons; alterations to factory, Abington-grove, and erection of factory, Holly-road, for Mr. C. E. Gubbins; alterations to Freeman's Arms, Ballif-street, for the Northampton Brewery Company, Ltd.

Norwich.—Wensum View School; Mr. C. J. Brown, architect, Cathedral Offices, Norwich.

Pembroke.—Housing scheme (60,000L.); Surveyor, Council Offices, Pembroke.

Penzance.—School; Mr. B. C. Andrew, architect, Biddicks-court, St. Austell. Hotel; Messrs. Cowell & Druff, architects, Penzance.

Pontefract.—Baths (6,000L.); Mr. A. Nun-week, 87, Fargate, Sheffield.

Potterhanworth (Lincoln).—Eight houses (1,408L.); Messrs. Wallhead Brothers, builders, Ruskington, Stelford.

Preston.—St. Anne's Roman Catholic Church (4,000L.); Messrs. Pugin & Pugin, architects, 51, North John street, Liverpool.

Purleigh (Essex).—School (3,000L.); Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Reading.—Erection of the Hendrick Schools; Mr. W. S. Clutterbuck, Clerk, Town Hall, Reading; architect to be appointed by competition.

Rochdale.—School, King's-road; Mr. E. J. Holden, Education Offices, Rochdale.

Rosyth.—Institute (20,000L.) for the Y.M.C.A. Sheffield. The following plans have been passed:—Motor garage, Broughton-lane, stores, etc., Charnes and Ribblesdale, and alterations to premises, Eldon street, for the Brightside and Carbrook Co-operative Society, Ltd.; additions to premises, Savile-street, for Messrs. Cammell, Laird, & Co., Ltd.; additions and alterations to Fitzalan Tavern, Fitzalan-street, for Messrs. W. Stone, Ltd.; house and transformer station, Bradfield-road, for Electricity Supply Department, Sheffield Corporation; additions to premises, Savile-street, for Messrs. J. Holding & Co., Ltd.; additions to Prince of Wales' public-house, Derbyshire-lane, and additions to Shipley Hotel, Bradfield-road, for Messrs. T. Berry & Co., Ltd.; additions and alterations to Well-

ington Hotel, Brightside-lane, for Trustees.

Mr. R. J. Bentley; additions to premises, Lydgate-lane, for the Crookes Orphan Homes Committee; additions to premises, Gibraltar-street, for Messrs. S. Walker, Ltd.; five houses, Liberty-hill, for Mr. Barker; additions to premises, Sheffield.

Tinsley, for Messrs. Hadfield's Steel Foundry Company, Ltd.; four houses, Crimcar, for Messrs. S. Hancock & Sons; additions to premises, South street Moor.

Stafford.—Theatre, Martin-street; Mr. I. Mosses, Boots, Ltd.; additions and alterations to premises, Dixon-lane, for Messrs. I. Bramwell, Ltd.; four houses, Archer-road.

Mr. F. Wolstenholme; alterations to premises, Leigh-street, for Trustees, Baptist Church.

alterations to premises, York-street and Head, for Sir W. C. Long & Co., Ltd.; four houses, Greystones and Horncastle roads.

Mr. J. A. Wrang; additions and alterations to "Star of Lemont" public-house, Hermitage, for Mrs. Mason; three houses, W. bank-lane, for Mr. Percy Cooper.

St. Paul's, Glasgow.—Theatre, Martin-street; Mr. I. Mosses, architect, Wolverhampton.

Swansea.—Cinema theatre; Mr. W. Jones, architect, 41, Wind-street, Swansea.

Tenterden.—Motor garage, East Cross Street, Messrs. Siminon & Co., motor engine.

Torquay.—Plans have been passed follows:—Alterations to Bannercross Inn, the Plymouth Breweries; four houses, burn-road, for Mr. E. Green; eleven houses adjoining Parkfield-road, for Mr. J. Tucker. Plans have been lodged for six houses and café and shops, Babbacombe road, and houses, Walls-hill-road, for Mr. S. Blatch.

Torrington.—Territorial headquarter Messrs. Ellis, Son, & Bowden, Bedford-croft, Exeter.

Turton.—Proposed weaving shed for Turton and Edgeworth Mill Building Company.

Waterfoot.—Chapel school, Burnley, for the Trustees of St. Peter's Roman Catholic Church, Newchurch.

Waterloo (Liverpool).—School (400 places); Mr. H. Little, architect, 16, Ribblesdale-preston.

Wednesbury.—Institute, Darlaston road, the Patent Shaft and Axletree Company, Wednesbury.

West Thurrock.—School (300 places); F. Whitmore, architect, Duke-street, Chelmsford.

Whitstable.—Picture palace, High-street, the Whitstable Electric Theatre Company, Wick. Post-office, Market-place (7,000L.); Mr. A. Hall, builder, Mile Joinery Works, Abberdon.

Willington Quay.—School (1,400L.); Rev. Hostler, Vicar, St. Aidan's Roman Catholic Church.

Wilton Gilbert (Durham).—School houses East End Industrial School (600L.); Douglas, builder, Closa House, Durham.

Woking.—Motor garage; Messrs. Tubbs-Messer, architects, The Broadway, Woking.

Woodford Bridge.—Temporary school (400L.); Messrs. E. Smith & Co., builders, Woodford Bridge.

Worcester.—Proposed school (11,500L.); A. G. Parker, architect, Town Hall, Worcester.

Wrexham.—Mortuary; Mr. J. England, surveyor, Town Hall, Wrexham.

Ystrad.—Picture theatre; Messrs. W. & Son, Ystrad.

FOREIGN AND COLONIAL

School Partitions, Malta.

The Commercial Intelligence Bureau of Board of Trade is notified by the Colonial Agents for the Colonies that sealed tenders will be received at the Office of the Receiver General and Director of Contracts, Valletta, up to 11 a.m. on October 17, for the supply of school partitions. Tenders are to be accompanied by a deposit of 10% of the specification and form of tender may be obtained on application to the Crown Agents for the Colonies, Whitehall-gardens, London S.W.

BUILDING BY-LAWS.

At a meeting of the Committee of the British Constitution Association, held at its office, Tothill-street, on Friday, October 1, the following resolution was unanimously passed:

"That this Committee, acting in the interests of individual liberty and personal responsibility, cordially welcomes the recent circular of the Local Government Board in favour of seeing the more flexible application of building by-laws in rural areas, and engages itself to do its utmost to influence the sanitary authorities to give subject their most careful attention."

TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

Allen & Norris v. Superintending Architect of Metropolitan Buildings.

On Tuesday the Tribunal of Appeal under the London Building Act sat at the Surveyors' Institution to consider the appeal by Messrs. James Gilbert Allen and Henry George Norris against the certificates of the Superintending Architect of Metropolitan Buildings fixing the general line of buildings on the northern side of the street known as Fulham Palace-road, between Queensmill-road and the building known as 206, Fulham Palace-road. Mr. Courthope Munroe appeared for the appellants and Mr. F. Daldy represented the London County Council.

Mr. Courthope Munroe, in opening the case, claimed that the appellants were builders of houses, who were developing a considerable estate to the north of the present proceedings were by a sequel to a former appeal to the Tribunal, which was heard on December 12, 1911, and January 22 and March 1, 1912. In the present case the Superintending Architect had defined the line of buildings as between Queensmill-road, in relation to the buildings shown on the plans, and the line of such definition would mean cutting about 1 ft. from three of the shops and about 2 ft. 6 in. in the case of the other four. In previous cases had regard to four shops situated in Fulham Palace-road on the other side of the road to the seven shops in question, and it was then urged that the Superintending Architect had taken a ridiculous extent of road for the purpose of fixing the building line. Ultimately the Tribunal decided that there was no general line of buildings in that portion of the road in which the seven shops were situated, and consequently the decision of the Superintending Architect was reversed. He and his clients took it that this decision of the Tribunal meant that there was no general line of buildings on the whole of the section of the land which was then being erected to.

The Chairman (Mr. A. A. Hudson): We indicated that these four buildings might be the basis of forming a building line. Mr. Courthope Munroe said he did not expect for a moment that they might not do so. The position his clients took was that after this decision they were entitled to go on building so long as they did not advance beyond the line of the four shops, and they had decided to build the seven shops on that assumption. These seven shops were an exact replica of the four. They were set back 30 ft. from the middle of the road, but, owing to the contour of the road, they were really only 2 ft. behind the four shops. He submitted that there was no building line at the north corner of No. 206, which was one of the four shops, to the north-east corner of the parish hall at Crabtree-lane; or, in other words, that the line was controlled by the four shops, and if they kept a minimum of 30 ft. from the centre of the road they were within their rights. The Superintending Architect commenced by going back 2 ft. 6 in. from the corner of No. 206.

The Chairman said the point they had to find out was whether that portion of No. 206 which projected beyond the line fixed by the Superintending Architect was a building or not.

Mr. Courthope Munroe contended that in all circumstances no question of projections arose. If they were building in a place where there was no general line of buildings they had no right to consider projections at all. Sect. 73 of the Act only came in and entitled a person to make projections beyond the line in certain cases, and this, of course, presupposed a building line. In the case of the four shops the building line was the building line, and hence the question did not arise. The seven shops were continuous with the four, and there were no projections. The Superintending Architect in order to go back 2 ft. 6 in. had treated the architectural detail of the four shops as projections.

The Chairman said he did not quite understand why the Superintending Architect had taken the line back from the 2 ft. 6 in. In the present case it was not a question of a small projection, but the whole of the buildings were brought forward.

Mr. Daldy said he would argue the point later, but, so far as he knew, the front main wall was always taken to determine the general building line.

Mr. J. J. Radford, architect and surveyor, of 10, Upper Richmond-road, Putney, explained the situation of the houses. The shop fronts were superimposed on the cellar wall. Above the shops were two floors, and bay windows were formed by recessing the front main wall. In cross-examination, witness said he took it

that the four shops fixed the general line of buildings at one end, and he would take a line parallel with the projections at the north-east corner of St. Clement's Church to fix the general line of buildings.

Mr. C. Botterill, surveyor, of Fulham, formerly Surveyor to the Borough Council, endorsed the evidence of the last witness, and put in a plan showing how he would fix the line, having regard to the curve of the road.

Mr. H. G. Norris, Mayor of Fulham, one of the appellants, described the buildings, and said the centre of the road was taken from a plan supplied by the Superintending Architect.

In cross-examination, witness said they commenced to build the seven shops the day after the Tribunal had given its previous decision. The foundations had already been got out nearer the road, but after the decision they decided to keep at least 30 ft. from the centre of the road in accordance with the wishes of the County Council. His view was that they were entitled to build so long as they did not go beyond the four shops. He did not think it was necessary to ask the Superintending Architect to define the general line of buildings, as it seemed to be foolish to make such a request when the Tribunal had just decided that there was no line.

The Chairman: You took the risk of defining the line yourself.

Witness said he had the certificate of the Tribunal before him stating that there was no general line of buildings in that section of the Fulham Palace-road. His view was that they must either keep level with or behind those four shops.

This concluded the case for the appellants, and Mr. Daldy called Mr. Milward, of the Architects' Department of the London County Council, who expressed the opinion that the line defined by the Superintending Architect was the right one.

Mr. Daldy addressed the Tribunal, and submitted that the Superintending Architect had fixed the line in a *bona-fide* manner, and Mr. Norris had fairly admitted that he took his risk as to what the line might be. He urged that, as a matter of law, the front main wall of the houses ought to be taken into consideration. The whole object of setting back the buildings to the building line was not to preserve the centre of the roadway, but to preserve the general line of the houses in the interests of the houses themselves. If it was held that the extent outside of a bay window was to determine the general line of buildings, then a man having once put up a bay window his neighbours would be entitled to carry up their walls vertically to the edge of the window. In the present case the general line of buildings between Crabtree-lane and Larnoe-road was made to depend on the end from which the appellants started their buildings, and they contended that No. 206 was to govern the whole thing. The Superintending Architect had, however, said they must look at the buildings beyond, and take these into consideration, and he had drawn his line accordingly.

Mr. Courthope Munroe asked the Tribunal to view the road and buildings, as the matter was one of importance to the appellants, who did not want to have to come before the Tribunal the next time they commenced building.

The proceedings were accordingly adjourned to give the Tribunal the opportunity of visiting the site.

LEGAL COLUMN.

Vendor v. Purchaser.

In the recent case of Taunton and West of England Perpetual Benefit Building Society and Roberts' Contract (current "Law Reports"), the Building Society were the mortgagees by assignment of the residue of a lease for 999 years of certain property, and they entered into a contract to sell the same to one Roberts. The contract was an open contract, and amongst other clauses it contained a provision that the property was sold subject to the covenants and conditions contained in the lease and to the rent thereby reserved, and that the assignment to the purchaser should contain a covenant indemnifying the Society against the said rent and covenants.

There were in the lease covenants as to painting of an unusual character, to be contained in a lease for so long a term, and at the time fixed for completing the contract the lessor was threatening proceedings for breaches of covenant; but neither the vendor nor the purchaser were aware of this. In answer to requisitions, the vendors only offered to produce the last receipt for rent. The purchaser was seeking a declaration that a good title had not been shown, and claimed a return of the deposit.

As regards the first point, the clause as to indemnity against breach of covenant, the Court held this to relate to future breaches or

failure to pay rent, not to breaches in the past. On the second point the Court held the vendors not to have made out a good title, as the lease had become forfeitable. The vendors were selling under open contract, and were under obligation to show that the rent had been paid and the covenants performed. Sect. 3, sub-sect. 4, of the Conveyancing Act, 1881, does not take away this obligation; that sub-section means that, *prima facie*, the receipt for the last rent is evidence of the covenants having been duly performed, but it does not prevent a purchaser from adducing evidence that, in fact, the covenants have not been performed. It is necessary to bear in mind that this was an open contract, and that the purchaser had had no notice of the breach, as the decision turns on these two considerations.

LONDON COUNCILS.

Barnet.—The Urban District Council have passed amended plans for the erection of a cinematograph theatre at the rear of No. 122, High-street. The Surveyor has been instructed to prepare a scheme for the utilisation of the Old Barnet Brewery site.

Battersea.—Plans have been lodged with the London County Council by Messrs. Spalding & Myers for the erection of additions to the Baptist Chapel in Northcote-road.

Bromley.—The Council have accepted the tenders of Messrs. E. Peill & Sons, Bromley Common, at £731, for making up Quernmore-road, 123 ft., for making up Nightingale-lane, and 431 ft., for making up Talbot-road. The tender of Messrs. T. Wood & Sons, Ltd., Crookhill, Swanley, has also been accepted, at £491, for making up Pinewood-road.

Bulding.—Sanction has been received from the Local Government Board to the borrowing of £7,067, the cost of erecting a secondary school and technical institute.

East Barnet.—A Sub-Committee has been appointed to consider the question of the housing of the working-classes. A plan has been passed for Mr. Geddes for the erection of a motor garage in Northumberland-road.

Enfield.—The Urban District Council has accepted the tenders of Messrs. Jennings & Grenfell, Froozywater, Waltham Cross, at £601, and 1,175, for making up portions of Malvern and Durants roads, respectively.

Hammermith.—The tender of the Adamant Stone Paving Company, 9, Bridge-street, Westminster, S.W., has been accepted by the Borough Council, at £508, for paving the footpath on the east side of a portion of Wood-lane.

Hanwell.—The Surveyor has been instructed to prepare a plan for the general widening of Boston-road. The tender of the Improved Wood Pavement Company has been accepted at 452. 6s. for wood-paving the same road.

Hornsey.—The Highways Committee report the receipt of petitions asking that the asphaltting of the carriageway of Fortis Green-road be continued for about 192 yds., owing to the motor-omnibus traffic. The Borough Surveyor, reporting on the question, states that the effect of this traffic upon the carriageways of Fortis Green, Fortis Green-road, and Colney Hatch-lane, macadam roads unsuitable for such traffic, has been disastrous. It is evident from the continuous repairs already carried out that the greater portion of the length of macadam road affected cannot be maintained by ordinary macadam repair during the autumn and winter months, and, unless a more permanent class of construction is immediately adopted with the roads will become untrafficable. If the motor-bus traffic is to be permanent the best method, and, in the long run, the most economical, would be to construct these roads, except where the gradient is prohibitive, with a good concrete foundation and close-jointed, creosoted, soft wood-block paving; but such a scheme would necessitate the raising of a loan, and it would be some months before it could be carried out. It would, therefore, appear desirable to consider an intermediate, although much less durable, method of stripping off the existing macadam and laying down a tar or bituminous macadam carriageway, which, if tenders were immediately invited, could be proceeded with in November. He estimates the cost at 3,350. The Surveyor's suggestions are to be carried out. The following plans have been passed:—Mr. A. C. Dickie, alterations and additions to "Hillside," Jackson's-lane, Highgate; Mr. François Howkins, Golden's Green, thirty houses, Rectory-gardens; Mr. John Farrer, parish hall, Park-road, Crouch End.

Islington.—For testing the suitability of several forms of bituminous paving for use on roads where ordinary macadam is not suitable, the "Trinidad asphalt factory," "Roadament," "Trinidad asphalt macadam," "asphalt macadam," "Val de Travers" natural asphalt matrix," and

"Bradshaw's granite asphalt" are to be laid in equal lengths on the margins of the carriage-way in Dorset-street. The estimated cost is put at 476s. The wood-paving in portions of Horseay-road, Horsely-croft, Seven Sisters-gate, and Holloway-road is to be renewed or relaid at estimated costs of 300l., 200l., 300l., and 600l. respectively, and the creosoted yellow deal blocks required are to be obtained from Messrs. Gabriel, Sons, & Bartons, Commercial-road, Lambeth, S.E. Jarrah blocks are also required, and tenders are to be obtained for these.

Hornford.—At a recent meeting of the Guardians it was decided to carry out by direct labour the building of an isolation hospital. The estimated cost is put at 484s.

Southgate.—The following plans have been passed:—Mr. W. R. Bertie, three houses, Lodge-drive, Palmer's Green; Mr. R. Cracknell, forty-one houses, Riverway, Palmer's Green; Mr. W. J. Keene, jun., three houses, Amberley-road; Mr. W. A. Arnold, three houses, The Crest, Palmer's Green; Mr. A. Arnold, three houses, Harlech-road; Mr. D. A. Paul, Presbyterian Church, Fox-lane, Palmer's Green; Mr. A. F. Simmons, three motor garages, Light-lane, Palmer's Green.

Tottenham.—The Engineer has been instructed to prepare quantities with a view to tenders being invited for the execution of private street works in South-grove and Barry-avenue. The following plans have been passed:—Messrs. Warren & Supert, on behalf of Mr. H. King, additions to Swan Hotel, High-road; Mr. F. Horton, additions to Godfrey Engineering Works, Boundary-road; Mr. S. W. Cranfield, reconstruction and additions to drill hall, Park-lane; Messrs. Brand, Pettitt, & Co., addition to Munro's factory, Cornwall-road; Mr. H. S. Couchman, on behalf of Mr. J. Immig, additions to bakery, High-road; Messrs. C. D. Monniger, Ltd., factory, Overbury-road; Mr. D. Gestner, foundry at Cyclostyle Works, Broad-lane; Messrs. Rowley Brothers, Boundary Works, Crawley-road, Wood Green, five houses and shops, Lordship-lane.

Westminster.—The tender of Messrs. Wright & Son, 27, Wild-street, Drury-lane, W.C., has been accepted at 74l. 15s. for carrying out the necessary works in connexion with the rounding off of the corner of Buckingham Palace-road and Piccadilly-road. The necessary paving and other work in connexion with the opening through of Noel-street to Great Marlborough-street is to be carried out at an estimated cost of 1,800l. The Engineer has been instructed to proceed with the work in connexion with the widening of Piccadilly, opposite Nos. 19 and 20, at an estimated cost of 750l. Repairs are to be carried out to the macadam carriageways of Grosvenor-road and Warwick-square at an estimated cost of 375l. Repairs are to be carried out to the footways of Park-street. The cost is put at 100l. Paving works are to be carried out opposite Nos. 44-46, Park-street at an estimated cost of 1,000l. In view of the probability of the Council's property, now occupied by the Westminster Workhouse, in Soho coming to the Council's possession the Housing Committee have decided to prepare a scheme for the erection of working-class dwellings. The London County Council:—Messrs. Maple & Co., Ltd., alterations to St. James' Club, Brick-street; Messrs. Bywaters & Sons, Ltd., alterations to premises, Wellington-mews and Ham-yard, Great Windmill-street; Messrs. A. E. Hughes & Son, building site of White Lodge, Warwick-row.

Willesden.—Tenders are to be invited for making up Victoria-mews, Kilburn, and Kildorpe-terrace, Dog-lane. Plans and estimate submitted by the Engineer have been approved for making up Brampton, Ridley, and Colin roads. The following plans have been passed:—Mr. H. Fowler, six houses, Palmer-road, Harlesden; Mr. G. A. Sexton, on behalf of Messrs. H. Saby & Co., furniture depository, rear St. Priory Park-road; Messrs. William Moss & Sons, additions at Parish Workhouse and Infirmary, Acton-lane; Mr. A. Baker, on behalf of Messrs. Charrington & Co., extensions at Elm Tree, beerhouse, High-street, Harlesden. Plans have been lodged by Mr. R. Cave for the erection of nine houses in Tatum-road.

Woolwich.—The Borough Council have received a communication from the London County Council, in reply to a letter urging amendment of that part of the London Building Act, 1894, which relates to the fees chargeable by district surveyors, stating that from but that having regard to the peculiar position of London, so far as the administration of its method has not been suggested which would remove existing anomalies without increasing

the cost of the administration of the Building Acts in London, and that under the circumstances they do not see their way to take action in the matter at present. The Borough Council have decided to ask the Council to give the matter further consideration at the earliest opportunity. The following plans have been lodged with the London County Council:—Mr. F. H. Buen, 12, Woodland-avenue, Wanstead, adaptation of building at rear of Castle Hotel, High-street, Eltham, into cinematograph theatre, Mr. A. L. Edwards, 19, Ragland-road, Plumstead, houses, Cleanthus-road, Plumstead; Mr. R. Stewart, 24, Sloane-square, S.W., houses, Bexley-road; Mr. A. H. Jennings, 7, Woolwich-road, Belvedere, twelve houses, Cantwell-road, Plumstead. Plans have been passed for Mr. L. A. Stanton, 110, High-road, Lee, S.E., for six houses, Halons-road, Eltham, and for Messrs. Gordon & Gunton, Finbury House, Blomfield-street, E.C., for a Wesleyan chapel and institute in Timbercroft-lane, Plumstead. Mr. J. O. Cook, architect, on behalf of Mr. E. Kemp, has lodged plans for the erection of a warehouse and shop in Spray-street, Plumstead.

OBITUARY.

Mr. G. T. Redmayne.

Mr. George Tunstall Redmayne, of whose career Mr. Paul Waterhouse gives some particulars in the current *Journal* of the Royal Institute of British Architects, was articled to Mr. Alfred Waterhouse, R.A., and practised in Manchester. "He was never greedy for multiplicity or magnitude of work," writes Mr. Waterhouse. "His personal thought and personal labour entered every detail of his designs, and he was exceptionally careful in making sure that nothing should appear in his work which was meaningless or nugatory. His comparatively small list of executed works is, therefore, not by any means to be attributed solely to lack of opportunity. Among the buildings in which he best satisfied his own intentions were:—The Scottish Widows Office, Albert-square, some business premises at No. 20, Cross-street (recently altered), the School of Art, and the Racquet Courts, all in Manchester. His two best country houses were Whitton, in Herefordshire, for Mr. Richard Green, and Fekedmore, in Surrey, which he built *à deux reprises* for his brother-in-law, Mr. Edwin Waterhouse. His best church, St. Chrysostom's, Victoria Park, Manchester, was unfortunately destroyed by fire. Other of his buildings were a house at Mayfield, in Staffordshire, for Mr. Joseph Simpson; the Dalton Hall, Manchester, for the Society of Friends; Schools at Knutsford and Broadbent, and various small works at Ambleside and Alderley. Many of these buildings show that he was capable of carrying out work on an important scale; the Scottish Widows Building in particular is as good a proof as one could have that there was real sense and real sense in that medieval revival which is to-day so readily despised. It is virile and fresh."

PATENTS.

APPLICATIONS PUBLISHED.*

19,853 of 1911.—Emile Klée: Hollow reinforced concrete floors, ceilings, and the like.
20,202 of 1911.—James Ward Moseley: Wall construction for houses and other buildings.
20,535 of 1911.—August Weiffenbach and Michael Joseph Farrell: Composition for plaster and the like.
20,650 of 1911.—Francis Skilbeck: Plastico composition.
21,200 of 1911.—Francis Parvey Le Bailly: Mode of glazing roofs, windows, and the like.
21,550 of 1911.—Frank Herbert Shorland: Fireplaces.
21,366 of 1911.—Isaac Henry Storey, William Edward McCalla, and Arthur Griffiths: Facing plates for attaching to the surface of walls and the like.
24,764 of 1911.—Edgar William Brown and Charles James Watts: Combined screen and stove or radiator.
27,232 of 1911.—Daniel Murphy: Bolts for doors, gates, and the like.
27,754 of 1911.—John Shanks: Supply connections for cisterns of an installation of water-closets and the like.
27,838 of 1911.—Giuseppe Andina and John William Bottomley: Kilns for burning or firing bricks, tiles, or other earthenware, fire-clay, or like goods.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

909 of 1912.—Joseph Schwend: Chimney.
1,711 of 1912.—Ellen Chandler and E. Corin: Sinks.
2,251 of 1912.—Thomas Boyd: Attachment for glazing bars.
3,452 of 1912.—Thomas Joseph Be.
Road compositions.
13,479 of 1912.—John Caldwell: Door-l.

SOME RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

September 14.—By DENVER & COLLINS.
Whitstable, Kent.—Court Lees Farm, 223 a. 1 r. 5 p. f. 13s. 6d. p. a.

September 19.—By PERKINS & PICKERING.
Seend, Wilts.—Lower Foxchangers Farm, 140 a. 1 r. 12 p. f. 10s. 6d. p. a.

By GEO. TROLOPE & SONS.
Finchamstead, Berks.—Two villas, eight cottages, and 2½ a. 3 r. 13 p. f. 10s. 6d. p. a.

September 20.—By GILBERT & SONS.
Llanaber, Merioneth.—Tyglanrafon Farm, 72 a. 0 r. 38 p. f. 10s. 6d. p. a.

September 24.—By BANKS & SON.
Sellingdale, Kent.—Little Grany and Court Lodge, 144 a. 1 r. 12 p. f. 10s. 6d. p. a.
The Rookery and 25 acres, f. 10s. 6d. p. a.
Arable and pasture, 19 a. 2 r. 30 p. f. 10s. 6d. p. a.
Mill House, Forge House, and Harrison House, f. 10s. 6d. p. a.
Rock cottage and 7 a. 1 r. 23 p. f. 10s. 6d. p. a.
Church house and cottage, f. 10s. 6d. p. a.
Rock cottages and 11 acres, f. 10s. 6d. p. a.
Old school cottages and plot of land, f. 10s. 6d. p. a.

September 26.—By GEORGE HOME.
Bishops Cleeve, Glos.—Morris's Farm, etc., 44 a. 2 r. 9 p. f. 10s. 6d. p. a.

By WALTER LUDLOW & BRISCOE.
Harlebury, Worcs.—Waresley House Estate, 119 a. 1 r. 12 p. f. 10s. 6d. p. a.
The Lion p.h. and 1 r. 11 p. f. 10s. 6d. p. a.

September 27.—By GEORGE LOVETT & SONS.
Corley, Warwick.—Marshlands Farm, 137 acres, f. 10s. 6d. p. a.

By HARRY BALL.
Bedford.—120, Hurst-st. f. 10s. 6d. p. a.
35 to 49 (odd), Priory-st. f. 10s. 6d. p. a.
11, 13, 15, 17, 27, 29, and 31, Greenhill-st., f. 10s. 6d. p. a.
30 to 36 (even), Argyll-st. f. 10s. 6d. p. a.

September 30.—By VENTON, BULL, & COOPER.
West Ham.—202, Romford-road, u.t. 40 yrs. 13s. 6d. p. a.

October 1.—By FRED VARLEY & SON.
Finsbury Park.—20, Sommerfield-rd., u.t. 54 yrs. g.r. 6l. 6s. 8d. p. a.

By ALFRED J. BURNOWS with TUCKETT & SON.
Ashford, Kent.—Pasture, 20 a. 0 r. 27 p. f. 10s. 6d. p. a.

By KEMBLEY.
Mickfield, Suffolk.—Greenwoods Farm, 155 acres, f. 10s. 6d. p. a.

October 2.—By DOUGLAS YOUNG & CO.
Horsely, 7 and 8, Harvey-rd., u.t. 80 yrs. g.r. 10s. 6d. p. a.

Finchley, 55 and 57, Durrant-rd., u.t. 75 yrs. g.r. 13s. 6d. p. a.

Brixton.—8, Loughborough-park, u.t. 101 yrs. g.r. 10s. 6d. p. a.

By BAXTER, PAYNE, & LEVER.
Sidcup.—14, Dwyer-lane, u.t. 75 yrs. 10s. 6d. p. a.

Leckham.—Westgate-rd., Parkhurst and 1 acre, u.t. 52 yrs. g.r. 2l. p. a.

By NEWSON & SHEPHERDS.
Battersea.—Bennet-rd., f.g. rents 63l., reversion in 55 yrs.

Acton.—Bollo-lane, f.g.r. 8l. 8s., reversion in 85 yrs.

Barking.—Orchard-av., f.g. rents 35l., reversion in 65 yrs.

Kentish Town.—Gaisford-st., f.g.r. 50l., u.t. 36 yrs. g.r. 10s.

Adelaide-rd., f.g. rents 38l., u.t. 29½ yrs. g.r. 18l.

Battersea.—York-rd., f.g. rents 14l. 10s., u.t. 34 yrs. g.r. 10s.

Kilburn.—Alpha-pl. North, f.g. rents 64l., u.t. 46 yrs. g.r. 4l.

By STIMSON & SONS.
Dulwich.—14 and 16, Penwick-rd., u.t. 54 yrs. g.r. 10s. 6d. p. a.

Old Kent-rd.—Nos. 283, 271, and 270A (s.), u.t. 36 yrs. g.r. 78l. 10s. 6d. p. a.

62 and 64, Marcia-rd., u.t. 38 yrs. g.r. 14l. 10s. 6d. p. a.

Bermondsey.—150 and 152, Southwark Park-rd. (s.), u.t. 29½ yrs. g.r. 14l. 10s. 6d. p. a.

158 and 160, Southwark Park-rd. (s.), u.t. 27 yrs. g.r. 14l. 10s. 6d. p. a.

166, 174, and 176, Southwark Park-rd. (s.), u.t. 28 yrs. g.r. 21l. 10s. 6d. p. a.

Rotherhithe.—75 and 77, Pond-rd. (s.), u.t. 41 yrs. g.r. 7l. 10s. 6d. p. a.

Old Kent-rd.—3, 4, and 5, Trimby-st., u.t. 57½ yrs. g.r. 10s. 6d. p. a.

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for weekly payments; q. for quarterly rental; y. for yearly rental; u.t. for unexpired term; p.a. for per annum; y. for years; g. for years; r. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; area for acreage; av. for avenue; gds. for gardens; yd. for yard; gr. for grove; h.h. for beachouse; p.h. for public-house; o. for office; s. for shops; etc. for court.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointment, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

OCTOBER 14. **Batham. SWIMMING BATH.**—Wandsworth B.C. invite designs for a new Swimming Bath. See advertisement in issue of August 16 for further particulars.

OCTOBER 20. **Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow City Council invite the architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of October 12. Dr. Burnet, assessor. Deposit of 11. 1s.

OCTOBER 31. **Huddersfield.**—TOWN PLANNING.—The Huddersfield Corporation invite tenders for the laying-out of certain areas within county borough and part of an adjacent parish. Premiums 100s., 50s., and 25s. Deposit of 21. 2s. See advertisement in issue of September 2 for further particulars.

OCTOBER 31. **Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite tenders for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1. **Ottawa. MONUMENT TO KING EDWARD VII.**—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

NOVEMBER 28. **Langside, Glasgow.**—BRANCH HOUSE.—Assessor, Mr. Alex. J. Patterson, S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

NOVEMBER 1. **Sofia. DESIGNS FOR A ROYAL RESIDENCE AND LAW COURTS.**—Particulars from the Imperial Intelligence Branch of the Board of Trade, London, S.W. (see p. 173, August 9, and p. 350, September 27).

NOVEMBER 2. **Carlisle.**—SCHOOL BUILDINGS.—Particulars from the City Surveyor, 36, Market-street, Carlisle.

NOVEMBER 1, 1913. **Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings, Nos. 3001, 3002, and 1001, respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

OCTOBER 2. **Jordanhill, Glasgow.**—PROPOSED NEW COLLEGE.—Limited to six firms, namely: Messrs. James Watson & Co., Ltd., Messrs. James Watson & Co., Ltd., Messrs. James Watson & Co., Ltd., Messrs. James Watson & Co., Ltd., Messrs. James Watson & Co., Ltd., Messrs. James Watson & Co., Ltd. See advertisement in issue of September 2 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 11. **Nairn.**—GROYNES.—For construction of timber groynes, 150 ft. long, on the fore- and back of the harbour. Plan specification from Mr. D. Munro,burgh, Nairn.

OCTOBER 11. **Bradford.**—LIBRARY.—Erection of a new library at Great Horton. Drawings and conditions of contract seen, and quantities and form of tender from the City Architect, Bradford.

OCTOBER 14. **Dundalk.**—SNOW.—The Great Northern Railway Company (Ireland) invite tenders for the erection of an electric and general lighting system at Dundalk. Drawing and specification at the Engineer's Office at Dublin and at the Engineer's Office at Dundalk.

OCTOBER 14. **Eccles.**—PAVILION.—For taking and removing the existing bowhouse, and erecting a new pavilion, bowling green, and alterations to the playground, also for the construction of an oval bowling green at the same ground, at the Borough Surveyor's Office, Town Eccles. Quantities on deposit of 11.

OCTOBER 15. **Rawdon.**—SCHOOL.—For erection of a new school at Rawdon. Plans and specifications at the Borough Surveyor's Office, Rawdon. Mr. H. Chippindale, architect.

OCTOBER 15. **Stanley.**—SCHOOL.—For remodeling and erection of new infants' school at Stanley, near Crook. Plans, specification, and general conditions of contract seen, and quantities at the office of Mr. W. Rushworth, Shire Hall, Durham.

OCTOBER 15. **Stockport.**—SHELTER, ETC.—For erection of shelter, tool-house, and conveniences at Grimsbottom recreation ground. Plans, sections, and general condition seen, and specification, with form of tender, from Mr. J. Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

OCTOBER 16. **East Langton.**—COTTAGES.—The Midland Railway Company invite tenders for the erection of two cottages at East Langton. Plans and specifications seen, quantities and particulars at the Engineer's Office, Derby Station.

OCTOBER 16. **Halifax.**—EXTENSION.—For extension of office and new building, for Messrs. J. Sagar & Co., Ltd., Water-lane. Plans seen, and quantities from Messrs. Jackson & Fox, Rawson-street, Halifax.

OCTOBER 16. **Milnabridge.**—WORKSHOP, ETC.—Erection of workshop, etc. Plans seen, and quantities from Messrs. Lunn & Kaye, architects and surveyors, Milnabridge.

OCTOBER 18. **Belfast.**—MACHINERY.—Erection of refrigerating machinery for chill-rooms at the new Public Abattoir. Drawings, specification, and particulars from the City Surveyor. Deposit of 11. 1s.

OCTOBER 18. **Brecon.**—SCHOOL.—For proposed mixed and infants' school and cookery kitchen at Caechopin, Abercave. Mr. C. W. Best, M.Inst.C.E., Surveyor to the Breconshire Education Committee, County Hall, Brecon.

OCTOBER 18. **Dinnington.**—ADDITIONS.—For additions to Dinnington Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 11. 1s.

OCTOBER 18. **Stainton.**—SCHOOL.—For erection of a new school. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 11. 1s.

OCTOBER 19. **Wheatley.**—SCHOOL.—For erection of Boys' and Girls' Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 11. 1s.

OCTOBER 19. **Egremont.**—RESIDENCE.—For erection of a new residence at Bookwell, Egremont. Plans and specifications with Mr. N. Kitchen, M.I.Mun.E., A.R.S.I., etc., architect, Woodhouse House, Birgitz.

OCTOBER 19. **Hickling.**—RESTORATION.—For the restoration of Hickling Church. Specifications, etc., from Mr. A. Howell, F.R.I.B.A., 32, Clitheroe-road, Stockwell, S.W.

OCTOBER 19. **Middlesbrough.**—HOTEL, ETC.—For erecting business premises and hotel, 39 and 31, Corporation-road, and 65, Albert-road, Middlesbrough, for Messrs. Freeman, Hardy, & Willis, Ltd. Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

OCTOBER 21. **Abergavenny.**—CENTRE.—Erection of a domestic arts centre at Abergavenny. Plans and specification seen, and quantities from Mr. John Bain, F.R.I.B.A., County Council Offices, Newport, on deposit of 11. 1s.

OCTOBER 21. **Banbury.**—COTTAGES.—The Banbury Corporation invite tenders for forty cottages on a site off Paradise-road. See advertisement in this issue for further particulars.

OCTOBER 21. **Edinburgh.**—HOTEL.—For the erection of a jaded's house at Moray House Training College. Plans with the architect, Mr. A. K. Robertson, 39, Hanover-street, Edinburgh.

OCTOBER 21. **Huddersfield.**—WAREHOUSE, ETC.—For two-story warehouse and offices, 85, Andrew's-road, Huddersfield. Plans seen, and quantities from Messrs. Abbey & Hanson, 11, Cloth Hall-street, Huddersfield.

OCTOBER 21. **Lostwithiel.**—HOUSE.—For erection of a dwelling-house at Penryn, Lostwithiel. Plan and specification with Mr. W. Littleton, Sweet's House, Bodmin.

OCTOBER 21. **Ramsden Bellhouse.**—COTTAGES.—Erection of three pairs of semi-detached cottages adjoining Chapel-cottages, Ramsden Bellhouse. Mr. Hugo R. Bird, architect, St. Thomas's-gate, Brentwood. Plans, specification, and form of tender on deposit of 11. 1s.

OCTOBER 21. **St. Helier.**—ARSENAL.—For the construction of an arsenal for the parish of St. Helier in Houge Bouillon. Plans, conditions, and specifications at the States Engineer's Office, Royal-square.

* OCTOBER 21. **Windsor.**—NEW HOSPITAL, ETC.—The Secretary of State for War invites tenders for erection of a new hospital, etc., and other works in connexion therewith. See advertisement in this issue for further particulars.

OCTOBER 22. **Great Yarmouth.**—ALTERATIONS.—For alterations to Great Yarmouth Post-Office. Drawings, specification, and a copy of the conditions and form of contract at Great Yarmouth Post-Office. Quantities and forms of tender from H.M. Office of Works, etc., Storey's-gate, S.W. Deposit of 11. 1s.

* OCTOBER 22. **Willesden.**—UNDERGROUND CONVENIENCE.—The Willesden D.C. invite tenders for a public underground convenience at South Kilburn, N.W. See advertisement in this issue for further particulars.

* OCTOBER 23. **Bradford.**—EXTENSION OF COUNTY COURT.—The Commissioners of H.M. Works and Public Buildings invite tenders for extension of County Court. See advertisement in this issue for further particulars.

* OCTOBER 23. **Homerton.**—COVERED WAYS, ETC.—The Guardians of the Hackney Union invite tenders for iron and glass covered ways, glazed roofs over balconies, and screens at Ingham, High-street, Homerton, N.E. See advertisement in this issue for further particulars.

* OCTOBER 24. **Hampton Court.**—EXTENSION OF CLOAKROOM.—The Commissioners of H.M. Works and Public Buildings invite tenders for women's cloakroom at Hampton Court Palace. See advertisement in this issue for further particulars.

* OCTOBER 25. **London, N.W.**—NEW POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for erection of new post-office, North Western District. See advertisement in this issue for further particulars.

OCTOBER 26. **Monkstown.**—ADDITIONS.—For additions to Raffeen House, near Monkstown, Cork. Plans and specification by Messrs. W. H. Hill & Son, architects, 22, South-mall, Cork.

OCTOBER 29. **Yarm-on-Tees.**—SCHOOL.—For erection of new school on a site adjoining the present Grammar School, Yarm-on-Tees. Mr. E. G. Fletcher, architect, Prince Regent-street, Stockton-on-Tees.

OCTOBER 30. **Chingford.**—SCHOOL.—Erection of a new public elementary school at Chingford. Two guineas deposit for quantities. Plans, specification, and form of contract with County Architect, Duke-street, Chelmsford.

* OCTOBER 30. **Southampton.**—CELLS.—Tenders are invited for alterations to cells, the provision of water-closets, and lavatory. See advertisement in this issue for further particulars.

OCTOBER 31. **Newcastle.**—QUAY.—Construction and maintenance of a reinforced concrete quay at the London Wharf. General conditions, specification, quantities, forms of tender, and drawings, on deposit of 3l. 3s., from the City Engineer, Town Hall, Newcastle-upon-Tyne.

* NOVEMBER 5. **Walthamstow.**—ADDITIONS TO SCHOOLS.—The Walthamstow Education Committee invite tenders for additions and alterations to the Joseph Barrett Schools. See advertisement in this issue for further particulars.

NOVEMBER 11. **Ipwich.**—SCHOOL.—For the erection of the St. Helen's Council School. The plans and specifications seen, and quantities, on deposit of 11. 1s., from the architect, Mr. Raymond C. Wrench, 16, Museum-street, Ipswich.

NOVEMBER 15. **Lerwick.**—EXTENSION.—For the construction of works in the extension of Lerwick Harbour, in the County of Zetland. Plans and specifications with Mr. James Barron, M.Inst.C.E., Central-chambers, 214, Union-street, Aberdeen. Quantities on deposit of 11.

NO DATE. **Burnley.**—HOUSES.—For erection of a pair of small houses in Todmorden-road, Burnley, for Messrs. Chadwick & Broderton. Quantities from Mr. G. Parkinson, architect and surveyor, Mercantile-chambers, Burnley.

NO DATE. **Freshwater.**—ADDITIONS.—For additions and alterations to St. Andrew's Church, Norton, Freshwater, I.W. Quantities from Mr. J. W. Newman, Station-road, Freshwater, I.W.

NO DATE. **Guisborough.**—HOMES.—Erection and completion of children's new cottage homes. Quantities and form of tender from the architect, Messrs. J. J. Taylor & Mear, A.R.I.B.A., Post-office-chambers, Darlington. Deposit of 11. 1s.

NO DATE. **Halifax.**—CHURCH.—For the erection of the eastern half of St. Mark's Church, Saddle. Messrs. Joseph Walsh, F.S.I., and Graham Nicholas, F.R.I.B.A., architects, 10, Harrison-road, Halifax.

NO DATE. **Heaton.**—EXTENSION.—Extension of the cemetery at North Heaton. Quantities from the architect, Mr. J. J. Hill, M.S.A., Goldsmiths' Hall, Pilgrim-street, Newcastle-upon-Tyne. Deposit of 11. 1s.

BUILDING—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NO DATE. Knottsgley.—PICTURE HOUSE.—Erection of a picture house at Knottsgley, Yorks. Messrs. Banks & Kaye, architects and surveyors, 14, John William-street, Huddersfield.

NO DATE. Middlesbrough.—ADDITIONS, etc.—For alterations and additions to Nos. 87, 89, and 91, Albert-road, Middlesbrough. Particulars from Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

NO DATE. Middlesbrough.—ALTERATIONS.—For alterations to the "Dove" Café, No. 50, High street, Redcar. Messrs. Moore & Archibald, architects, Prudential-chambers, Albert-road, Middlesbrough.

ENGINEERING, IRON, AND STEEL.

OCTOBER 22.—Crossness.—PUMPS, etc.—For the erection at the southern outfall works, Crossness, near Abbey Wood, Kent, of four 38-in. centrifugal pumps, together with four 88-in. hydraulically-worked sluice valves, and a 10-in. centrifugal drainage pump and steam engine for the London County Council. Specifications form of tender, drawings, etc., from the Chief Engineer of the Council, Sir Maurice Fitzmaurice, C.M.G., County Hall, Spring-gardens, S.W. Deposit of 2l.

OCTOBER 22.—Gillingham.—PLANT.—For the supply and erection at Electric Generating Station of one 500-h.p. Diesel engine and alternator. Specifications and particulars from the Borough Electrical Engineer, Generating Station, Gillingham-road, Gillingham, Kent.

OCTOBER 22.—Portsmouth.—INSTALLATION.—For electrical installation and supply of stoves, ranges, chimneys, hearths, etc., in connection with the Workhouse infirmary extension. Forms of tender, with specification and particulars from the architect, Mr. G. E. Smith, 145, Victoria-road North, Southsea.

OCTOBER 23.—Perth.—PILING.—For piling about 250 yds. of the river bank at Shore-road, opposite South Inch, with larch piles, and pitching the slopes of the bank with stones. Plans seen, and specifications and quantities from Mr. R. McKillop, Burgh Surveyor, 16, Tay-street, Perth.

FURNITURE, PAINTING, MATERIALS, etc.

OCTOBER 15.—Watford.—PAINTING.—For the external repainting of Holywell House and other buildings. Specification at Holywell House.

OCTOBER 17.—Manchester.—PAINTING, etc.—For painting and repairs at Alexandra Park. Specification from the City Architect, Town Hall. Deposit of 10s. 6d.

OCTOBER 26.—Clitheroe.—PAINTING, etc.—For painting and decorating the Clitheroe Congregational church and school. Specifications may be obtained from Mr. G. Steer, 38, Saltil-road, from 8 to 8 p.m.

*** NOVEMBER 4.—Ware.**—DEMOLITION. The Ware Gas Company invite tenders for demolition of malting premises in Star-street. See advertisement in this issue for further particulars.

NO DATE.—Batley.—PAINTING.—For outside painting of Wensleydale Mills. Particulars from Mr. J. Thompson, Wensleydale Mills, Batley.

ROADS, SANITARY AND WATER WORKS.

OCTOBER 14.—Bury.—ROAD WORKS.—For excavating and ballasting, curbing and flagging, and paving in connexion with private street works. Forms of tender and specifications at the office of the Borough Engineer, Bank street, Bury. Deposit of 1l.

OCTOBER 14.—Swanscombe.—SHERTS.—For the making-up of private streets. Plans and specifications with the Surveyor, Mr. John Hookins, "Gavly," Dartford-road, Dartford.

OCTOBER 14.—Swansea.—EXTENSIONS.—For the extensions of watermains. Plans and specifications and conditions of contract from Mr. T. Trevor Williams, Surveyor to the Council, Alexandra-road, Swansea.

OCTOBER 15.—Teleworth.—SPALLS.—For supply of 1,500 tons of best hard Quarreny granite spalls. Forms of tender from Mr. W. Stephens, Clerk, Union Office, Teleworth.

OCTOBER 15.—Wembley.—STREET.—For street widening and improvement at the corner of the Harrow and Ealing roads, Wembley. Plan and specification seen, and form of tender from Mr. Cecil R. W. Chapman, Engineer and Surveyor to the Council, Public Offices, High-road, Wembley.

OCTOBER 16.—Clacton.—WIDENING.—For widening and making-up Close-lane. Specification and form of tender from Mr. D. J. Bow, Surveyor, Town Hall, Clacton-on-Sea.

OCTOBER 16.—Stanley.—STREETS.—For the making-up of eleven private streets. Plans and specifications at the Borough Surveyor's Office, Town Hall, Stoke-on-Trent. Deposit of 10s. for quantities.

OCTOBER 17.—Blackburn.—SETTS.—For supply of 1,000 tons of 6 in. by 3 in. in granite setts. Tenders to Mr. W. Stubbs, A.M.I.C.E., Borough Engineer, Municipal Offices, Blackburn.

OCTOBER 17.—Chelmsford.—STREET.—For the execution of street improvement works in New street and Rectory-lane. Forms of tender, particulars, plans, and specifications at the Borough Engineer's Office, 16, London-road.

OCTOBER 18.—Manchester.—SANITARY WORK.—For sanitary alterations at 1, 25, Duke-street, 54, George-street, and 51, River-street, Hulme; 65 and 75, Leat-street, Hulme; 1, 2, Norman-street; 50 to 68, Eliza Ann-street; 435 to 451, Rochdale-road. Forms of tender, general conditions, and specifications may be obtained, and plans with the Manager of the Drainage Department.

OCTOBER 19.—Briton Ferry.—GRANITE.—For supply of broken granite or basalt. Tender form and specification from Mr. H. A. Claz, Engineer and Surveyor, Briton Ferry.

OCTOBER 22.—Bootle.—WORKS.—For sewerage paving, etc., in Linsacre lane. Plans seen, and specifications and quantities from the Borough Engineer.

OCTOBER 24.—Sandbach.—SEWAGE.—For construction of sewage purification works, Elworth, near Sandbach. Plans and specifications seen, and quantities from Messrs. A. F. & Son, surveyors, Sandbach. Deposit of 1l.

OCTOBER 26.—Bechill.—SEWAGE.—For the construction of storm water overflow sewers, enlargement of brick culvert, and extension of storm tanks at the sewer outfall, together with manholes and other works. Plans seen, and specifications, quantities, and forms of tender to Mr. G. Ball, A.M.I.C.E., Borough Surveyor, Town Hall, on deposit of 5s.

OCTOBER 31.—Roufford.—GRANITE.—For supply of 1,500 tons of best blue Quarreny granite, broken to 12 in. cube. Forms of tender from Mr. J. Turvey, Surveyor, Council Offices, Roufford.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*COMMERCIAL MOTOR CHASSIS—Mill-lane Depot of L.G.O.C. Ltd.	Stuart A. Curson	Oct. 11
*PLT, ETC. MOTOR MAIN CO. LTD. & STK. FRNSHG. IRNMRG.—23, Moorfields, E.C.	Fryett, White, & Co.	Oct. 11
*FREEHOLD SITES, SOUTHWARK—At the Mart	Field & Sons	Oct. 12
*NETLEY HOUSE ESTATE, SURREY—At the Mart	Driver, Jones, & Co.	Oct. 22
*FREEHOLD SITE, KING'S COLLEGE HOSPITAL (Sale by Tender)	Wentshall & Green	Dec. 1

TO CORRESPONDENTS.

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*N.B.—Illustrations of the First Promoted Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

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*Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.	Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1	14 0
Picked Stocks for Facings	2	20 0

BRICKS, &c. (Continued).			STONE (Continued).			
Per 1000, Delivered at Railway Depot.			YORK STONE—Robin Hood Quality.			
Flettons	1 13 0	Best Blue Pressed	Per Ft. Cube, Delivered at Railway Depot.			
Best Fareham	8 12 0	Do. Bulhorne	Scrapped random blocks			
Best Red Pressed	5 0 0	Best Stourbridge	Per Ft. Super., Delivered at Railway Depot.			
Rushon Facing	5 0 0	Fire Bricks	6 in. sawn two sides landings to sizes (under 40 ft. super.)			
GLAZED BRICKS—			6 in. rubbed two sides ditto			
Best White	12 7 6	Double Headers	3 in. sawn two sides slabs (random sizes)			
Ivory and Salt	11 17 6	One Side and two Ends	2 in. to 2 1/2 in. sawn one side slabs (random sizes)			
Old Starch's	15 17 6	Two Sides and one End	1 1/2 in. to 2 in. ditto, ditto			
Quoins, Balustrades, and 4 1/2 in. Flats	17 17 6	Spalls & Squints				
D'ble Stretchers	17 17 6					
Second Quality	11 10s.	per 1000 less than best.				
Thames and Pit Sand	6 9s.	per yard, delivered.	Per Ft. Super., Delivered at Railway Depot.			
Thames Ballast	5 8s.	" "	Scrapped random blocks			
Best Portland Cement	36 0s.	per ton, "	Per Ft. Super., Delivered at Railway Depot.			
Best Ground Blue Lias Lime	19 0s.	" "	6 in. sawn two sides landing to sizes (under 40 ft. super.)			
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.			6 in. rubbed two sides ditto			
Grey Stone Lime	12s. 6d.	per yard delivered	3 in. sawn two sides slabs (random sizes)			
Stourbridge Fireclay in sacks	27s. 0d.	per ton at rly. dep.	2 in. self-faced random flags			
STONE.			SLATES.			
Per Ft. Cube.			Per 1000 of 1200 at Railway Depot.			
BATH STONE—delivered on road waggons, n. d.			In. In.	£ s. d.	In. In.	£ s. d.
Paddington Depot.	1 7d.		20x10 best blue	13 2 6	20x10 best blue	15 11 6
Do. do. delivered on road waggons, Nine Elms Depot.	1 9d.		20x12 ditto	13 17 6	20x12 ditto	15 11 6
PORTLAND STONE (20 ft. average)	1 9d.		20x10 1st quality	13 10 0	18x10 ditto	13 10 0
Brown Whitbed, delivered on road waggons, Paddington Depot, Nine Elms Depot, or Fimbo Wharf	2 3s.		20x12 Rivo	13 10 0	18x8 ditto	13 10 0
White Basebed, delivered on road waggons, Paddington Depot, Nine Elms Depot, or Fimbo Wharf	2 4s.		20x12 Rivo	13 10 0	20x12 permanent	13 10 0
Per Ft. Cube, delivered at Railway Depot.			18x8 ditto	12 10 0	18x8 ditto	11 11 6
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Beer in blocks	1 6s.	Freestone				
Greenhall in blocks	1 6s.	Freestone				
Darby Dale in blocks	2 4s.	Talacre & Gwyspyr				
Red Corsehill in blocks	2 8s.	Stone				
Per Ft. Cube, delivered at Railway Depot.			TILES.			
At Railway Depot.			At Railway Depot.			
Best plain red roofing (per 1000)			Best plain red roofing (per 1000)			
Hip and Valley (per doz.)			Hip and Valley (per doz.)			
Best Crossley (per 1000)			Best Crossley (per 1000)			
Do. Ornamental (per 1000)			Do. Ornamental (per 1000)			
Hip and Valley (per doz.)			Hip and Valley (per doz.)			

TILES.

At Railway Depot.

Best plain red roofing (per 1000)		
Hip and Valley (per doz.)		
Best Brossley (per 1000)		
Do. Ornamental (per 1000)		
Hip and Valley (per doz.)		

TILES (Continued).

At Railway Depot.

s. d.	s. d.
Bunton red, in, or brinded, (per 1000) 57 6	Best "Hartshill" brand, Ornamental (per doz.) 47 6
Ornamental (per doz.) 60 0	Hip (per doz.) 4 0
Valley (per doz.) 4 0	Staffords. (Hanley) Beds or Brinded (per 1000) 42 6
Hand-made sand-faced (per 1000) 45 0	Hip (per doz.) 4 0
Valley (per doz.) 3 6	

WOOD.

BUILDING WOOD.	At per standard.			
ns: best 3 in. by 11 in. and 4 in.	2 s.	d.	2 s.	d.
ns: best 3 in. by 11 in. and 4 in.	14	0	15	0
ns: best 3 by 9 in.	13	10	0	14 10 0
ns: best 2 1/2 in. by 7 in.	11	10	0	12 10 0
ns: best 3 in. by 7 in. and 8 in.	11	10	0	15 0 0
ns: best 2 1/2 by 6 and 3 by 6 in.	0	10	0	less than bat.
ns: seconds	9	10	0	" "
ns: seconds	9	10	0	" "
ns: by 1 in. and 2 in. by 6 in.	0	10	0	10 10 0
ns: by 3 1/4 in. and 2 in. by 5 in.	0	10	0	10 10 0
ns: 1 in. Square Boards—				
ns: and 1 1/2 in. by 7 in.	0	10	0	more than batons.
ns:	1	0	0	
ns: member, best midding Danzig	At per load of 50 ft.			
ns: (female average specification)	5	0	0	5 10 0
ns: 10nds	4	10	0	5 0 0
ns: all timber (8 in. to 10 in.)	3	17	6	4 0 0
ns: 8 in. (8 in. to 10 in.)	5	5	0	4 0 0
ns: fish tails	2	12	6	3 0 0
ns: 10 pin timber (30 ft. average)	5	5	0	6 0 0

VARNISHES, &c. (Continued). Per gallon.

Esgehell Plating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knottling	0 10 0
French and Brush Polish	0 10 6

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday*. [N.B.—We cannot publish tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is stated, nor any list in which the lowest tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BEDLINO (Glam).—For additions and remodelling the Bedlino old mixed school as boys' school, for the Glamorgan County Council. Mr. D. Pugh-Jones, County Architect, Cardiff.

D. Davies, Donald-street, Cardiff* £1,856

BEDWAS.—For erection of twenty-six or more houses, for the Grove Building Club. Mr. Gomer L. Rees, architect and surveyor, Bedwas and Aberkai.

	Per House.		Per House.
W. J. Brooks	£235 0	D. Thomas & Sons	£212 0 0
Sons	235 0	A. Thomas	207 10 0
Williams Bros.	235 0	P. Bristow*	203 5 6
J. Lewis & Sons	230 0	Jenkins & G. Smith	212 0
Warlow & Warlow	224 0	Seaton	194 5 0

BETTWS (Glam).—For the erection of a new mixed school at Bettws, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff.

Knox & Wells, Bangor-street, Cardiff* £3,077

BLACKBURN.—For erection of new public halls on Bicker Mead (infrastructure portion). Messrs. Briggs, Wolstenholme, & Thornely and Messrs. Stones, Stones, & Atkinson, joint architects.

W. Livesey & Sons £17,000 J. Whitaker & Sons £16,150

J. Pettit & Sons .. 16,410 E. Lewis & Sons .. 16,110

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 537.

OCTOBER 18, 1912.

ILLUSTRATIONS.

NEW CHURCH AT MITCHAM, SURREY.
MR. H. P. BURKE DOWLING, F.R.I.B.A., ARCHITECT.
STAINED-GLASS WINDOWS, KHARTOUM CATHEDRAL.
DESIGNED AND EXECUTED BY MISS MABEL ESPLIN.

BAROQUE ARCHITECTURE:—
S. MARIA DELLA SALUTE, VENICE.
THE DOGANA DI MARE, VENICE.
PALAZZO REZZONICO, VENICE.
PALAZZO PESARO, VENICE.

ILLUSTRATIONS IN TEXT.

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STAINED-GLASS WINDOWS IN THE CHURCH OF ST. JOHN THE DIVINE, RICHMOND-ON-THAMES, BY MISS MABEL ESPLIN	THE GARRISON CHURCH, PORTSMOUTH: GROUND PLAN
MONTHLY HISTORICAL REVIEW:	THE NEW WESLEYAN HALL: SECTIONS THROUGH PRINCIPAL STAIRCASE AND ENTRANCE HALL
BAROQUE ARCHITECTURE: VENICE	

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MOGUL ARCHITECTURE OF AGRA	THE CHURCH OF ST. THOMAS, PORTSMOUTH	THE SOCIETY OF ARCHITECTS: REPORT OF THE COUNCIL
THE ARCHITECTURE OF THE RENAISSANCE IN FRANCE	PALEOLITHIC PAINTINGS IN SOUTH WALES	ENGINEERING AND MACHINERY EXHIBITION
HYDRAULIC SOCIETIES	THE TOWER OF BABEL	FOREIGN AND COLONIAL
THE INSURANCE ACT: EMPLOYERS' REFUSAL TO PRODUCE CARDS	NOTES	WESTMINSTER CITY COUNCIL
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ADDITIONS TO BUILDINGS AT THE ROYAL BOTANIC GARDENS, EDINBURGH	THE INSURANCE ACT: EMPLOYERS' REFUSAL TO PRODUCE CARDS	LONDON COUNCILS
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	PROJECTED NEW BUILDINGS IN THE PROVINCES	PRICES CURRENT
		TENDERS

ST. PAUL'S CATHEDRAL AND ITS MONUMENTS.

IN Florence, over against the Duomo—St. Mary-of-the-Flower, as the Italians so beautifully call it—stands a white marble figure of Brunelleschi, with arms upraised and gazing at the dome he built. The statue, it is true, is not a fine work of art, but the idea is good—to make the architect guardian of what is the flower of his art. Not all artists are worthy to stay thus for all time in contemplation of their work. For most, with opened eyes, it could be too Dantesque a punishment. But there are some whose work becomes more and more of a precious heritage with the passing years, and whom it would be well to commemorate in this way.

This would besides give encouragement to sculptors, would interest the public in their work. And, although it may seem that modern art lacks somewhat of the greatness of ancient art, it is only because we put these new years against the centuries. For if there have been periods more favourable than others to the growth of art, we must always remember that the ages have left only their best; by slow degrees, as with books, so it is with

pictures and sculpture—the inferior gets removed to limbo beyond the orbit of our vision. We must always remember that thousands of years went to the making of the fine “Flowers of Art” left with us. So to-day, if we have to eliminate somewhat, there will surely be something remaining worth remembering. Why not make use, then, of the talent we have while it is yet day? It has always seemed curious to us that there is no statue to Wren in the metropolis. It is true his manifold works are his best monument, but that is no reason it should be his only one. Indeed, if we consider, there would be no monuments—except to those who have no claim on us—if a man's work were considered sufficient. That is his part; ours to show in some visible and enduring way our appreciation of it.

Thinking of Florence, where Brunelleschi is graciously given a little space where he may stand somewhat apart from the bustle of life to contemplate his dome, where streets are given the benediction of a verse from Dante—couplets, as the reader knows, are put up on the coigns of

buildings—we never pass St. Paul's without looking to see if there is not a statue of Wren looking over to the church whose building occupied the best years of his life. We always half expect to see him standing in front of the Chapter House, with eyes raised to the dome, his fine face set in the cast of an humble pride, with one hand stretched out as if to follow its beautiful contours.

Wren's great heart lies still beneath the dome he raised. He was brought back to rest there five years after his patent had been suspended in favour of William Benson. A simple slab marks his grave, inscribed without ostentation or flattery with the plain fact that “Here lieth Christopher Wren, Kt., the Builder of this Cathedral Church of St. Paul,” etc. And on the wall above his epitaph is written, concluding with the oft-quoted words, *Lector, si monumentum requiris, circumspice* :—

Obiit xxv. Feb. an. MDCCXXXIII.
Aet. lxx.

Robert Mylne, who was appointed Surveyor of St. Paul's in 1766, repeated the epitaph upon the marble choir screen

which was afterwards removed and placed in the north transept, where it now stands, forming an entrance portico. The thought which inspired "If you will have a monument, look around" is a fine one; but is it sufficient? A large proportion of the monuments in the upper church are dedicated to the memory of soldiers and sailors, a fact which can be accounted for by the breaking down of the prejudice against allowing memorials in the new Cathedral at the time of the Napoleonic wars. Alfred Stevens's Wellington Memorial, a consummate work of architecture and sculpture, is by far the most beautiful—indeed, it is probably the finest monument made in the XIXth century, whether we consider the delicate proportions of the architecture, the quality of the sculptures in bronze or marble, or the way in which the whole design fits within the arch of the Cathedral. The addition of the equestrian statue, whether this was well advised or not, certainly has had the effect of at least completing the composition in relation to its setting. Wellington is buried in the crypt, just eastward of the dome. His sarcophagus, from the design of Cockerell, consists of two blocks of Cornish porphyry superimposed upon a high base of granite, and is of austere simplicity, noteworthy, however, if we may compare little things to great, as the pyramids are, for some quality other than beauty.

There is a simplicity as of the Greeks, as of some lyrical poetry, before which we pause at a loss to apprehend the reason of its subtle spell; verses of the Bible, the verses of Shakespeare and Burns, some of the poetry of Wordsworth, the Greek temples hold us by this strange and wonderful quality. But there is another simplicity which in effect is emptiness. The Wellington sarcophagus is somewhat akin to the last, yet we cannot but feel how greatly it is to be preferred, as a thing of art, to many of the more recent monuments, or to the mosaic decorations.

Nelson's tomb is much better. Whilst being simple enough not to tease the eye to find its contours in the dim light of the crypt, it conveys to the senses an effect of funereal sumptuousness, if such a phrase may be allowed, of dark but rich colours, the black of touchstone, the red of porphyry, and the fine gold of artifice. The black sarcophagus, which rests on a high plinth, is profiled somewhat in the shape of a casket, a form which has become common in the sculpture of the monument. Indeed, Wellington's effigy rests on a similar sarcophagus; so also do those of Lord Leighton and General Gordon. But a comparison of these monuments will show how easy it is for the individual to express through any given traditional form whatever in him lies of aptitude for art. The sarcophagus in the first of these is extremely beautiful; it is built up tier upon tier to the final casket on which the figure rests; a variety of suitable ornaments diversify and add interest to its bold outlines without detracting from the unity which inspires the idea of the thing.

The history of Nelson's monument is a curious one. Cardinal Wolsey brought Benedetto da Rovezzano from Italy and engaged him to make his tomb, on

which he worked for six years before the Prelate's death without bringing it to a conclusion. Henry VIII., coveting and intending it for himself and Anne Boleyn, ordered its completion. Some of the bronze figures forming part of the tomb were sold by the order of Parliament at the time of the Commonwealth, but it was never used, and the casket part of it was brought from Windsor to receive Nelson's body. In some ways the story has been twice told; for Michelangelo's tomb for Pope Julius II. underwent similar but more grievous vicissitudes.

It would be too long a tale to give a list of the famous people buried in Old St. Paul's, or even of those who rest within the present cathedral. Besides, the object of this sketch being architectural rather than historical, it is our intention to glance merely at the tombs or monuments which interest us as artists; maybe also to touch upon those which reflect discredit on us, in the hope that the movement which is working towards a higher standard in almost all branches of art may reach to this, not its least manifestation. There are a few fragments of sculpture left from the old monuments, interesting merely as showing the older fashion of adorning these things—fragments of recumbent effigies of men in armour and women in the dress of the time, and the like. The mutilated seated figure of a woman, probably the wife of John Wolley, is interesting; but the best and only complete one—now set up in the south choir aisle—is the statue of Dean Donne, made in 1631 by Nicholas Stone. When Donne lay near to death he was persuaded by his friend and physician, Dr. Fox, to have a monument made for him. "A monument being resolved upon, Dr. Donne sent for a carver to make for him in wood the figure of an urn, giving him directions for the compass and height of it, and to bring with it a board of the just height of his body. These being got, then, without delay, a choice painter was got to be in readiness to draw his picture, which was taken as followeth:—Several charcoal fires being first made in his large study, he brought with him into that place his winding-sheet in his hand, and, having put off all his clothes, had this sheet put on him, and so tied with knots at his head and feet, and his hands so placed as dead bodies are usually fitted to be shrouded and put into their coffin or grave. Upon this urn he thus stood, with his eyes shut, and with so much of the sheet turned aside as might show his lean, pale, and death-like face. . . . In this posture he was drawn at his just height; and when the picture was fully finished he caused it to be set by his bedside, where it continued and became his hourly object till his death, and was then given to his dearest friend and executor, Dr. Henry King, then Chief Residentary of St. Paul's, who caused him to be thus carved in one entire piece of white marble, and it now stands in that church."

Unfortunately, few men have such a curious biographer as Isaac Walton, and we lack information on this as on many other points. But perhaps few men care to contemplate their dissolution and to provide for it. We always hope Dr. Johnson was of this mind. For

certainly he would not be gratified by the Herculean figure (1784) standing on the left hand of the choir which is supposed to be a representation of him.

The monuments in St. Paul's offer a sorry picture of the state of sculpture from the last years of the XVIIIth century until Stevens came to fill in a new and brighter canvas. Flaxman is represented by several works, the earliest of which is a statue of Sir Joshua Reynolds (1792), in a standing position, with his right arm against his breast, the hand holding a book ("The Discourses"), whilst his left falls straight from his shoulder with outstretched fingers touching a truncated pillar, on which is a portrait medallion of Michelangelo. The whole conception is heavy. What contrast to the joy and suavity of the work of the painter it is supposed to commemorate! The other works of the sculptor are more elaborate. The monuments to Howe and Nelson consist of pseudo-classical figures and ornaments with the heroes, the ostensible object of commemoration, in contemporary dress appearing so strange and out of place. The statue of Nelson is happier in being placed above the other figures; Howe's monument, being on the same level, suffers in comparison—even with the figures taken from Homer. Yet some of the classical figures are not without grace if we consider them separately; the drapery hangs in folds reminiscent of Attic work, but as a rule they are the figures of Flaxman's illustrations to Pope's translation of the *Iliad*.

How dead, how insufferably dull is most of the work placed in the niches around the Cathedral! A merciful oblivion has overtaken the manifold authorities whose names, meaning no more than the advertising name cut on the corner of a tombstone—Banks, Lough, Belmeade, Westmacott, and the rest of that company—are fit only to figure in a new *Dunciad*. What shall we say of Marochetti's monument to William and Frederick Viscount Melbourne (1846-53)? A new element introduced into the sculpture of the tomb—to wit, the sentimental. An archway fashioned in black marble with a noble inscription carved in gilt letters upon a frieze above it, and on each side is a white marble angel clothed in a long gown. They both bend their heads towards the centre of the tomb with very mournful countenances, but they do not inspire grief. Indeed, the angels are nothing more than a sentimental abstraction of Victorian ideals.

The more modern work would seem to be based on the older fashion of Nicholas Stone, in which recumbent figures take the most important place. Three similar monuments in the south choir aisle—Dean Milman, by Williamson (1863), Bishop Blomfield, by Richmond (1857), Bishop Jackson, by Woolner (1884)—all of the same type, in which effigies rest on a square box or sarcophagus. It seems to us that these sculptors all have paid too much attention to details, to the embroidery of the draperies, to the pattern of boots, to jewellery, and such like instead of trying to realise the fact to which the tomb owes its existence. If we pronounce the sculpture indifferent, what shall we say of the architecture setting?

Although we cannot say that Mr. Brynecroft has managed to escape the detail, he has given the figure of Adell Creighton, Bishop of London, the verisimilitude with life; the head, in fact, is of great beauty and dignity, which makes us regret the more the inadequacy of the architectural setting.

There are a few wall panels of fair merit in the upper church—to Charles Robert Kerrell, Sir Arthur Sullivan, Sir John Mer. The first is best in design, but they are all three good examples of the manner of the early XXth century. There are a great many more in the apt, inferior to these, as a rule; but, on the other hand, there are two most beautiful things from the hand of Gilbert a memory of Randolph Caldecott (1866) and Frank Holl (1888). The latter consists of a bust set in a kind of circular pediment; while the former represents the figure of a boy placed in a little niche, the top of which is supported on fanciful pillars. These take away from the mediocrity of the rest, and are a sufficient excuse for the tournalement of this art.

There are several good wall tombs dating from the beginning of the XVIIIth century, executed with characteristic carving, flowers and fruit and the heads of youthful angels. The modern ones, however, are not pleasant to contemplate, they are too florid, too commercial, and make an incongruous note in the still quietness of the crypt. It should not be forgotten, however, that there are carvings of price to be found in the dimly-lit corners. Take, for example, the beautiful bust of Henley the poet. That, again, is excuse, if such were needed, for the encouragement of the makers of tombs and statues. With less encouragement the best might be lost.

THE NEW DELHI.

WE are glad to see how widespread an interest has been aroused in the question of the style to be adopted in the new capital of India, and we publish elsewhere in this issue an article on the Mogul architecture of Agra, with illustrations which give an idea of the salient features of the traditional work in the district round Delhi. The *Manchester Guardian* gives in an article the advantages of working in an indigenous style, and in a letter to the *Times* of the 11th inst. Mr. G. Jackson, R.A., adds a thoughtful and well-written contribution to the subject. Mr. Jackson very rightly says, "Our best artistic suggestions in design come from necessities of construction and considerations of utility," and "we could study works of art, not to copy them, but to be impregnated with their principles; and if our study has done its work we should be so saturated with the true principles, not of this or that particular style, but that of architecture itself, which is a very different matter, as to be ready for any novel conditions which may present themselves." When, however, he expresses a disappointment at Lord Curzon's dwelling on "the necessity of style," we find ourselves unable to follow his reasoning.

Style seems to us to be to architecture what language is to speech—the only possible means by which we can express ourselves, and failing a universal language it is necessary to express our meaning in some particular one. So with architecture, the earliest efforts of man are marked with "style" in greater or less degree, and only the dwellings of our pre-historic ancestors—the cave-dwellers—can be held to be devoid of style, and these we hardly characterise as architecture. But the language by which a man can best express his meaning is usually his own, and the style in which it is most natural to express oneself is that with which one is most familiar. With the brief exceptions of periods of "revival," our natural means of expression is through the current European tradition of civilised Europe—in other words, the classic Renaissance. Nor is there the slightest reason why we should not express India's wants and necessities in such a manner. The Romans built alike in this country and in Syria, but in the latter they employed arched and colonnaded streets, because they were needed for climatic reasons; but in both England and Syria the Roman left the marks of his presence in the architecture of the country as on every other phase of its life. The illustrations of Mogul architecture we give are, we think, convincing proof both of the beauties of the style and its unsuitability for the expression of the modern wants of civilised India, but we feel that in some phase of the Renaissance there is ample scope for employing native craftsmen and giving them opportunities to show their skill in devising and carrying out beautiful detail which, after all, constitutes a great part of that excellence which we admire in Mogul art.

We consider that in harking back to compromises and in any attempt to carry out modern buildings in the style which characterises the Mohammedan buildings of India we should but be adding another futile "revival" to its predecessors instead of emulating the spirit which alone has made great architectural epochs possible.

NOTES.

OUR leader this week should set many thinking. Who that has stood beside the statue of Brunelleschi gazing at his lifework from beneath the shadow of the beautiful dome he reared, has not been moved to venerate not only the handiwork of the man but the man himself. It is true that the domes of Florence, of Rome, and of London, to mention only three Renaissance masterpieces, stand as monuments to the memory of the genius which fathered them, but how often does it happen that the "man in the street," who consciously or unconsciously raises his eyes to them, knows anything about the master-mind behind it all? More likely than not he is ignorant of so much as the architect's name. To thousands of Londoners the name of Sir Christopher Wren doubtless conveyed nothing when they saw it on one of the London County Council steamboats, but

it was a happy idea to christen these boats—short-lived though their plying on the Thames—with names of men who had played the greater part in building up England's fame and London's beauty. And now there is nothing to keep the name of Wren before the eyes of the world, and to remind us that he lived and moved in our midst—in fact, that he was a human being. His work is becoming more and more a precious heritage, and he and certain others since his time are worthy to be commemorated by the finest statues in our public places that the sculptor's art can shape. We say this with full knowledge of the many inartistic statues scattered about England, deposited without forethought as they are and conceived without beauty. We do not forget some of the ugly and vulgar monuments to late kings and queens, as well as the statues on the exterior of a large new building erected to be the home of Art. In spite of the bitter irony of such proceedings we still desire to see more statues. We suggest even the formation of a society to fill all the empty niches in London with statues. And we do this because we think highly of the art of sculpture and know that it can be well done if Committees and others who have the giving of commissions place them with discrimination.

It was a good idea of the Library Committee of the City Corporation to arrange for the exhibition from time to time of selections from the important collection of prints and drawings in the Guildhall Library. We might only wish that the Committee had at their disposal more adequate and convenient space for such exhibitions than is provided by the corridor leading to the library. Perhaps this will be possible when the scheme for the new art gallery is carried into effect. The small exhibition which was opened last week is confined to engravings and drawings of the Thames, which go to show the great changes which have been effected on the banks of the river from Westminster to the Tower since early in the XVIIIth century. Even within the last hundred years, prior to the building of the present Houses of Parliament, the neighbourhood of the river about Westminster presented a comparatively rural aspect. But the interest of the exhibition is artistic as well as topographical; it contains some excellent specimens of aquatint engraving, as well as original water-colour drawings, including examples by Valentine Smith and Francis Jukes. The work of William Marlow is represented by original drawings depicting the demolition of the old and the erection of the new London Bridge, and there are other views engraved after the work of J. Gendall and William Daniell. We had, however, some difficulty in viewing the collection on the day that we visited it, in consequence of the corridor being largely occupied by pieces of timber which had been employed in some civic ceremony, which supplied sufficient evidence of the necessity for better accommodation for these interesting exhibitions.

Old Views of the Thames at the Guildhall Library.

Buckingham Palace. THE last, and perhaps the most-needed item of the series of improvements connected with the Queen Victoria Memorial, is to be effected by refronting Buckingham Palace with a new stone façade, and, as was natural, this important work has been placed in the hands of Sir Aston Webb, R.A., whose designs have now been approved by the Executive Committee. It will be remembered that Sir Aston Webb's design for the Mall improvement was placed first in the limited competition held as far back as 1901. The new front, we learn, will cost about 60,000*l.*, which will be defrayed out of the Memorial funds, and the contract for rebuilding has been given to Messrs. Leslie & Co.

Land Registration. IN a return recently published of the work of the Land Registry it is stated that from the time that registration was compulsorily applied in the London area, January 1, 1899, 151,951 separate properties have been entered on the register. It will be remembered that it is only compulsory to register "possessory" titles, although the object of the legislation is to secure the registration of absolute titles. So long as registration is compulsory it certainly is of advantage where possible to register absolute title. In a note to the Report it is stated that, where absolute title has been offered to be registered free of additional expense, in many cases the offer has been refused without any adequate reason—a course which, the Report states, it is difficult to account for. Unpopularity of the system will hardly account for landowners adopting such a course, and there must be some reason why 500 out of 1,838 people should have refused to register their possessory titles as absolute. We can suggest no cause, but possibly, although the Registry requires no further fees, the registration may necessitate private costs being incurred by the parties. It would be interesting to have further information on this point.

NEW SEWERAGE SCHEME FOR SPALDING.

At a monthly meeting of the Spalding Urban Council the principal business was the consideration of a scheme for the better drainage of the town, the estimated cost being 20,000*l.* Plans, etc., had been prepared for this purpose, and were placed before the Council. The Surveyor (Mr. J. Bailey) said that the proposed system produced clear water in two hours, but their present system took eighteen hours. It was ultimately decided to adopt the proposed scheme, and to apply to the Local Government Board for sanction to borrow the required amount.

WAGES IN THE ENGINEERING TRADES.

At a joint Conference of allied engineering trades, held at Manchester on the 9th inst., it was agreed that the wages of members of the trade unions concerned be advanced 1*s.* in day wages and 2 per cent. in piece rates, the first pay on the advanced rate to be given in November; that a further advance of 1*s.* per week in day rates, and 2½ per cent. in piece rates be given two months later; that the wages of the members of trade unions who are signatories to the agreement remain unaltered from the date of the last advance for a period of three years, any change to be subject to three months' notice on either side. This recommendation will be submitted to the respective societies. Between twelve and thirteen thousand workmen are concerned.



ANNUAL GENERAL MEETING.

The opening meeting of session 1912-13 of the Architectural Association was held on Monday at No. 18, Tufnell-street, Westminster, S.W., Mr. Gerald C. Horeley, President, in the chair.

The minutes of the last meeting were read and confirmed, and forty-three nominations were read.

Mr. Hall, Hon. Secretary, announced that the next meeting of the Camera, Sketch, and Debate Club will be held on October 24 at 8 p.m., when a paper, entitled "Craftsmanship and Architecture," will be read by Mr. L. M. Phillips.

The President announced that the Hon. Librarianship is vacant, and that there is one vacancy on the Council. Nominations for the same may be made at the next meeting. He also proposed a vote of thanks to Mr. Edwin Gunn for presenting a collection of about 200 negatives to the Association. This was heartily agreed to.

The President then distributed the prizes and medals for session 1911-12, the following being the list of awards:—

R. M. Pigott—A.A. Silver Medal.
W. O. Rees—Banister Fletcher Bursary.
E. J. Higgins—Architectural Union Company's Prize.
W. G. Newton A.A. Essay Prize and Silver Medal.
W. S. George—Herbert Batford Prize.
A.A. Travelling Studentship First Prize not awarded.
B. W. Ridley—Second Prize, A.A. Travelling Studentship.
M. T. Waterhouse—History, First Year Day School; equal with A. S. Furner in Studio Prize.
A. S. Furner—Construction, First Year Day School; Freehand Drawing, First Year Day School; equal with M. T. Waterhouse in Studio Prize.
H. J. H. Dicksee—Travelling Studentship, Second Year Day School.
H. G. Satchell—Special Prize given by Headmaster, Second Year Day School.
E. C. Davies—End of Session Test, Second Year; Prize given by President.
H. A. N. Medd—Book Prize, First Year Evening School.
F. W. Mackenzie—Second Prize, First Year Evening School.
J. B. M. Walsh—Scholarship, Second Year; First Place in Materials; First Place in History.
B. K. Smith—Book Prize, Second Year Evening School.
D. J. Gordon and T. W. Dowsett—Equal, Third Year Evening School Prize.
A. T. Hardman—Travelling Studentship, Fourth Year Evening School.
T. F. Ford—Second Prize, Fourth Year Evening School; First Place in History.
T. F. H. White—First Place in History.

The following students have been awarded the Association's Two Years' Course Certificate:—

E. C. Davies.	H. G. Tebbutt.
H. J. H. Dicksee.	R. S. Wallace.
J. S. Hodges.	W. W. Locke.
H. G. Satchell.	A. F. Hooper.

President's Address.

The President then delivered the following address: "On the Training Afforded by the Architectural Association and Its Value in Promoting the Progress of Knowledge in Architecture."

"LADIES AND GENTLEMEN, On rising to address you, as is the custom of Presidents at the opening meetings of the sessions, I feel I should offer you some sort of apology

for troubling you again in this capacity. Your suffrages, as I believe they are called, have placed me in the position of your President for a second year, so I may fairly claim that you are yourselves responsible; but, too, am not quite guiltless, for when I was asked if I would serve again I did not say no. I can only hope that the experience gained in my first year of office may help me in my second, so that you may not be too badly disappointed. To us all the business of the Association is of paramount importance. Last year in my address I traced in some detail, the progressive work of the Association from its early days, when its membership consisted of its founders, through the many years of voluntary work and effort in its schools and classes, up to the formation some time ago of its School of Architecture and its present membership of something about 1,700.

Founded over sixty years ago by a few earnest men to fill a blank in their artistic lives, our society has consistently advanced along the path of progress and development. It began as a society founded by architects for architects, to assist them in acquiring fuller and more complete knowledge of the art, and it is still, I am thankful to say, managed by architects for the same excellent object.

The Day School—Third Year.

This evening I will, with your permission, turn to a development in its work which I believe to be one of no little importance. This is the institution of a third year in the Day School course in the School of Architecture. Hitherto, as you all know, the three years spent in the Day School have been chiefly of use to the student as an admirable introduction to the art of architecture. They prepared the way for the more advanced study in the Evening School in the third and fourth years, where much excellent work has been done. In the future the first two years will still fulfil these preparatory functions, and in those cases where a student cannot attend a third year in the Day School will be able, as heretofore, to complete his course and obtain his certificate in the Evening School in his fourth year. But those students who take advantage of this new institution I believe that time will prove it to be of great benefit. First, because if good workers, they will be able to obtain their certificates in three years instead of four; and, secondly, because they will be far better equipped for the work which will fall to their share on entering, as pupils or assistants, an architect's office. Here I come to a very important reason for the institution of this new régime. The complaint has been not infrequently made in the past that the two years' course was a period of sufficient length properly to equip a man for work in an office; to meet this complaint the third year has been instituted. Under the able direction of Mr. Robert Atkinson the all-important subject of design will be carefully studied, and it is the firm opinion of the Council that the prolongation of the probationary period must prove to be of the utmost advantage to our Day School students.

Students and the Royal Academy School.

In common with every member I should deeply deplore this development if I felt it would have any deleterious effect upon the custom of entering an office as an articled pupil after the course has been completed and the certificate obtained. I do not believe that it will have this effect. We have made the Day School course a longer one in order that the student may be better fitted to enter an architect's office. This development was in my opinion, quite inevitable. In view of the careful preparation for his future work which it is now necessary to provide for architectural students, the period of study must be lengthened. In common, then, with the Council and with the Advisory Council who have been consulted upon this important step, we may all look forward with confidence and interest to its success; all the more because a still further development is closely connected with this three years' course. It is that the student should enter the Royal Academy School for training upon its termination and during the time he is at work in an architect's office. The authorities of the

Academy have agreed to admit to the School without the usual examination, except in the subject of design, any of our pupils who have obtained their certificates in the Day School course. Thus, by the thing given in this building, supplemented the teaching at the Royal Academy, we shall have a continuous scheme of architectural education of the best and most interesting kind. It may be urged by some of our members and supporters, "But why combination with the Royal Academy? Why does not the Association undertake this advanced training itself?" To the reply to this is, that in advising certificated students to enter the Schools of the Royal Academy for the completion of their studies we are availing ourselves of a successful educational organisation of that distinguished body. We are advising them only to enter a school whose traditions of work are of the very best, but a school trained in a milieu essentially and vitally artistic. To master the principles of his art in a congenial atmosphere is, for the student, a matter of the first importance. The artist's vitality, so well known to those who have passed through the course of training at the Royal Academy, is probably owing to the excellent system, whereby the instruction is given by architects and artists, who act as visitors to the classes, and partly to the broadening influence of fellowship with young sculptors and painters, an association which frequently leads to friendships of lifelong, and also of professional, value, and tends to the formation of what I may call artistic character. There will, of course, be in our own training School advanced training of a very rough and carefully-prepared type. The training School has always been a great treasure in our work, and it is to be continued and much improved. In its lectures will be given which will be of use to all who are preparing for the Final Examination of the Royal Institute of British Architects. The work will be of an advanced character, but it will be more adapted for those who are only able to spend two years at the Day School and for those who are away in London for a comparatively short time. Turning again to the advantages offered to a student by the Royal Academy, I must point out that the prizes which can be gained for good work are of great value. The principal of them is, of course, the Gold Medal for Travelling Studentship for one year's study abroad, of the value of 200*l.*, which is awarded for competition every two years. Ever since its institution this prize has deservedly been the "blue ribbon" of the student's career. It is gratifying to read in the annual report of the Council for the past session, on page 216 of the new "Brown Book," that in the following prizes were won by members at the Royal Academy School, 1911-12:—The Gold Medal and Travelling Studentship (200*l.*), by Mr. Alan Bunning; First Prize of Architectural Drawings (First Prize 100*l.*), by Mr. W. L. Clark; an Architectural medal (Prize 20*l.* and Silver Medal), J. M. Hitehew; Set of Drawings of an Architectural Design (First Prize, 15*l.*, and Silver Medal), V. O. Rees; Second Prize (10*l.* and Bronze Medal), Cyril A. Farey. As this list includes nearly all the prizes open to architectural students in the Royal Academy you will, I am sure, join with me in heartily congratulating these successful competitors, and agree with me in thinking that it is apparent our School of Architecture has already made up its mind as to how it is intending to deal with this matter.

Studentships at the School at Rome.

But I should like to remind you here that the provision for the equipment of our architects of the future is not yet finished. As you all know, the foundation of studentships at the School at Rome is now an accomplished fact. No doubt the number of studentships compared with the number of competitors will be few, but, nevertheless, the institution of this important competition will tend to make our whole scheme of architectural education in this country more thorough, for, although all competitors cannot be winners of prizes, all may be inspired to do good work.

The Post of Registrar, etc.

I should also like to mention that, in order to increase the efficient working of our educational system, we have created a new post, viz., that of the Registrar. The Registrar may be called the Secretary of the School, and I believe that Mr. Scott-Holmes, who has been appointed to fill this position, brings to it just those qualities which are desired. I am glad, on this the first public occasion since the appointment has been made, to give Mr. Scott-Holmes a very hearty welcome on behalf of the Association. We have also in the last few months made some alterations in our building, which, we hope, will add to the comfort of our members. I refer particularly to the new members' room on the first floor and the redecoration of our meeting-room.

I regret that time will not permit me to speak to-night in any detailed manner of the many interests of the Association; for instance, of the meetings, the excursions abroad and at home, the "Sketch Book," the Camera, Sketch, and Debate Club, the Athletic Club, and others. I must refer you to the "Brown Book" for information about these. I will merely remark that we are looking forward to a year of much activity in all these matters.

The New Secretary, and the New Insurance Society.

But I will call your attention to two events which are recent and of interest to us all. The first is the appointment of our new Secretary, Mr. Yerbury. The Council and those members of the Association who know Mr. Yerbury, and the hard and good work he has done for the A.A. in past years, view this appointment with satisfaction. I feel I may say that he has the best wishes not only of our own members, but of the profession in general on his new appointment.

The second event to which I wish to draw your attention is important not only to some of our younger members, but to the many assistants and workers whom we find in architects' offices throughout the country. I allude to the new Insurance Society, which has been formed under the National Health Insurance Act, and which is called the Architects' and Surveyors' Approved Society. This Society has been created under the auspices of our Association in conjunction with the Royal Institute of British Architects, the Surveyors' Institution, and the Society of Architects. It has made a most excellent start, for a large number of members have been enrolled already. It is not only appropriate that under the new conditions imposed by this Act of Parliament that those working in our profession and in the profession of the surveyors, and who come directly under these conditions, should have a society of their own, but also that the formation of it should have originated with the A.A., for in our ranks a large proportion of the future members will be found.

Of course, most of these members will only remain under the Act for a short time, but their contributions during that period will allow for a gradual accumulation of necessary funds, which will permit of the granting of useful benefits to those who may require them.

For the formation of this Society our thanks are due to several of our members and to our Secretary, Mr. Yerbury. These gentlemen have given generously of their time, and have worked hard during the last few months to ensure the success of the new Society; and it must be gratifying to them to see the successful beginning which has been made. For the present the office of the Society is in this building, and Mr. Yerbury has superintended the initial work. A general meeting will shortly be held, when doubtless further arrangements made necessary by its growth and expansion will be discussed.

The Late Secretary of the Association.

In considering the progress which the Association has made during the past year we cannot but pause for a moment to remember the sad loss which we suffered so very suddenly last autumn. I mean in the death of Mr. D. G. Driver, who for so many years had worked with so much energy and enthusiasm in the interests of our society as its Secretary. It will, I am sure, be of

interest to you all to know that the kind response to the appeal issued by our Hon. Treasurer has enabled our trustees to come forward and make such arrangements as will best help Mr. Driver's widow and young children. In the death also a few months ago of Mr. T. M. Rickman, F.S.A., we have lost our senior member and Past-President. Mr. Rickman was elected a member of the A.A. in the year 1852. He was therefore one of its founders, and was President in the year 1854-1855. To the last he took the utmost interest in the doings of the A.A., and only last year I had a letter from him in which he regretted his inability through illness to attend the first meeting of the session.

The Real Purpose of Our Efforts.

My reason for devoting, however inadequately, this paper chiefly to the work in the School of Architecture is twofold—first, to point out the new development of our system; secondly, to remind ourselves of the purpose underlying all our efforts, namely, to help forward the course of our art, and to hand on the torch, as M. Gaudet has said, to our successors.

In my address last year I emphasised the necessity of our education being based upon the principle that art is unity; in the words of Alfred Stevens, "I know but one art." I referred also to the wise provision made many years ago in France by the great Minister Colbert for the education of the artists of his country in Paris and in Rome. I ventured to state that it was this very thorough system of training which helped Labrousse to build his library of St. Genevieve in Paris and his notable additions to the Bibliothèque Nationale, which helped Duban in his building at the Beaux-Arts and Duc at the Palais de Justice.

I think we may claim for the continuous course of training, including the advanced course at the Royal Academy which the Association has now adopted and which I have described to you this evening, that not only is it founded on the principle of the unity of art, but that, through its conjunction with the opportunity for further study offered by the British School at Rome, we are instituting a "very thorough system of training" in this country.

The opportunities for architectural work in the future promise to be many. Cities will be rebuilt, and new cities, at home and abroad, will be needed. It seems to me that no thought can be more inspiring to a young architect than that of adding to the beauty and nobility of our Empire and to the health and happiness of its inhabitants. The study necessary to make us fit to take our proper part in this endeavour is so wide, so illuminating and interesting, and the aim of it is so high, that we may well believe our profession to be of the noblest—one of those to which a man is proud to belong. To it we must bring the best accomplishment, the best work that is in us, all our imagination, all our vitality, and a genuine enthusiasm."

Mr. Paul Waterhouse,

in proposing a vote of thanks, said it was a good thing that the President should have spoken on the subject of education, for it was astonishing how few people gave time to consider what was going on in education. People did not realise what a remarkable process education was. It had given him much pleasure to be external examiner to the Association, and he had been much struck with the work going on in the schools of the Association. It had been a revelation of what could be done in the course of three or four years—he was surprised in comparing what men did at the beginning with what they did at the end of the time. The result showed that the work was well done, and that there was a sympathy between teacher and taught, without which the progress would be slower. The President had touched on a very interesting subject in dealing with the relation of pupillage to the education which was given in the Association, and he hoped with him that pupillage, or some substitute for it, would never be abolished. It was well to remind them what the generation behind him (the speaker) had done. They did a rather fine thing in setting architectural education going in the way they did, for up to that time teaching in architecture was practically confined to offices of men in practice, by means



The Moti Masjid (Pearl Mosque), Agra Fort. (See p. 434.)

of pupilage, which brought some grist to the architectural mill—in fact, it was profitable, in a way, to an architect in practice to have pupils, but the architects of that generation did not let that stand in the way of young men being better educated and educated better than their principals. They then set themselves to start what had threatened to be a serious rival to the old-fashioned system of pupilage. Whether that old-fashioned system continued or not was not of very great consequence to the future of architecture, but what was important was that, besides excellent academic education, there must be some arrangement by which young men should get in touch with architects in practice, whom they should regard as their fathers in art, and he hoped that nothing in modern methods of architectural education would interfere with that. Mr. Waterhouse then made feeling reference to the death of the late Mr. Driver and of Mr. T. M. Rickman. Mr. Rickman was a very old friend of his, and might almost be regarded as the father of quantity surveying. But, apart from that, he was a very scholarly, interesting, and kindly man, and an excellent geologist. He greatly regretted his loss. Mr. Waterhouse also referred to the A.A. Essay prize awarded to Mr. W. G. Newton, and said he had seldom read a competition essay which was up to the

level of that which had won the prize. In conclusion, Mr. Waterhouse said he joined with the President in hopes for the future of the Association, and thought that that future appeared very bright. He hoped that the A.A. students in the near future would make their mark in the direction indicated by the President.

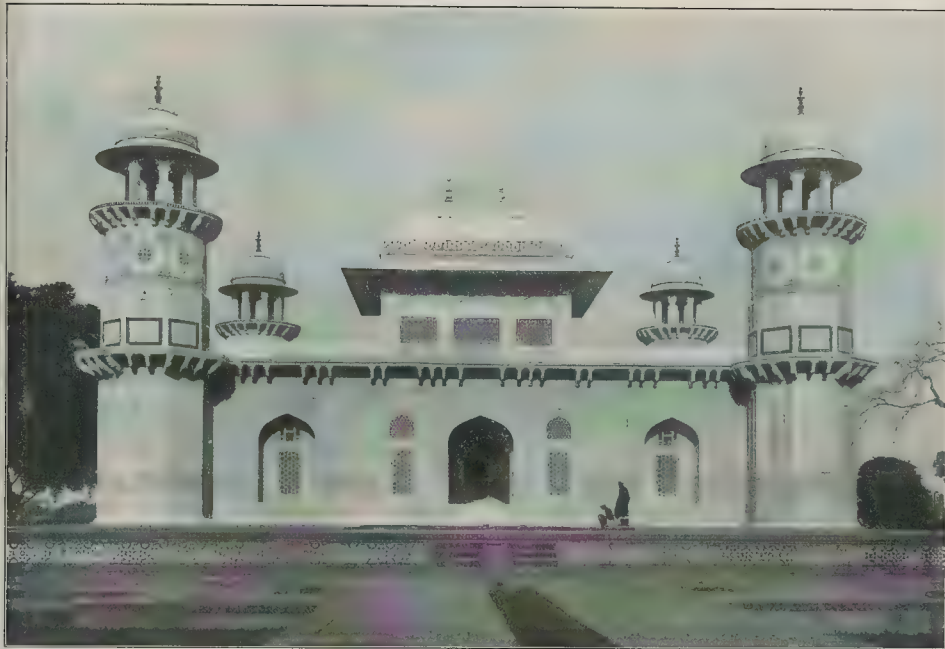
Mr. W. Curtis Green

said they all looked forward to that meeting more than to any other, and he wondered whether they should not do better to hold it at the end of the session, when they had earned it, rather than now, with their work lying all before them. They might then, on the wave of enthusiasm caused by the President's address, enlist men like the last speaker in the service of their affairs for the coming session. They wanted men pre-occupied with architecture as a living thing. They often thought their art unfitted them for routine affairs, but he felt sure that the Architectural Association would do this art as much good as they would do the Architectural Association. For, after all, architecture was concerned with the facts of life; they had only to read the history of Greece to be convinced of this. The President's address usually fell into two headings—the activities of the Association and the source

of inspiration or driving power of the student of architecture. Important as their domestic affairs were, that which interested them most was the force behind them. Once a year the President gave a glimpse of the vitality which endowed these activities with health and made for progress. This year he had given them a full account of the new third-year course in the Day School and of the bond between this School and that of the Royal Academy. Educational matters moved so slowly that the more they could unite and concentrate their efforts the further they would advance. He supposed that the little rivalries between the schools were but healthy signs of keenness, and yet he confessed a hope that they might see one great school of architecture for London. Meanwhile, the immediate concern was their own School. Under Mr. Maule's guidance it had for a long time been the most considerable school in the country, and the third year's course would still further strengthen it. The men that were passing on out of the School were also a source of strength to it. It was perhaps as well that it was only as they grew further advanced that they realised the nature of their adventure. Material things pressed upon them; efficiency and technique were hard to acquire; examinations overshadowed them. Yet those who looked for and learnt only the facts and formulae likely to be used in examinations, or in what was called professional practice, though they might advance themselves, would hardly forward the architecture of their time. It was not the fashion just now for our young men to dream dreams, or our old men to see visions; nevertheless, it was the imaginative outlook that mattered more than all else. Emerson said somewhere that the most surprising thing about a work of genius was that we recognised in it our own rejected thoughts; they came back to us with a certain alienated majesty, and he said that we must learn to detect and watch the gleam of light which flashed across our mind and not dismiss it because it was our own. For, if we thought of it, the justification for our existence as architects was that we produced beauty out of things in themselves commonplace, at the lowest order out of chaos. Those who did this had gathered facts and mastered the principles; they were so spiritually poised that they could place their facts, or arrange their units, each in its appointed and inevitable place, with the result that they produced works of art. He (the speaker) wished to refer to the debt that the Association owed to two of its members during the past year. The first, of course, was their President, whose never-failing tact



An Angle of the Fort, Agra.



The Tomb of I'timadu-daulah, Agra. (See p. 435.)

and engaging courtesy, together with a certain valuable wait-a-bit wisdom, had endeared himself to all of them. He had been the blithed corner-stone against which the bawry and headstrong had run without injury to themselves or the Association. The other man was their own Honorary Secretary, whom they were indebted for an unusually strenuous year's work. Mr. Hall had carried their affairs through difficult times with a certainty and ease which promised well for the future of the A.A.

Mr. W. H. Seth-Smith,
in supporting the vote of thanks for an impressive address, said that many of them had felt for some time that what was wanted was an advanced course which would approximate to the admirable system which obtained in France. The address had been largely devoted to the establishment of that advanced course, and he thought they might well congratulate the Association upon the policy initiated, and upon the progress made in moving what had been a very just criticism of our system in England. In the course of a short time there had been two new deparments—viz., the third year course of the Association, and, secondly, the School at Rome, which gave promise of providing a scholarship which was almost equal to the great Prix de Rome of France. As to the third-year course of the Association, it was to be hoped that it would tend in the direction of more monumental work, and would supply what was a real need here, and would prepare men for making the best use of the R.A. training. He could not help feeling that it was a distinct advantage to men who could see their way to continue in the Association schools, and to go through the more advanced course, and, if the Council could see their way to develop the course in the Evening School, it would be a great advantage to the men who were there; that was the alternative to joining the Royal Academy Schools. The later remarks in the presidential address interested him very much, for they opened a vista of possibilities which lay before all young members of the profession. It was of considerable importance for men to feel that not only would private clients be employing their services, but that, given the right abilities, they might be called upon to design cities. In fact, there

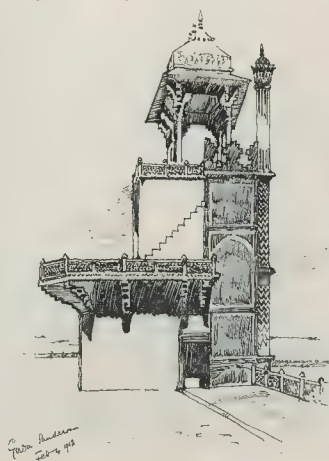
were three new cities to be built now a Canadian City, Delhi, and the Australian capital—and the great question to be considered was the principle governing the design of these new cities. They had all been interested in the discussion taking place in the Press as to the style of the architecture of the new city of Delhi, but the letter which interested him most, and which appeared to him to sum up the whole situation, and to give the real kernel of the question, was that by Mr. T. G. Jackson in the *Times* of the 11th inst. His words should be written in gold on the frieze of the Association's studios.

Mr. Walter Cave congratulated the Association on having secured the services of their President for another year. He (the speaker) was extremely interested about the announcement of the Royal Academy Schools. When he (the

speaker) was their President, he tried to arrange the matter, but there were insuperable difficulties at the time, and he was very glad they had been overcome, for it was what he had always wished. He thought it was desirable that the final training of their men should be in the hands of practising architects, and he did not think there had ever been such opportunities offered to young men as now. The Association Schools had good masters, and the work turned out showed greater and greater distinction, and that was what they should aim at, and then they would be able to earn the same tribute which was paid to Wren by Carlyle, who, having passed Greenwich Hospital again and again and not seeing it, one day had his eyes opened, and exclaimed: "That is the work of a great gentleman."

Mr. Arthur Keen said he yielded to no one in his sense of the importance and value of the work done in the Association Schools, for he believed it to be sound to the backbone, and carried out on the best educational lines. As to the general work of the Association, it was important that the educational work should not destroy the other interesting work which the Association had shown itself capable of. One thing he considered of very great importance, and that was that every opportunity should be given to men to get into close touch with one another in order that their work and abilities might become known to men who, later on, might be in a position to help them in life, and the value of an Association like theirs was especially felt in that way. The stimulus of acquaintances formed by association with other men engaged in the same occupation was very great, and in many ways mutual help was afforded.

Mr. H. D. Searles-Wood said he believed he was the oldest member of the Association present, and was very glad to be able to join in the congratulations to the President. He always believed in new blood for the Association, and while the prizes were being distributed he had been much struck by seeing the sons of old members coming forward to take their rewards. The Association ought to be run by the young men of the profession, and that was evidently what was being done and it must have been a great pleasure to the many



A Look-out Tower, Fathepur-Sikri.



The "Panch Mahal," Fatehpur-Sikri.

old A.A. men present to see their sons coming forward to receive prizes which, it might be, they themselves took in former years. He hoped this would always be the case, and, if it was, there would be no question about the future of the Association.

The vote of thanks, having been put to the meeting, was heartily carried, and Mr. Horsley briefly replied.

The President announced that the next meeting will be held on October 23, when a paper by Mr. Lawrence Weaver, F.S.A., Hon. A.R.I.B.A., entitled "Small Country Houses of To-day," will be read, and the Council's report and balance-sheet for session 1911-12 will be adopted. (Combined meeting with the Camera, Sketch, and Debate Club.)

Future Meetings.

The following is the syllabus of meetings following the meeting on October 23:

November 11.—"Marbles used in Greek, Roman, and Byzantine Buildings." Mr. J. A. Marshall.

November 21.—"Conversazione at 8 p.m."

November 25.—"The Prosaic in Architecture." Mr. Horace Cubitt, A.R.I.B.A., P.A.S.I.

December 9.—Joint meeting with the Art Workers' Guild. Subject to be announced. 1913.

January 13.—"Subject to be announced. Professor W. R. Colton, A.R.A."

January 27.—"The Architecture of Dublin." Mr. R. Caulfeild Orpen, B.A., F.R.I.B.A.

February 10.—"Subject to be announced. Professor W. R. Lethaby, F.R.I.B.A."

February 24.—"A.A. Excursion to Shrewsbury and District, 1912." Mr. Edwin Gunn, A.R.I.B.A.

* Combined Meeting with the Camera, Sketch, and Debate Club.

THE MOGUL ARCHITECTURE OF AGRA.

At a time when the question of the style for the new buildings of the capital at Delhi is being discussed, it is well to draw attention to the traditional work of the district, especially as in some quarters it is being urged that the Hindu lintol together with

they undoubtedly are, as are the later buildings of the Mohammedan invaders. These latter represent more closely the life of the people who built them, the buildings still left to us of the other styles being mostly temples. The daily life of the Great Mogul can be with facility revisualised from a visit to the palaces at Agra, Delhi, and Lahore. There he can be pictured, as some writer has aptly remarked, "in his dressing-gown and slippers."

The two great cities of northern India which are most famous for their Mogul architecture are Agra and Delhi; Amber, Multan, and Lahore are also remarkable for their Mohammedan buildings, but to Agra and Delhi, the former capitals of the Empire, the lover of Mogul architecture will primarily turn his attention.

Agra, the first capital of the great Emperor of India, Jallaludin Muhammed Akbar, contemporary of our own Elizabeth, is one of the most fascinating cities of the East. Its prime saw the golden age of Mohammedan rule in India; the rout of enemy after enemy, marriage alliances made by the Royal House with the great princes of Hindustan, and the Emperor's magnanimous spirit of religious tolerance.

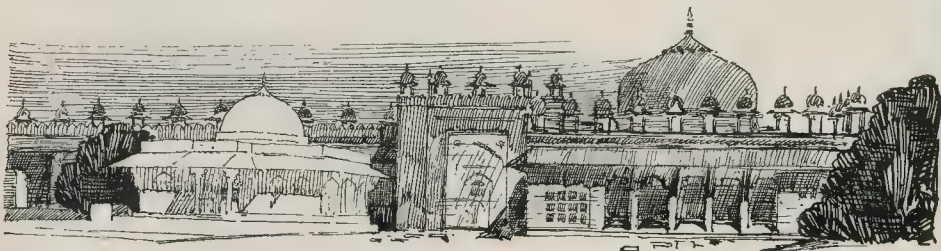
His legal and army reforms, his revenue assessments were unparalleled in the history of India, and his methods of administration, both social and political, were only imitated by our own countrymen several centuries later. Small wonder, then, that the arts and architecture flourished. As is seen in the buildings of the Great Emperor, Mogul architecture is the successful blending of the ancient Hindu style with that of the imported Persian. Akbar's son, Jahangir,



The Pigeon House and Hathi-Pol Gate, Fatehpur-Sikri.

the Mohammedan dome and arch forms should figure among the principal features of the new buildings.

The mind of the architectural world naturally turns to the former architecture of the country. Its more ancient Hindu and Buddhist monuments are not perhaps so full of interest to the architect, unique and magnificent in their way as



The Mosque, Courtyard, and Salim Chisti's Tomb, Fatehpur-Sikri.

little, compared with his father, in the way of setting up buildings, and it is to Shah and Shah Jehan, his grandson, whose passion for building was limitless, that India owes her most exquisite specimens of architecture.

Aurangzeb, the next Emperor, reached his throne by murder after murder, and, though a great ruler, he was of a fanatic disposition, and the Empire, under the rigid intolerance he practised, speedily broke up. The decline of the Mogul style of architecture set in likewise, and after his reign there is little found that commends itself to notice.

The Fort at Agra, begun by Akbar in 1566, and completed by Shah Jehan in the middle of the XVIIth century, affords an excellent example in which the various periods of Mogul architecture—which may be divided into early, middle, and late—can be studied. The simplicity and solidity of Akbar's early work, gradually coming more refined and decorative in the reign of his son Jahangir, and finally culminating in the almost feminine daintiness of the work of Shah Jehan, can be compared side by side in the Fort at Agra. The Pearl Mosque, whose three bulbous domes rest above it with an airy lightness, is indeed a "pearl" among the buildings of the world; it is built entirely of spotless marble (p. 432). We pass through halls of audience, now void of their throng of gaily-decked courtiers, and no longer echoing to the tramp of mailed soldiery, and suite after suite of private apartments, through shady gardens, the courtyards of the spoiled favourites of the harem, balconies that gave it on to the *fausse braye*, wherein the Royal elephants did battle for the amusement of their sovereign, until we reach the

octagonal tower, or Musamman Burj, formerly the boudoir of the Chief Sultana, a dainty gem in the crown of Mogul architecture. There are cool underground chambers wherein the scorching heat and glare of an Agra summer would not be felt, baths, and sleeping pavilions on the roof, in fact all the appurtenances of a luxurious

and gardens of the great statesmen of the court, some of which are still standing. It was usual for the owners to be buried in their former gardens, and the mausoleum of Mirza Ghyas Beg, I'timadu-daulah, situated in his old garden, is well known to all visitors to northern India. He was father-in-law of the Emperor and a powerful man at court. We reproduce a general view of this mausoleum (p. 433). On the other side of the river lies the Chattri of Rajah Jaswant Singh, a great Rathor Rajput who suffered much at the hands of Aurangzeb.

Baber's garden, perhaps the earliest Mogul garden in India, was also on the banks of the Jumna. Many of these pleasures have now, alas, given place to mills, waterworks, and the other necessities of modern civilisation, but here and there rise graceful kiosks—their cupolas, russet-tinged with the setting sun—eloquent reminders of a bygone Empire and the splendour of its court.

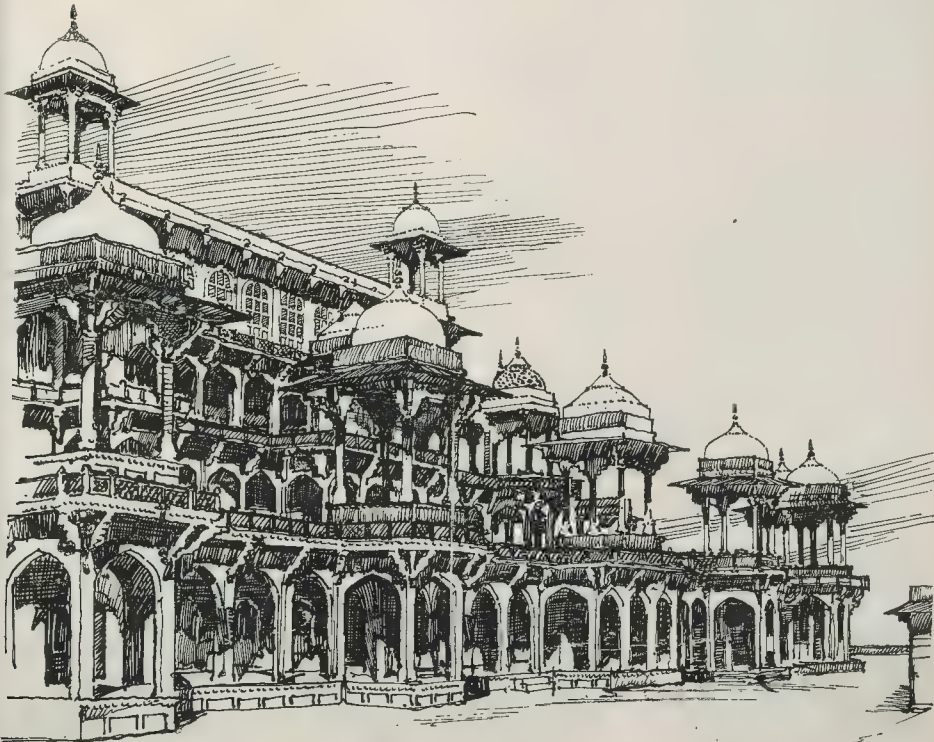
North-west from Agra ran the great Mogul road to Delhi and Lahore, marked by quaint milestones, its dusty route cheered at intervals by wells and caravanserais, wherein at night travellers could sleep without fear of molestation from robbers or wild animals. Some five miles from Agra along this road lies the mausoleum of the great Akbar, a truly fitting burying-place. "There is but one God, and Akbar is his Viceroy." Such was his first motto, and on his tomb is inscribed "Allahu Akbar," which can be read either as "God is Great" or as "Akbar is God." Unlike any other Mohammedan structure, it is indeed hard to tell whence came the idea for this building. Fergusson is of the opinion that a Buddhist monastery suggested it, and this is the most likely solution that has been yet offered.



The Tomb of Akbar, Sikandarab.

Eastern palace. The smallest details are not forgotten. The water outlets from the main reservoir, high up on the roof near the Emperor's sleeping chamber, are all marked with stone discs bearing the names of the rooms or channels to which they led, so that they could be turned on or off at will.

On either side of the river lay the houses



Akbar's Tomb, Sikandarab.



The Entrance to the Palace of Jodh-Bai.

Twenty-three miles from Agra lies Fatehpur-Sikri, whither, owing to the auspicious birth of his son Jahangir, Akbar transferred his capital from Agra. For a short time it was a scene of pomp and luxury, but he soon went back to Agra, probably owing to lack of water. To-day the buildings stand empty as they were abandoned and in excellent condition. The Panch Mahal, or five-storied palace, gives one a good idea of the richness of the architecture (p. 434). Its fifty-seven supporting pillars bear, each one of them, different ornamentation. Behind it can be seen the towering Buland Darwaza, the gate of victory erected by the Emperor to commemorate his conquests in Gujarat. Behind it lies the Mosque courtyard, and the white marble tomb of the patron saint of the place, Salim Chisti, in striking contrast to the colonnades of red sandstone which surround it.

The palace of the Royal Queen, Jodh-Bai, the Rajput princess who was the mother of Jahangir, ranks high among the Mogul buildings of India. A sketch of the entrance is reproduced on this page. The internal courtyard is simply treated, a feature being the deep, overhanging *Chajja*, or "Sun-shade," which, with the sun at meridian, shades more than half the wall beneath it.

The palace is singularly complete. There is a hospital with house for the resident surgeon, a pigeon-house, elephant and camel stables, a house for the master of the horse, wells, baths, and apartments for each of the Emperor's chief queens. The hall of private audience is of curious design. A central pillar supports a central sitting-place for the Emperor, while from it radiate galleries to sitting-places for each of his chief ministers. The walls, pillars, and brackets of the chief buildings are covered, yet not overloaded, with ornamentation, both floral and geometric, and in the house of the Turkish queen the dado is carved to represent a Himalayan wood scene, even birds and animals being represented, only to be mutilated in later years by the fanatical Aurangzeb, their representation being inconsistent with the tenets of Islam.

The road between Agra and Fatehpur-Sikri is the old Mogul one, and the old Mogul milestones, or *kos minars*, are still standing; but the vast throng of people, all the length of the road from Agra to Fatehpur-Sikri, which European travellers to the court of Akbar saw and recorded, has given place to the ubiquitous tourist doing Agra in two days and rushing out to the deserted city in a motor-car.

No drawing can do justice to that triumph of Mogul art, the Taj Mahal. The avenue of cypresses and the water in which its reflection falls, the reposeful garden, a fitting setting to the snowy marble of the platform and mausoleum, flanked at either side by contrasting groups of warm red sandstone, are all part of a monument whose purity of culture, delicacy of decoration, and faultlessness of proportion are unrivalled.

Erected by Shah Jehan, in memory of his

Queen, Arjumand Bano Begam, the Taj Mahal was eighteen years in building, and cost, roughly, two million pounds. The building possesses an individuality which makes it unlike any other architectural work. To the trained European eye, there is perhaps something about the Taj which is weak and luxurious, but, while admitting there is something of effeminacy and littleness in its design, there is that about the Taj which grows on the beholder the oftener it is seen.

From the level of the garden to the top of the dome the Taj is 243 ft. 6 in. in height. Its minarets are 137 ft. high.

The building to the west of the mausoleum is a mosque, that to the east being an exact counterpart of the other, but intended merely as a place of assembly for worshippers at the mosque or mausoleum. Of recent years much has been done to improve the gardens of the Taj. The central avenue, and in fact the whole garden, was, till some ten years ago, too closely planted, and vistas of the mausoleum were obscured. Judicious thinning out and planting with cypress-trees have greatly added to the beauty of the Taj garden.

LECTURES ON THE ARCHITECTURE OF THE RENAISSANCE IN FRANCE.

On Thursday, October 10, at 6 p.m., the first of the Carpenters' Company's course of lectures was delivered in the Botanical Theatre at University College, Gower-street. The Master of the Company was in the chair, and in introducing the Special Lecturer, who this year is Mr. W. Henry Ward, M.A., A.R.I.B.A., made some eulogistic remarks on Mr. Ward's recently-published book on the subject of the lectures. He remarked that it was a strange fact that

no work on this important branch of architectural history as a whole had previously appeared either in French or English, and that the work in question, which he predicted would long remain the standard authority, had laid architectural students under a great obligation.

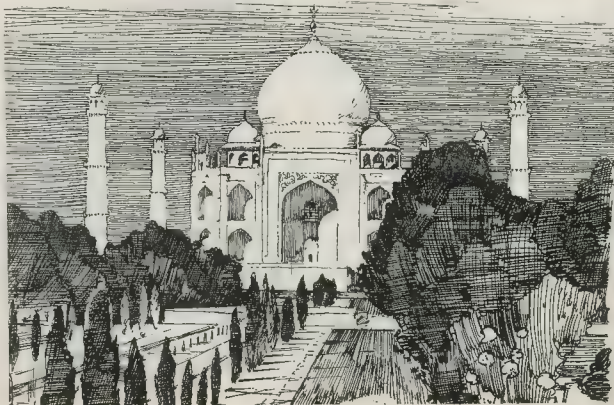
The lecturer showed how architecture has at all periods been the reflection of the ideas and movements of its time, and how the intellectual awakening of the Renaissance, which marked the arrival of the European nations once more at a state of mind similar to that of ancient Greece and Rome, was inevitably accompanied by an architectural revolution substituting lateral expansion, horizontality, spaciousness, and clarity for upward striving, vertical emphasis and mystery, and how the tendency to return to antiquity as a source of inspiration was assisted by the national aspirations of Italy, the first seat of the movement. He traced the course of Renaissance architecture in its early phases in Tuscany and Upper Italy, the development of the advanced or Roman phase at the close of the XVth century under the auspices of the Papal Court occupied with the rebuilding of St. Peter's, and its subsequent career in the twin spheres of Paduanism and Barocco often intermingling.

The lecturer then, passing to France, alluded to the degradation of the country during the Hundred Years' War and the subsequent revival, accompanied by the increased power of the monarchy and middle classes and the depression of the Church and nobility. He described the character of contemporary French architecture as an exaggerated expression of a medievalism which had lost its inspiration, when the masons lost themselves in ingenuities of design and dexterities of execution and sculpture grew ultra-naturalistic, producing an architecture characterised by verticality and unrest. He pointed out, however, isolated attempts in the direction of repose, regularity of setting-out, and the abandonment of pointed forms. He then outlined the agencies which introduced the ideas of the Italian Renaissance into France, both then and later, such as the French invasions of Italy, Italian architects and craftsmen working in France, French architects studying in Italy, Italian rulers of France, the patronage of the French Court.

The lecture closed by a description of the planning and character of the various classes of buildings habitual in France at the time of the Renaissance—the "château" in the country, still retaining much of its fortified character, its towers and moat and spiral stairs, the "hôtel" modified to the conditions of town life, the halls of the Corporations and Municipalities, the humbler houses of the *bourgeoisie*; and the reason for the relative increase in importance of domestic architecture as compared to ecclesiastical was explained.

The lecture was illustrated by numerous slides.

The Chairman having expressed his interest in the lecture, the Provost of University College, Dr. J. Gregory Foster,



The Taj Mahal, Agra.

a few words outlined the policy of the London University in regard to architecture. The premises of the Architectural Department were, he said, being at present rebuilt on the designs of Professor F. M. Simpson by the generosity of a benefactor, and a new building would, it was hoped, be available for the opening of the next session, when the schools now carried on separately at University and King's Colleges would be amalgamated.

ARCHITECTURAL SOCIETIES.

The Royal Institute of the Architects of Ireland.

A Council meeting of this Institute was held at 10, South Frederick-street, Dublin, on Monday last week. The President, Mr. A. E. Murray, R.H.A., F.R.I.B.A., was in the chair. There were also present:—Messrs. L. O'Callaghan, R. Caulfield, J. H. Webb, F. G. Hicks, C. H. Ashworth, P. Sheridan, H. Allberry, Professor Scott, G. C. Miller, and C. A. Owen, Hon. Secretary. The minutes of the previous meetings were read and signed. A large amount of correspondence was dealt with, including letters from the Nottingham Architectural Society, the Master Builders' Association, the Surveyors' Institution re Insurance Act. Several names in connexion with the election of Hon. Secretary and Hon. Treasurer were considered by Council.

Glasgow Technical College Architectural Craftsmen's Society.

At the last meeting of the Glasgow Technical College Architectural Craftsmen's Society, Mr. A. F. Purdie, President, Mr. A. N. Aiterson, A.R.S.A., F.R.I.B.A., delivered a lecture on "Scottish Architecture, XVth to XVth Century." He referred to the usefulness of the study of architecture towards an understanding of the history and character of a nation. In the case of Scottish architecture, the influence of national life and thought, and at the same time of the close relationship with France, was not so evident as might have been expected. An analysis of the earlier history of Scotland together with a discrimination between Scottish architecture and architecture in Scotland, showed why this should be the case, and that in fact no approach to an indigenous style existed in the country until the XVth century. All building during the Middle Ages was towards one of two ends—ecclesiastical or military. He showed the emergence of a Scottish style in church building towards the close of this period, with special reference to the French characteristics displayed in it, as illustrated by such examples at Glasgow, Dunkeld, and Iona Cathedrals and the parish and collegiate churches of St. Monary's, St. John the Baptist, Perth, Rosslyn, etc. Interest was transferred from church to house building by the beginning of the XVth century in this country. In France and Scotland domestic architecture was a direct development from the military type of earlier days, while in England this was departed from in favour of the manor-houses. The Scottish house of the XVth to the XVIIth century was described; its origin traced to the Peel towers, with a description of that and the special features in plan and design which were grafted upon it, the crowsteps and corbelling, gables and turrets, with illustrations from several early examples, and many later variations of the XVth and early XVIIIth centuries. The Renaissance influence reached this country through France. The first evidences were in the Royal palaces of Stirling and Falkland under James V. It was slowly adopted in later work, till, with the union of the Crowns, the French influence was submerged in that of the English Palladian, as evidenced in the work of Kinross and the elder Adam, to disappear almost entirely in the following century.

Manchester Society of Architects: Presidential Address.

Mr. John Brooke, the newly-installed President of the Manchester Society of Architects, delivered his inaugural address at a meeting of the Society on the 9th inst. Town planning, he said, was admirable in its intention, but was beset with much difficulty in its practical development, and its progress must necessarily be slow, especially in connexion

with town improvement, owing to the great cost which it entailed and the disturbance of vested interests. The greatest difficulty would be the provision of houses for the artisan and labourer class. That difficulty arose through the limited rentals which they were able to pay and through the increasing cost of building. It would almost appear that this class of house would have to be provided by local authorities or by the aid of the State, for the individual could not build to produce the necessary return on the capital invested. He condemned the tendency of local authorities to employ members of their own staffs as architects of public buildings. It was a great hardship to the ordinary practitioner, and, moreover, he thought it could be shown that it was wasteful and that it led to humdrum methods. But he feared that the tendency would increase, notwithstanding the protests that had been made. The system of public competition for architectural designs, with the loss of both money and labour which it entailed, grew, and even for buildings which involved small expenditure it was not uncommon to find a hundred or more designs submitted, the total cost of producing which would probably approach to nearly the amount which was to be spent on the building. He knew no parallel to this waste of labour and money in any other profession or business. These public competitions resolved themselves into lotteries, mixed with a strong element of the gambling spirit, and only relieved from criminality by being a game of skill. They had also the drawback of being probably less profitable than most other forms of gambling. The only really equitable form of competition was the limited competition, where each competitor was paid a suitable honorarium.

Several important problems in the development of the city were now being considered. "There is the question," he continued, "of the settlement of the purpose to which the Piccadilly site shall be used, whether for a new art gallery and library or for commercial purposes. It is difficult at present to see what will be the ultimate decision. It will be regrettable if the claims of art and literature, as a necessary part of the intellectual welfare of the city, should be ignored. Commercialism should not override the claims of culture, and art and literature are a necessary part of city life. 'We cannot live by bread alone.' Combined with the question of the use of the old Infirmary site is the matter of providing Exchange accommodation. A satisfactory extension of the present Exchange does not seem very convincing, and the building of a new Exchange would probably be the best solution if the question of vested interest can be satisfactorily settled.

As a possible site for a new Exchange, I do not think sufficient consideration has been given to the site in close proximity to the present Exchange—namely, the plot of land bounded by Corporation-street on the west side, Cannon-street on the north side, and Market-street on the south, up to New Brown-street, or as far eastward as may be required for the purpose. This position is now covered by property of a more or less ruinous and derelict character, and the land might be obtained at a comparatively low price. It would be a most important and desirable city improvement, and would give every facility for the provision of north lights, for the sale of cotton and for the other requirements of an Exchange, and would have the great advantage of causing little disturbance to street traffic during construction, and also of not affecting seriously the marketable value of existing property, which a more distant removal of the Exchange would involve. But much consideration is still necessary before a practical conclusion of this matter can be arrived at, and I fear there will be much delay before any definite steps are taken."

A hearty vote of thanks to Mr. Brooke was accorded on the motion of Mr. Dunkerley, seconded by Mr. Ogden.

BOOK RECEIVED.

THE ANNUAL OF THE BRITISH SCHOOL AT ATHENS. (London: Macmillan & Co. 25s. net.)

BOOKS.

The Sculptures of the Parthenon. With an Introduction and Commentary by A. H. SMITH, M.A., Keeper of the Department of Greek and Roman Antiquities in the British Museum. (London: The British Museum. 1911.)

THIS exhaustive work was projected by the late Alexander Stuart Murray, formerly Keeper of the department over which Mr. Arthur Hamilton Smith now presides, and partly begun during his lifetime. Sir Cecil Smith, who succeeded Mr. Murray, widened the scheme, hitherto confined to the marbles in the British Museum, so that it now includes all accessible fragments of the Parthenon sculptures. In pursuance of this plan the numerous casts now to be seen in the Elgin Room from the parts which remain at Athens were acquired. This measure, however, did not yet render the collection complete. Much of the sculpture remains unmodelled—notably many of the metopes still in position in the Acropolis Museum. These parts have, however, been photographed, and the plates are reproductions of enlargements, very carefully executed. Dr. Camillo Praschniker, of the Austrian Archaeological Institute, has communicated his restorations and notes and photographs of the Acroteria. Mr. J. E. Platt, of the Royal College of Art, contributes his restoration of the Artemis and Aphrodite group on the east side of the frieze. So that the work is, as we indicated at the outset, exhaustive, in the literal meaning of the term, as regards all the extant portions of the Parthenon which may be termed sculpture. Of sculptures in the round, views both before and behind are given. The invaluable drawings of the Pedimental groups by Carrey (1874) are reproduced in Mr. A. H. Smith's Introduction, together with photographs of the whole building, reproductions of the plan and a drawing showing construction. Old cuts show the explosion (1687) and the former condition of the ruin (1766), all built around with Moslem domes and other humbler buildings. Drawings from vases illustrating analogous groups are adduced to help and guide conjecture with regard to the parts that have disappeared. Mr. Smith's account of the Panathenaic Procession and the Pediments, together with the varied theories advanced, is unimpeachably lucid, and avoids the dogmatism and consequent acrimony with which so many scholars frustrate the fruition of their labours. The smallest fragments are enumerated with a care illustrative of the spirit of modern archaeology that will put together what remains of a fallen statue as scientifically as does a zoologist the few scattered bones of an extinct animal. The portfolio contains ninety-two plates comprising more than 320 subjects, which, with the 133 illustrations in the text, make a collection that may be justly termed complete. The fragments are collated and catalogued with great care. The whole work is sold in a strong portfolio, the Introduction alone being bound.

Architecturally, and as regards the architectonic qualities of the Parthenon sculptures, pediments, metopes, and frieze, there remains perhaps little to be said for the present. Of such work each age will form its successive estimate. And practically all that remains to be discovered to enable a technical estimate to base itself on data virtually complete is the grouping of the centres of the pediments—the treatment, that is to say, of the supremely difficult, and in the Parthenon probably the supremely triumphant climax of the building, sculpturally, at either end.

Le Parthénon. Introduction par MAXIME COLLIGNON, Membre de l'Institut, Professeur à l'Université de Paris. Photographies de Frédéric Boissonnas et W. A. Mansell & Co. (Paris: Librairie Centrale d'Art et de l'Architecture, Ancienne Maison Morel, Ch. Eggmann, Succr., 106, Boulevard Saint-Germain.)

We believe we are right in saying that the first part of this work appeared in 1910, and, to the best of our knowledge, the whole is not yet published. The promised Introduction by M. Collignon is not yet to hand; and we gather that there are still more plates to come. For, although we have received 118 altogether, they are numbered up to 136. We conclude that there are to be 140-50 plates in all; but feel that we can delay some account, due to our readers, of so important a work no longer.

The British Museum publication on the

Parthenon sculptures (noticed above) is a work for archaeologists and sculptors principally, and of interest to architects only in a secondary degree. The production now under consideration, however, is intended primarily for architects. It is another recruit to the growing company of substantial portfolios of photographs illustrating one building, which the French houses produce so splendidly.

It opens with fine views of the Acropolis and a plan of the Parthenon (double plate), taken through the upper diameter of the columns and very carefully drawn, so that the inclination of each column is shown. Then come photographs of the building from every point of view. There are photographs of the curve of the stylobate and of the architrave; of drums of the columns as they lie on the ground showing the method of fitting and dovelling used; of the cornice, mutules, and guttae in detail. A drawing showing the columns, with a section through, and details of the entablature, all figured, concludes the first portion.

The second and third are devoted to the metopes and some of the pediment figures, with views of the ruined entablature from above, and other drawings. The fourth, fifth, and sixth, to the frieze (Carrey's drawings are shown) and what details—bronze dowels, for instance, and the pavement and foundations—had not found a place before. The editor was perhaps well advised in issuing samples from all parts of his comprehensive scheme with his first instalment, instead of leaving the full scope of his production to be revealed only with the last.

This portfolio is wonderful in many ways—whether one thinks of it as the complete graphic presentation of what remains of the most wonderful building ever raised or merely as a series of photographs of an exceedingly difficult subject. The enterprise and grasp of their problem shown by these responsible for the initiation and prosecution of the undertaking is of the degree to which words can hardly do justice. We can only hope and trust that it will meet with the material reward which it deserves. As to the skill and science of the photography, perhaps if we say, in all soberness that it is worthy of its subject we may convey some conception of the place it holds in our estimation.

Colour in the Home. By EDWARD J. DUVEN. With forty-four full-page illustrations, of which thirty-two are in colour. (London: George Allen & Co., Ltd. Price 2s. 6d.)

The name of Duvén has been for so long associated with decoration that we anticipated a more practical application of "Colour in the Home" than this handsome volume presents us with. The philosophy of taste and the philosophy of colour both have their interest, and the appeal they make to the author is evidently a strong one. But we are somewhat sceptical regarding their authority in practical affairs. Goethe's philosophical turn of mind led him into abysses of error upon the nature of colour, and what is correct and what is not in matters of taste is highly controversial. Science appears to be the last thing that will help us, except as Whistler used that term when he deplored "the taste of the tradesman" supplanting "the science of the artist." The artist "knows" as surely as the man of science, but the eye has not been brought into subjection so completely as the reasoning faculty, and his powers of carrying conviction are consequently limited. The author bases some of his colour schemes upon the colours displayed upon the wings of the butterfly. We believe this to be quite a sound adventure, and, though not entirely a new one, it might be more frequently undertaken than it is. But the display upon the moth's wing is more simple, and has always seemed to us more applicable still. The ranges of grey relieved by touches of primrose, or perhaps by one tiny spot of crimson, present harmonies that may prove a valuable incentive to the decorator, the more so that they are opaque in their texture. The book informs us how the leading lines of decoration may transform the proportions of a room, increase its apparent height or length, and render awkward features less noticeable. We learn something, too, about backgrounds for pictures, if not as much as we should wish to. We thought possibly we might find an authoritative opinion upon the

vexed question of crimson or green for the walls of our national galleries. Perhaps the finest effect as a background which we have seen was executed by a painter—a painter of easel pictures, not a decorator. The crimson was carefully painted with the gradations necessary to relieve it, that relief which is sought and not attained by the use of an embossed pattern upon the covering. But Mr. Duvén is, we are glad to note, "down upon" the practice of picking out mouldings, the common device, or we would rather say vice, of the so-called "decorator," and his warning against introducing blue into any colour scheme that is not going to be pursued to its utmost limits is also salutary. We remember that William Morris was also incisive in this particular, as he also was upon the uses to which yellow was put without proper regard to the material. Silk alone could, in his opinion, give to yellow its full value.

Although some readers may find the parallels between blue and the key of C and orange and the key of F rather beyond them, they will find interest in following the author amid other aspects offered by his subject.

GENERAL NEWS.

The Lord Mayor Elect.

On Saturday, October 12, the Lord Chancellor received Sir David Burnett in the Prince's Chamber, House of Lords, and there signified the King's approval of the citizens' choice. Sir David Burnett entered the Common Council in 1888; he was elected Alderman of Candlewick Ward in 1902, and in 1907-8 served as a Sheriff of the City. He is an auctioneer and surveyor, a principal of the firm of Messrs. Edwin Fox, Bousfield, Burnetts, & Baddeley, of Gresham-street, a Fellow of the Surveyors' Institution, one of the official surveyors to the Board of Trade, and surveyor to several public bodies and undertakings.

H.M.'s Office of Works.

The Secretaryship rendered vacant by the resignation, through ill-health, of the Hon. Sir Schomburg McDonnell, K.C.B., has been conferred upon Mr. Lionel Earle, C.B., C.M.G. Mr. Earle was born in 1866, and was educated at Marlborough, the Universities of Göttingen and Paris, and Merton College, Oxford. He was an Assistant Secretary to the Royal Commission, Paris Exhibition, 1898-1900, and acting second Secretary of Embassy, 1900; and in 1900-10 was Private Secretary, in turn, to the Lord Lieutenant of Ireland, Lord President of the Council (Earl of Crewe), and the Secretary of State for the Colonies (Earl of Crewe and L. Harcourt).

Thomas Pennant's Library.

It is stated that Lord Denbigh is about to dispose of the library and collections of Thomas Pennant, which are preserved at Downing Hall, and were acquired by the late Earl of Denbigh through his marriage to Pennant's great-granddaughter and heiress, Louisa, daughter of David Pennant, of Downing, Co. Flint. Downing Hall, near Holywell, was the birthplace and home of the famous antiquary and collector, who died in 1798. The library is rich in rare first editions and presentation copies, in addition to the several thousand volumes relating to antiquities, topography, and natural history, and a store of MSS. There are also some perfect specimens, recently identified, of cinerary urns of the Bronze Period.

Shakespeare Monument, Southwark Cathedral.

Mr. Henry McCarthy has designed and executed the memorial which will be unveiled on November 4. The design is that of a Gothic shrine in which is a life-sized alabaster figure of the poet, in a semi-recumbent attitude, the likeness being adopted from the Dorothea portrait. At the back of the effigy is a panel representing Old Southwark in relief, with a portion of (old) London Bridge, St. Saviour's, the Clink, and the Globe playhouse. Five armorial shields are carved upon the base of the monument.

Wallace Memorial, Elderslie.

The memorial to Wallace at his birthplace, which the London Rentfrewshire Association have erected in proximity to the "Wallace Yew" and "Wallace House," upon a site given by Mr. A. H. Speirs, of Elderslie House, is

in the form of a Cross-Mercat. The design by Messrs. John C. T. Murray & J. A. Minty, of Westminster, and formerly of Glasgow, presents many national symbols and emblems, amongst them being the sculpture of thistles around the base, the two-handed sword on the memorial shaft, the Scottish crown, and the coat-arms of the kings of Scotland and of Douglas and Bruce.

The Road Board.

During the months of July, August, and September, 1912, the Road Board, with the approval of the Treasury, have made advances amounting to 172,703L. from the Road Improvement Fund to County Councils and other highway authorities, as follows:—For road crust improvements, 136,724L.; for road widenings and improvement of curves and corners, 5,422L.; for road diversions, 407L.; for reconstruction and improvement of bridges, 19,000L.; for construction of new roads and bridges, 11,150L.

CORRESPONDENCE.

Cross Traffic.

SIR.—With reference to your "Note" in the issue of September 27 last on "Hyde Park Corner points," the subject generally, it is reckoned, is one of the most pressing in the solution of the traffic problem.

Some time after the Royal Commission reported, I made a suggestion to the authorities in regard to the "Bank" points. It was to the effect that a 50-ft. "one-way road" round a disc as a centre would probably serve in directing traffic sufficiently to dispense with holding up and the consequent intermittent blocks.

I learned afterwards that the suggestion was not original, and since then it has been illustrated in the Press. It has been proposed that it should be tried at Holborn circus, but nothing has come of it.

My object in writing you now is to suggest what appears to be an ideal spot for an experimental application, viz., Oxford circus. One hundred and seventy feet in diameter, it has pavements 15 ft. wide. If a temporary disc of flooring—say, 40 ft. or less in diameter—were placed in the centre of the circus, a circular roadway 50 ft. wide would be formed; so that with traffic "wheeling," as it would need to then, there would be sufficient width nominally for five streams and the vehicle standing.

Now, if the neighbourhood be examined (Oxford-street), where there is a cab-rank it will be found that where a vehicle stands opposite a shop the whole traffic is confined practically to a single line. Progress past a given point is thus slow, and slower with the single line blocked by slow-moving traffic. When held up at the points a long string is formed, and no progress is possible for some time.

Under the new conditions there would be no block at the points, as "slow" and "fast" traffic could proceed abreast and straight ahead without obstruction. There would also be room for the vehicle standing at the shop and for the one going athwart round the disc—that is, from Regent-street to Oxford-street or vice versa, through three-quarters of the circle.

It would be enlightening to hear any objections to what appears feasible enough, quite simple, and not expensive in application experimentally. O. B. I. T.

INTERCOMMUNICATION COLUMN.

Modern Stained Glass.

SIR.—In reply to your correspondent, Mr. E. A. Collett, some good examples of modern stained glass may be seen in some of the City churches—St. Paul's Cathedral, Westminster Abbey, and St. Margaret's, Westminster. Some smaller work, more nearly approaching the XVth-century glass in effect, is in the Lady Chapel of the Church of "The Holy Ghost and St. Stephen," Shepherd's Bush, and in the rose window over the high altar in the same church. Another good example is at Exton Church, Hampshire, a one-light window showing a unique treatment of "Lux Mundi."

HAROLD GRIFFITHS, A.R.I.B.A.

ILLUSTRATIONS.

The Church of St. Barnabas, Mitcham, Surrey.

THE church is to be erected for the district which is being worked by the City of London School Mission upon a site in Gorrington Park, Mitcham, secured some ten years ago, upon which a church hall has already been built at a cost of 3,000.

The site is square in shape, with roads on the sides, and the church is to be placed towards the southern boundary, a sufficient plot being retained for a future vicarage on the northern side. The church will consist of a nave with north and south aisles, and will be seating accommodation for 830 persons. The nave and chancel are of the same width and height, and there is no barrel arch. The internal length of the church is 135 ft. 6 in., and the width of the nave is 25 ft. 6 in. The walls of the aisles are tied up to nearly the height of the nave. The pointed ceiling of the nave and chancel will be of fibrous plaster, the ribs springing from stone springers, while the lower roofs of the aisles will be wood barrel vaulted, the beams and main timbers being of English oak. The eastern wall is buttressed internally, the buttresses being pierced at low floor level to form a passage behind the high altar from the vestries to sacristy, and again below the windows at a height of about 20 ft. from floor level. At the east end of the north aisle are the vestries with the heating chamber and fan-room below, and the organ loft is over the choir vestry. A morning chapel, convenient for small congregations, is at the east end of the south aisle. The font stands at the south-west and the pulpit at the north-east corner of the nave.

A high saddle-back, stone-roofed belfry is sited at the east end of the church, providing a full peal of eight bells. Externally the walls will be of purple-brown Crowborough tiles and stone, and the roof covered with red tiles.

Simplicity of design and high proportions have been relied upon to give a character of impressiveness, and much architectural detail has been avoided.

The architect is Mr. H. P. Burke Downing, R.I.B.A., of Westminster.

Stained-Glass Windows at Kharitoun Cathedral.

Six lights illustrated on one of our Plates from the designs of Miss Esplin, an artist well known for the decorative quality and hiftocratic character which distinguish her work, whether in an ecclesiastic or domestic setting. These windows have been recently bought and placed in position in the new London Memorial Cathedral, at Kharitoun—a noble modern building, the architect of which is Mr. R. Weir Schultz. The Cathedral was illustrated in our issue of September 11, 1909. These lancet lights, seven in number, measure 10 ft. high and 10½ in. wide, and they are disposed in a row across the chapel at a height of 10 ft. from the floor. Between them and the outside wall runs an ambulatory, 6 ft. wide, with openings to admit the light. There are, however, only six openings to the seven windows, the light in each case indirect—a device for keeping the church cool and offering no protection against dust storms from the desert. So intense is the Eastern light that a glass is found sufficient to give full value to the brilliancy of the glass, which is a varied scheme of strong primary colouring.

The subjects of the windows, as seen in the illustration, are, from left to right:—

1. *Abraham*, holding the sacrificial knife and the ram, round which cling the thorns of the thicket. The child Isaac carries the bundle of logs for the burnt offering.

2. *St. Paul*, a figure in rich purples, with a peculiar emblem of the sword and the scroll of the Epistles.

3. *St. Mark*, who, as first Bishop of Alexandria, is of local interest, and is shown in episcopal vestments of ruby and gold.

4. *Christ in Glory*—the centre light. A traditional figure, with the fingers of the right hand raised in benediction, and in the left the orb of Sovereignty, on which are the sun, moon, and stars. The gold mantle is enriched with the vine pattern ("I am the true vine").

5. *St. George*. This saint, who is of Eastern origin, was adopted by Richard Cour de Lion

on his crusade. He is held sacred among the native races of Egypt, and on that account his place on the English sovereign is of peculiar interest to them. The colouring of the window is mysterious. The green head, scarlet tongue, and white teeth of the dragon shine out from the indistinguishable coil of his scaly body, and the deep ruby of St. George's cross and special device of roses show up in bold relief on the white ground of the shield.

6. *St. Philip II.*, the Deacon, who, as it is recorded in the Acts of the Apostles, converted the Eunuch of Queen Candace of Ethiopia. He wears a deacon's vestment of white and gold, and carries a jewelled cross.

7. The final light, which it has not been possible to include on our Plate, is *Moses*, holding the Brazen Serpent of Healing and the Tables of the Law.

It has not been Miss Esplin's object to portray incident in these windows, it being rather her idea that in the restrained medium of stained glass the story can be better told and invested with fuller meaning by the use of symbols than by any pictorial effort.

Other windows by Miss Esplin, illustrated on this page, are those in the Church of St. John the Divine, Richmond-on-Thames. These, in keeping with their position on the south wall of the Lady Chapel, represent two aspects of the Madonna. In the first light the young Virgin, looking forward (Spei Fons Future), and clad in light blue, holds a crimson rose, the symbol of Christ. Behind her the lilies of her emblem rise into a shining cross, and a radiance comes

down from above. The contrasting light is the "Mater Dolorosa," dressed in sombre blacks and purples, and cherishing a bleeding heart. In this window the cross is the Cross of Christ encircled by the Crown of Thorns and nails of the Passion. These windows are part of a general scheme of decoration for the walls and ceiling of the Lady Chapel which Miss Esplin has in hand.

In the Parish Church of Spitalfields, a church famous as the masterpiece of Nicholas Hawksmoor, are to be seen decorations by Miss Esplin in the form of mural paintings, a window and chancel panels. The latter are in ivory-tinted gesso and gold, with emblematic devices in bold relief on a delicate background of rose pattern. The paintings, representing "Christ, the Good Shepherd," and "Moses," are executed in tempera on a gold background. The figures are over life-size, and are situated at a height of 40 ft., where Miss Esplin worked at them on a scaffold. Between them, on the same level, is the window.

There are wall paintings by Miss Esplin in St. Andrew's Church, Thornton Heath, and it will be recollected that her design of the "Nativity" as part of the scheme of mural decoration in the Lady Chapel of the new Church of St. Jude-on-the-Hill, Hampstead Garden Suburb, was selected in open competition at the recent exhibition at Crosby Hall. Examples of domestic decoration by Miss Esplin are roundels in stained glass illustrating subjects from Chaucer, Spencer, and Shakespeare, which are to be seen in a house overlooking the Clyde. By introducing a roundel into the head of each light it is possible to get a charming decorative effect without obscuring either the view or the light—an arrangement frequently favoured by the craftsmen of old, and one which might with advantage be more universally adopted to-day.

Baroque Architecture.

The illustrations of Venetian buildings are in connexion with the fifth article on "Baroque Architecture," which begins on p. 441.

MEETINGS.

SATURDAY, OCTOBER 19.

Institution of Municipal and County Engineers. North Wales district meeting at Wrexham.
Institution of Municipal Engineers (Yorkshire and Northern Districts).—A joint meeting will be held in Harrogate.

MONDAY, OCTOBER 21.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., R.I.B.A., on "Building Sites, Construction, and Sanitary Planning." 7 p.m.
East India Association.—Mr. E. B. Havell on "The Building of the New Delhi." 4 p.m.
Liverpool Architectural Society.—Presidential address. 6 p.m.
University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Romanesque Architecture in Central Italy." 5 p.m.

TUESDAY, OCTOBER 22.

University of London (British Museum).—Mr. Kaines Smith, M.A., on "The Sea Kings of Crete." Lantern illustrations. 4.30 p.m.

WEDNESDAY, OCTOBER 23.

Royal Sanitary Institute.—Mr. Alan E. Munby, M.A., R.I.B.A., on "Ventilation, Warming, and Lighting." 7 p.m.
Manchester Society of Architects.—Mr. Halsey Ricardo on "Growth in Architecture." 6.30 p.m.

THURSDAY, OCTOBER 24.

Sheffield Society of Architects.—Mr. F. Radcliffe on "The Use and Misuse of Materials."
University of London (British Museum).—Mr. Banister Fletcher on "The Temples of Egypt." Lantern illustrations. 4.30 p.m.
University of London (Victoria and Albert Museum).—Mr. Kaines Smith, M.A., on "The Underlying Principles of Architectural Decoration." 5.30 p.m.

FRIDAY, OCTOBER 25.

The Institution of Municipal Engineers.—General meeting. 8 p.m.
The Royal Technical College Architectural Craftsmen's Society, Glasgow.—Mr. W. H. Baxter on "Some Effect of Recent Legislation on the Building Trades."
Royal Sanitary Institute.—Mr. W. E. Fretwell on "Details of Plumbers' Work." 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 468.

Cheshunt College, Cambridge.

Eight architects have been engaged recently in a limited competition for the new Cheshunt College, Cambridge. Sir Aston Webb, R.A., the assessor, has selected the design of Mr. P. Morley Horder, R.I.B.A., and the Governors have accepted this award.



Windows in the Church of St. John the Divine, Richmond-on-Thames.

By Miss Mabel Esplin.

Proposed Kuraal, Folkestone.

It is proposed to erect a kuraal or band pavilion on the cliff below the Leas, between the existing shelter and Clifton-crescent. It is proposed that architects should be asked to send in designs, three premiums of 100 guineas, 50 guineas, and 25 guineas respectively to be awarded, although the Council will not bind itself to accept any plan. The cost of the pavilion is not to exceed 20,000.

Industrial Design.

The Council of the Royal Society of Arts hold a sum of 400l., the balance of the subscriptions to the Owen Jones Memorial Fund, presented to them by the committee of that fund in 1876, on condition that the interest thereof be spent in prizes to "Students of Schools of Art who, in annual competition, produce the best designs for household furniture, carpets, wallpapers and hangings, damasks, chintzes, etc., regulated by the principles laid down by Owen Jones." Competitions under the terms of this Trust have been held annually since 1878. The next award will be made in 1913, when six prizes are offered for competition, each prize to consist of a bound copy of "The Leading Principles in Composition of Ornament of Every Period," from the "Grammar of Ornament," by Owen Jones, and the Society's Bronze Medal.

MAGAZINES AND REVIEWS.

The *Antiquary* contains an article by Mr. J. Taveron Perry on "The Sanctuary and Basilica of S. Martin at Tours," with a good plan showing the different periods of its architectural history, an account based on personal observations made during two visits to Tours in 1864 and 1866. This church, as we need hardly say, is of the greatest interest, being an important link in the history of the Chevet, coming as it does between the Church of Charroux and the completed form of the XIIth-century cathedral. The eastern limb of Charroux obviously recalls a circular type of building, with its accompanying recesses or niches. At Tours the apsidal termination has become an accomplished feature.

The *Architectural Record* is devoted to a review of country houses, with numerous illustrations. The waning of Richardsonian influence is obvious, yet there is something of this discoverable in the stone examples from Pennsylvania. Twenty years ago this influence, if sometimes displayed with extravagance, was also productive of much that was essentially characteristic. It is doubtful if the new forces which are at present operating on American architecture have yet achieved a domestic style. The classic loggia, reminiscent of the Beaux-Arts, jostles not quite harmoniously with humbler features. Georgian Colonial, Spanish Mission, Southern and Dutch Colonial, these styles, we are told, are all elements that are moulding domestic design. Yet the characteristics of the modern French villa are apparent also. This foreign influence is deplored by one of the contributors as sapping all individuality. Designs submitted in competitions, he says, have so much in common that, whereas formerly it was possible to distinguish immediately the work of this or that craftsman, the hall-mark of any particular competitor has now ceased to exist. This criticism applies, we gather, to the typical Beaux-Arts design, but this levelling influence is calculated to affect creative power in every direction, save where the individual element is potentially the superior. Mr. George Moore lately prophesied that fifty years hence, owing to the overlapping of natural styles and characteristics, there would be no art left at all.

The *Burlington Magazine* recognises in an article of much interest the art of Guardi. There is poetry in topography. This *genius loci* manifests itself to the few perhaps only Charles Lamb felt it in the Strand, and Samuel Johnson in Fleet-street. Guardi's imagination found expression in Venice. Painters who are also lovers of architecture are rare, and we do well to cherish their memories and show ourselves jealous of their reputations. Kant's "Theory of Art" is remarked upon by F. Melian Stawell. The

more we pursue such philosophic investigations the more readily do we find ourselves accepting as sufficient, the dictum of Whistler that "art happens." Pegasus harnessed was not more restless than art, when we subject it to the tests of *musts* and *mights*. Philosophies have not helped to establish the reputations of Rembrandt or Michelangelo. Where they have operated they have been perhaps more destructive than creative. Art is a science rather than a philosophy. The artist knows.

Scribner's Magazine devotes many pages to the consideration of "The Problem of the Modern Terminal," or terminus, as we more familiarly express it, although we are gradually accepting the former, as we are also substituting "concourse" for booking-hall. Great Britain was the parent of the railway, and the dignified conception of the terminal station was a fit monument to the enterprise. If our railways have been handicapped by an extravagance of expenditure at the time of their construction—a charge often preferred against them—the money expended upon the portico at Euston, or what was once, in a relative sense, the spaciousness of Paddington, was money well spent. Where a misplaced economy was the objective, expense had to be incurred later. The old Shoreditch Station gave place to Liverpool-street, and Waterloo is now being converted into a terminus of the latest "end-on" type. And America is spending millions of dollars for similar reasons. Her opportunity is a magnificent one. The importance and magnitude of her railways call not only for suitable provision for the comfort and convenience of their passengers, but for adequate architectural expression in those buildings which are associated with them. Such buildings are "The Gates of the City." The Pennsylvania and the Grand Central Station, New York, are endeavouring to meet these demands. The vast increase of local traffic has doubtless made an entire reorganisation of terminal traffic a necessity in America, and has created expedients for dealing with it. The curtailment of the building area has also to be considered where the requirements for long-distance travelling are numerous. Buffets, dressing-rooms, shops, and even hospitals, are included in the larger schemes. No longer can Ruskin's definition of a railway-station, "the very temple of discomfort," be maintained. Thus the new Grand Central has its suburban concourse upon a floor below the main-line concourse, and the suburban tracks a story lower still, and passing beneath the main line. A typical instance of the importance of detail in traffic management occurs in the alteration of platform level from 9 in. above the ground, which has hitherto been the customary elevation, to the higher level familiar to us. Such an alteration enables a suburban train to unload in forty seconds instead of a minute and over—an appreciable difference at periods of congestion. It also shortens the stairway where tracks are at a low level. The linking-up of the various main lines was accomplished to a certain extent by the Metropolitan Railway, a scheme that has been still further developed by the Tubes. The Ceinture in Paris was also a modest venture in the same direction. The possibilities foreshadowed by such enterprises have raised the question whether terminal stations will not one day be a thing of the past, and one vast clearing-house for passengers take their place. This suggestion is also hinted at in the pages before us. In view, however, of the enormous sums being now expended on terminals to the various trunk routes, such a possibility is scarcely likely to achieve reality.

The *Studio* contains an appreciation of Edward Lanteri by Mr. L. R. McAlister. There can be no doubt that Professor Lanteri is a great power at the Royal College of Art, and has done much to build up its reputation. "We have nothing like this in Paris, nothing to approach it," said M. Rodin, when he visited the modelling section of the College. Lanteri's facility in portraiture is of the most convincing kind. His bust of Monsignor R. recalls the decisive touch of that XVth-century master Mino di Fiesole. The art of the etcher lends itself with some success to reproduction, and "Some Etchings From the Recent Salons in Paris" present examples of the work of August Lepère, Eugene Bèjot, and Herman

Webster. The two latter have been known for some little time on this side of the Channel. Mr. Webster is an American living in Paris. Lepère is becoming known, and his work is beginning to be sought after by collectors. The prices now realised by the prints of these two dozens of etching, Mr. D. Y. Cameron and Mr. Muirhead Bone, make the collector increasingly anxious to discover desirable possessions, and both Lepère and Webster are steadily increasing their reputation.

FIFTY YEARS AGO.

From the *Builder* of October 18, 1862.

Domestic Water-Filtering.

A PAMPHLET on this subject has been issued, along with the prospectus of a "Metropolitan Water-purifying Company," which it is proposed to establish for the very useful and sanitary purpose of improving the imperfectly-purified water supplied to the metropolis by the water companies. The author of the pamphlet is the projector of the company. He appears to have gone laboriously and honestly into the subject, although too sanguine in his expectations of obtaining ten out of every 100 houses during the first year as renters of his purifying apparatus, perhaps ten out of every 1,000 would have been a little nearer the mark.

The apparatus in question is a simple and effective one so far as regards its action in allowing a stream of water from the common cistern to flow continuously; but whether in a completely purified state we cannot say. The apparatus consists of a strong stoneware bottle, standing on knobs as feet, and perforated in the bottom; with a silver-coated pipe issuing from the neck, and to be bent over the top of the cistern downwards to a level below the bottom of the cistern, so as to act as a siphon. The stoneware vessel is filled with animal charcoal, which Drs. Lankester, Letheby, and R. D. Thomson recommend for all such filters; but of the efficacy of which we think more evidence is still required.

. Experience has justified the doubts above expressed. It is now universally recognised that any filter which cannot be periodically cleansed by the process of boiling is much worse than useless. Yet we recollect when it was quite customary for the over-cautious householder to have a practically immovable filter immersed in the cistern and secured to the supply. Carbon is an exceedingly porous material, offering but little resistance to the passage of impurities, and the receptacle of such a filter must speedily have become charged with organic matter. Reliance was at that time largely placed upon the oxygenating properties of charcoal, and this may still hold good in the case of water that has been previously boiled, to which it is desired to restore a more palatable flavour. But for the necessary purpose of offering a mechanical obstruction to impurities, which is now considered to be the important element in filtration, a denser material than carbon must be sought for, and consolidated earthy substances are employed to this end. Of such a nature are the Pasteur and Berkefeld filters, in which the filtrating medium is easily accessible and removable for the purpose of boiling.—Ed.

BRADFIELD COLLEGE.

Sir William Osler opened on the 9th inst. a new science school at Bradfield College, which has been built at a cost of 4,000l. The new school is a detached brick building with stone and flint dressings, and the architect, Mr. C. Steward Smith, of Reading, has, according to the *Times*, harmonised the design with the general idea of the older school buildings. Its accommodation consists of four laboratories—two for chemistry and two for physics—with a central lecture-room common to all the laboratories, in which forty boys can be seated. Though it is not intended that the laboratory classes shall exceed sixteen, the laboratories are large rooms, and there is ample space round the tables. Besides chemistry and physics, occasional work will be done in botany and biology.



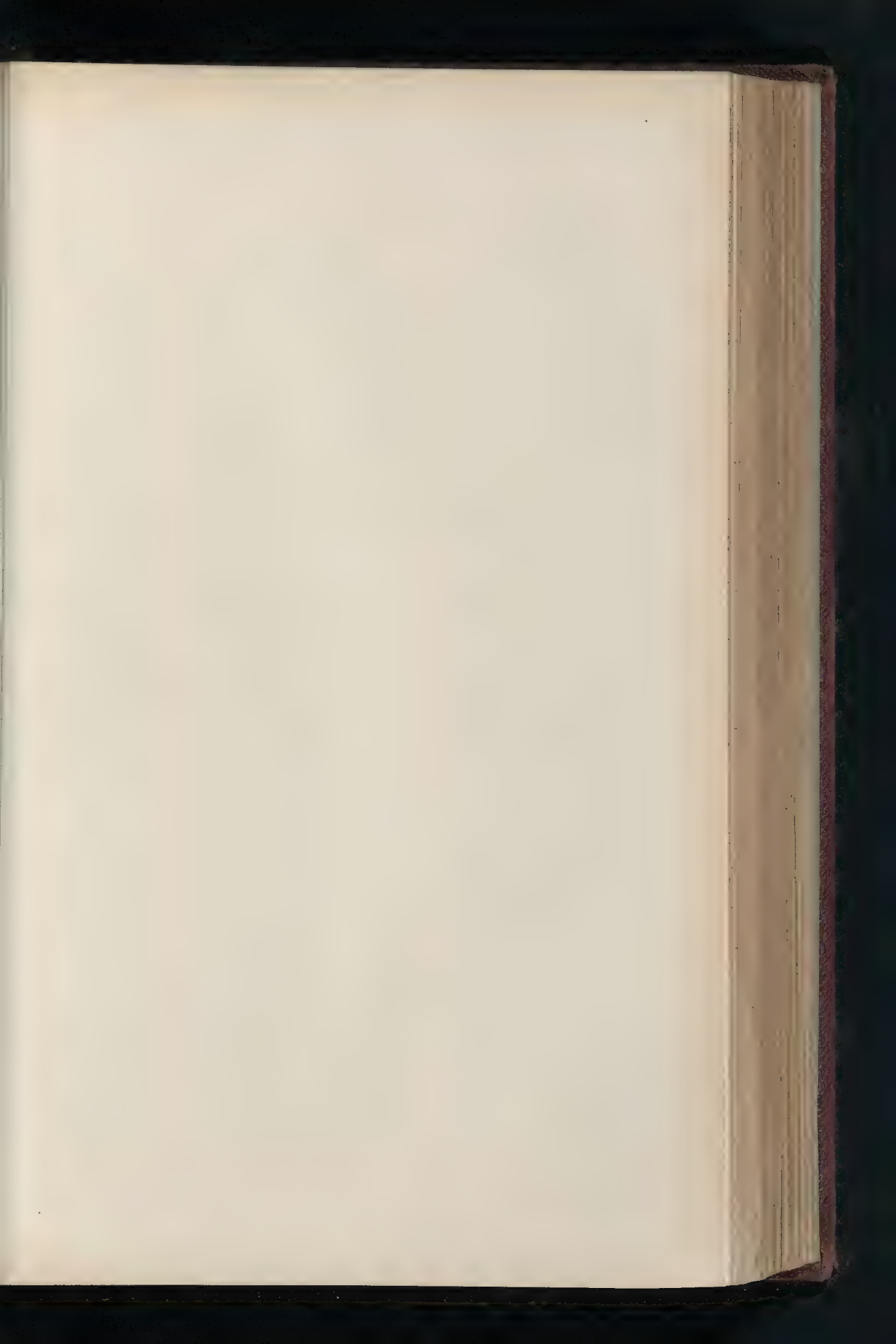
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THE DOGANA DI MARE, VENICE.

"BAROQUE ARCHITECTURE," V





ABRAHAM.



ST. PAUL.



ST. MARK.

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STAINED GLASS WINDOWS, KHARTOUM

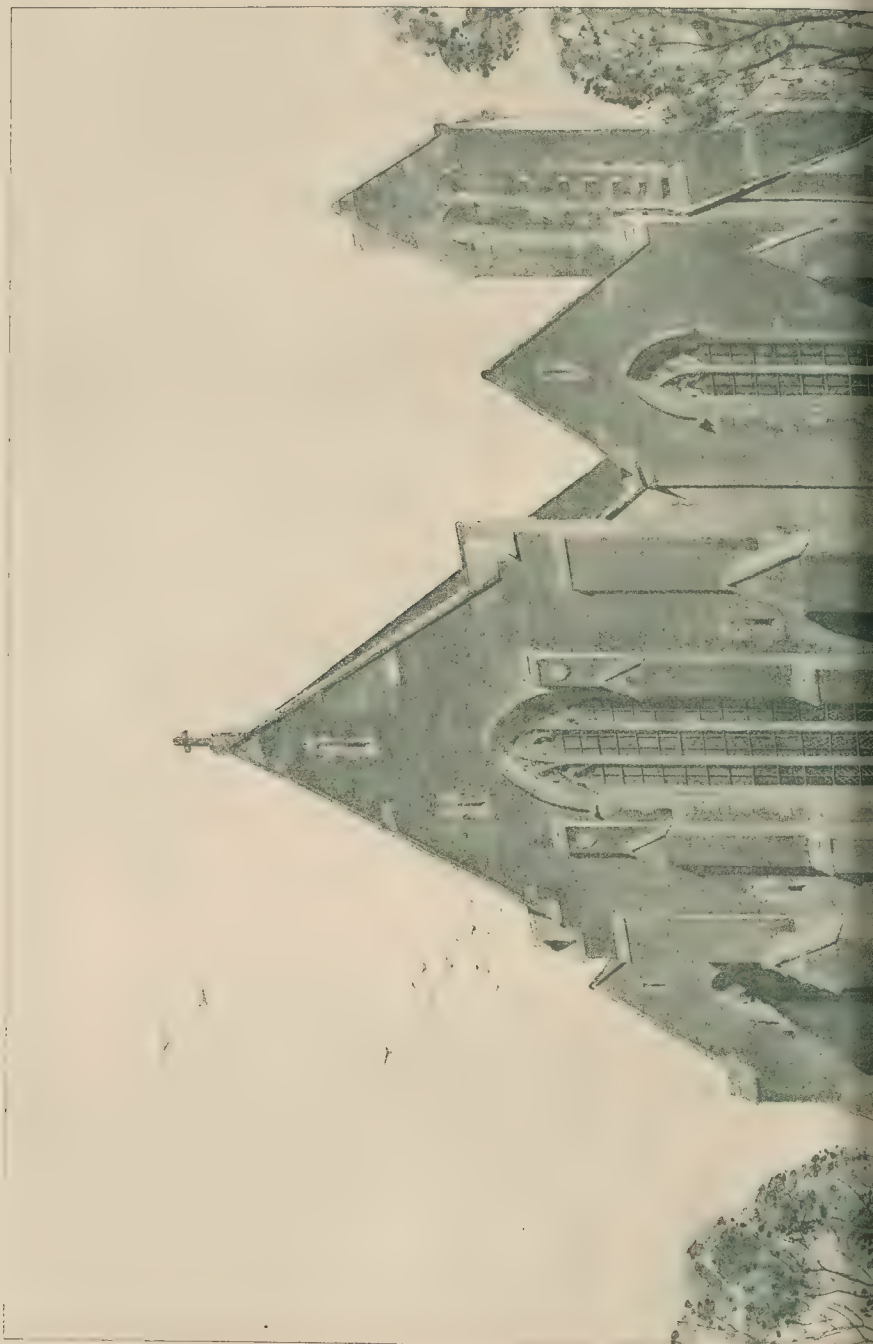


CHRIST IN GLORY.
DESIGNED AND EXECUTED BY MISS MABEL ESPLIN.

ST. GEORGE.

ST. PHILIP II.

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NEW CHURCH AT MITCHAM, SURREY.—MR. H. P. BURKE DOWNING, F.R.I.B.A., ARCHITECT



PALAZZO REZZONICO, VENICE.



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"BAROQUE ARCHITECTURE," V.

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Chiesa dei Carmelitani Scalzi, Venice.

BAROQUE ARCHITECTURE.

V.—VENICE.

(Continued from page 380.)

In one respect at least Venice surpasses all the other fair cities of Italy—in its wonderful and romantic situation. Here all architecture gains added glamour, and here the student of Baroque will expect his most academic Philistine friends to admit the actions of the style in a naturally picturesque setting. In Rome and in Genoa, we have seen, one of the characteristic features of the XVIIIth-century builders was to mould the face of Nature in order to glorify the work of man; in Venice the artificial lines of the canals formed a natural guide for the designers of magnificent churches and palaces. Here, with the great exception of St. Mark's Piazza, town planning was possible, for the plan had been drawn in mudbanks a long time ago in the Dark Ages. In Rome or in the nobleman's palace was a part of a scheme in which gardens, gateways, fountains had a share; a church was usually the culmination of a vista. In Venice the architect had to design a town

house or a town church pure and simple. He was bound down by problems of light and air; he was cramped in his means of access; he had to face all the thousand and one perplexities that beset a city architect to-day. But, hampered as he was in this way, he was building, as he must have known, on a site which for sheer fascination and charm has no rival. In the beauty of a Venetian summer day the most commonplace of design loses some of its monotony. Ruskin has said that if St. Peter's at Rome were to be seen properly it should be placed on the plain of Marengo or on the Grand Canal at Venice, where the scale is wholly human, and where Nature's insignificant Janiculum would not dwarf the work of man. In criticising Venetian architecture, then, one must beware of praising its masters for picturesqueness due to mere accidents of situation, just as one must ascribe to them credit for the way in which those accidents have been utilised to the best purpose.

Another difficulty which confronts all honest students of to-day lies in the vast

mass of criticism which has been lavished on Venice in the past. There can be but few cities which have inspired so much literature as Venice has done, and few where the amateur critic has played so prominent a part. Every few months a new, chatty handbook comes out which tells the visitor exactly what he must and must not admire, which pictures are good and which bad, where he must pause for the view, and where he must infallibly turn to the right. Side by side with these lighter works there come a long series of valuable monographs on history or art, bringing to light in the majority of cases new lore about those glorious centuries when Venice was one of the great powers of the world. Yet, great as is the number of books which tell of Venice and her story, there are few which are of use in enabling us to form our judgment on Venetian Baroque architecture. The chatty guide-book, for instance, tells us in regard to S. Maria Formosa that there is "a good picture altar on R. (Sacristian 20 c.)," but omits to mention any architecture

connected directly or indirectly with the church. The Palazzo Rezzonico is the scene of Browning's death, the Palazzo Pesaro is converted into a gallery of modern art, the Salute is a monument to a plague, and so on. But as buildings of any artistic value, we are left to suppose them negligible. Occasionally there is a note of gasping admiration at the money which Venice could find to raise these sumptuous structures, but where any writer condescends to criticism his remarks are for the most part harsh.

One man, and one alone, is responsible for all this hostility, and he is John Ruskin. His influence was so enormous, his public so large, his style so captivating, and his enthusiasm so disinterested that all his statements about Venetian architecture have become classic. Because Ruskin has written a treatise on Venetian art which is a monument of English prose, English people are at the outset prejudiced against a large proportion of the greatest buildings in that city. These articles do not pretend to be a panegyric of Baroque architecture; but we must put in a claim for a fair hearing, and in Venice, much more than in other Italian cities, one is liable in defending any form of post-Gothic art to be shouted down by the ghost of Ruskin. For there is no doubt that in this respect, at any rate, he was biased.

He divides the Renaissance period bodily into two parts—the Roman Renaissance and the Grotesque Renaissance. It is into the latter category, of course, that our subject falls, and what his standpoint was may be inferred from one sentence, intentionally symbolical of his general attitude, where, in speaking of a piece of carving on an historic church, he says:—

"In that head is embodied the type of the evil spirit to which Venice was abandoned in the fourth period of her decline, and it is well that we should see and feel the full horror of it on that spot, and know what pestilence it was that came and breathed upon her beauty until it melted away."

With the exception of Ruskin, however, the majority of critics whose opinion is worth anything are less severe on the Baroque buildings in Venice than in Rome. In the former city its picturesque side attracts them, and seems to suit the general scheme of things Venetian. Moreover, the average critic is less disposed to be cantankerous in Venice, where he feels himself to be on pleasure bent. Against us, then, we find three classes of critics arrayed—Ruskin tradition, openly and fiercely hostile; amateur talent, negligent and negligible; professional opinion, easygoing and not too discriminating.

These circumstances, together with the unique personality which makes everything connected with Venice doubly interesting, provide sufficient reason why we should examine the Baroque architecture of the place and compare it with that of Rome and Genoa.

The XVIIth century in Venice is usually described as the second part of the "Decline," but it is advisable to employ that word with caution, for men may differ as to what constitutes a decline. Ruskin, and many who hold with him, would date it from the League of Cambray in 1508, when the principal powers of Europe combined to ruin Venice, and in a sense achieved their object. It was a time of double-dealing, and the causes of the Decline are far more insidious than any treaty, underhand though it be. Venice had aroused the jealousy of two powerful rivals, civil and religious. Her enmity with Genoa rose from the keen maritime competition of the two States, her quarrels with the Pope were all due to her aggressive attitude in regard to matters of Church and State or to her tolerance in matters of theology. The long political struggle which finally broke the power of the Queen of the Adriatic may be traced to these two sources. Her armies were worn down by single-handed fights with the

Turks or by continual skirmishing on the borders of the Papal States.

But what operated more than anything else to the undoing of the city was her isolation from the new trade routes. Up to the discovery of the Cape route the wealth of Northern Europe came over the Brenner from German towns, the treasures of the East up the Adriatic from Constantinople. The XVIth century, however, saw Venice without the most of her German trade, and with a Constantinople which had changed from a hoard of riches to a bandits' stronghold. Protection tariffs were tried in vain, and the trade of Venice drooped and languished.

But that lack of trade means lack of money to spend is a long-explored theory, and just as it is often the sons of a *parvenu* who squander their self-made father's hard-won gains, so it was XVIth and even XVIIth century Venice who cast on the waters, in more senses than one, the amassed wealth of the preceding years.

"Inside the city," writes one of its most faithful historians, "the characteristic note was the public splendour, the private pleasure-chase, overlying and partially hiding State impoverishment and secret fear."

"The State and the great nobles still braved it in the eyes of Europe, but the bulk of her population was growing hourly poorer, her streets and squares were becoming the accustomed haunt of dissolute, pleasure-seeking Europe. The healthy, vitalising energies of commerce, of trade, and of industries were sapped."

"But as a curiosity and as a pleasure-house Venice still remained unrivalled in Europe. Gorgeous ceremonies for the reception of distinguished visitors; the theatre of San Cassiano, where the opera and Ballo of *Andromeda* was given in 1637, serenades, banquets, faction fights among the people, delighted the populace and attracted the foreigner. Young Englishmen of birth on the grand tour would not miss Venice, where they were presented to the Doge and taken over the Treasury of St. Mark. Plagues like those of 1577 and 1630 might sweep off fifty or eighty thousand inhabitants, but the scourge passed by, the masques and balls began again, and all that remained of the memory were splendid churches like the Redentore or Santa Maria della Salute. *Bravi*, gamblers, broken men, . . . quacks . . . witches . . . flourished and fattened on a cosmopolitan population, but the whole chorus of foreigners is unanimous in applause."

Although, then, there must have been an insidious decay in Venetian character and morals throughout this period, the normal course of things where an industrious and independent city becomes a mere pleasure resort for wealthy and luxurious outsiders, it does not seem fair to admit its outward manifestation at any rate until well into the XVIIIth century. And among its external aspects one of the most obvious is in the character of its buildings.

In the first half of the XVIth century was erected that wonderful group of Renaissance masterpieces round the Piazza of St. Mark, including Sansovino's famous Loggetta, and towards the close of that century we detect in a very plausible guise "the germ of the barocco corruption." Again reverting to our theory of Baroque being marked by originality of conception rather than by superabundance of ornament, we find in the two most famous bridges of the city something which was not present in Renaissance work, even of mature date, a tendency towards the "quaint conceits" of the XVIIth century.

Yet in the Ponte di Rialto one can admit no more than a striking boldness and freedom of design, an independence of conventionality which is remarkable, in view of the wave of pedantry sweeping over Italy. One could not but expect that in Venice there would be a greater license, a greater lack of architectural restraint, a more fantastic spirit than in other cities. The

luxuriant decoration which one finds alike in the Ca d'Oro and in little remnants of palaces all through its canals and alleys, in the magnificent tombs to departed Doges of the XVIth century, is no more apparent in the XVIIth century than in that last final flourish of late Renaissance days—the State rooms of the Ducal Palace. Here, again, we feel ourselves to be on the Baroque borderline, but on the whole it seems best to forego any claim on these gorgeous salons with their brilliant ceilings sparkling with colour and gold, and to return to the Bridge of Sighs.

This Ponte dei Sospiri has gradually acquired an immense hold over people's minds for sentimental reasons, and has been the cause of as many tears among high-strung visitors to the city as that ill-starred letter-box grimly displayed in the Palace of the Doges. Yet in this case the tears are justifiable, for it is authenticated that prisoners did undoubtedly cross the bridge to receive sentence and return to suffer death. Prisons have inspired architects on sundry occasions, and one recalls George Dance's wonderful design for Newgate, where every line of the building seemed to indicate its purpose. Dance had something in common with these Italians, something of that quaint and dreamy fancy which led him out of the ordinary ways of men. Here, however, the dramatic instinct, always more powerful than the religious at this time, has evidently not guided the architect (Antonio Contino) so much as his sense of the artistic; and he has concerned himself with providing a harmonious link between the widely different styles of the Palace and the prisons. Its dread significance is possibly hinted at by its absence of windows, but the inevitable gaiety of Venice appears in the Baroque scrolls curling between finials above the cornice, and in the beautiful pierced screens which serve in lieu of windows, and which are a survival of those used on the lagoons a thousand years or so before.

It has been said by Dr. Horatio Brown, whose books have already been quoted in this essay, that Venetian art was public art, and that connoisseurship or private patronage was not so important to its well-being as at Rome or Florence. This is true only in a measure as to the monuments of the Baroque period, when very few really noteworthy public buildings were erected as against the countless fountains, aqueducts, and so on showered on Rome by Popes and Cardinals seeking popularity. It is true that the largest and most important building of all, S. Maria della Salute, was the work of the State, but, apart from this, we find chiefly private palaces and churches of varying merit.

The last great churches of the Venetian Renaissance are those two on the outlying islands which are due to the genius of Palladio—S. Giorgio Maggiore and the Redentore. Masterly and bold as they are, spacious and grand like many of those which followed, there is a distinct step from here to the Baroque churches of the XVIIth century. The beautiful carved choir-stalls and the magnificent bronze group on the high altar at S. Giorgio are perhaps transitional—so much Baroque as Renaissance. The Corinthian capitals betray a slackness of workmanship unfortunately characteristic of the later period, and the facade by Scamozzi is one of those pedantic designs which we often find overlapping the more lively Baroque movement.

It was in the year 1631 that the Senate decreed the building of the church of S. Maria della Salute as a monument of thanksgiving after the cessation of the terrible plague in which 60,000 people, roughly speaking a third of its total population, are said to have perished. Standing, as it does, on a fine sweep of the Grand Canal, yet so near the end of that wonderful waterway that it is equally prominent from the lagoon, this remarkable church has become one of the most familiar and frequently portrayed of

many treasures of Venice. To some it appears the last dying splutter of the Baroque flame; to others a monument of its kindred in any style; to others, again, a typically good or typically bad Baroque according as that sort of art suits their truth concealed in it. Baroque it is, if there was such a thing, different from the kind because all Venetian buildings do differ from their cousins in parts of Italy, a survival of the Baroque just as all the best Baroque buildings are, but rather a normal development than a survival. It is typically Baroque in its disregard of convention, in its brilliant striving after the magnificent and its superb suitability for its surroundings, in the way in which stairways even the Canal itself seem to lead up to it has the weakness common to many things of this period, that it is pagan rather than Christian, yet perhaps it would be more Christian than most, but for the tales at the back. Its Eastern flavour serves to show how thoroughly its architect, Longhena, had caught the whole of Venetian architecture, the most vital in Europe. Finally, its combination of brilliant and daring originality on a monumental scale with legitimate canons of design has ensured so successful a result that most of those who abuse Baroque with its gibes they can lay hold of are content to admire S. Maria della Salute. But the name of Ruskin is heard outside, and he is thus in his "Who's Who in Venetian Architecture," as we might call it:—

One of the earliest buildings of the Baroque Renaissance, rendered impressive by its position, size, and general proportions. The latter are exceedingly good; the grace of the whole building being chiefly dependent on the inequality of size in its cupolas, and the grouping of the two campaniles and their domes. It is to be generally observed that the proportions of buildings have been whatever to do with the style or the merits of their architecture. An architect trained in the worst schools and devoid of all meaning or purpose in his work may yet have such a natural gift of grouping and grouping as will render all his figures effective when seen from a distance; such a gift is very general with the Italian builders so that many of the contemptible edifices in the country produce a good stage effect so long as we do not reach them.

The Church of the Salute is farther assisted by the beautiful flight of steps in front of it to the canal, and its façade was chosen by the principal object in his known view of the Grand Canal.

The principal faults of the building are the narrow windows in the sides of the cupola, and the ridiculous disguise of the buttresses

under the form of colossal scrolls; the buttresses themselves being originally a hypocrisy, for the cupola is stated by Lazar to be of timber and therefore needs none."

It is amusing to find Ruskin here admitting the excellence of late Italian grouping, still more so to find that grouping and architecture are so foreign to each other in his opinion; but otherwise his remarks are of no particular use to architects, who would probably disagree with him as to the charms of the subsidiary cupolas and minarets, and who would find more fruitful points for discussion in the unconventionalities of the interior, where a gallery balustrade is perched well forward round the main cornice. To Baldassare Longhena, the architect of this great church, Venice owes a long list of famous buildings, but only one of them is ecclesiastical.

S. Maria al Scalzi, on the Grand Canal, near the railway-station, is unfortunately so inferior to the Salute that one can hardly recognise Longhena's hand therein. It is a medley of senseless polychrome decoration, marble and gilt everywhere (none of the marble being white), twisted columns, and indeed everything which one associates with the Baroque style at its very worst. It has been restored in modern times, whether for better or worse the writer is not aware. The façade, however, was added by Giuseppe Sardi in 1649, and is a much more pleasing composition on Venetian lines, showing considerable originality without going to extremes.

Sardi also designed the very remarkable façade of S. Maria Zobenigo, or S. Maria del Giglio, as others call it. Here we have translated into terms of Baroque the same motif as the elaborate Renaissance façade of S. Zaccaria, at least as regards the pediment. This bold and striking design is enriched with some of that exuberant, joyous, almost sensuous statuary which had taken the place of severer predecessors, and which at this time vaulted on church fronts the figures of goddesses in the free poses of Nature.

The six panels on the pedestals of the main order of this façade are sculptured into relief-maps of celebrated towns or of Venetian dependencies. The interior plan of the church is simple enough, having three recesses on either hand between the columns of a large order and a small chancel recess. The colour scheme is subdued and harmonious, with prevailing tones of grey and the rich tints of the three great paintings on the ceiling. The date of this church is 1680-3.

S. Lazzaro dei Mendicanti is another of Sardi's works of about this time, the church of a hospital for poor men moved here in the XVIIth century, but does not call for more than passing mention.

The façade of S. Moisé is contemporary with the last two, and is an orgy of decoration,



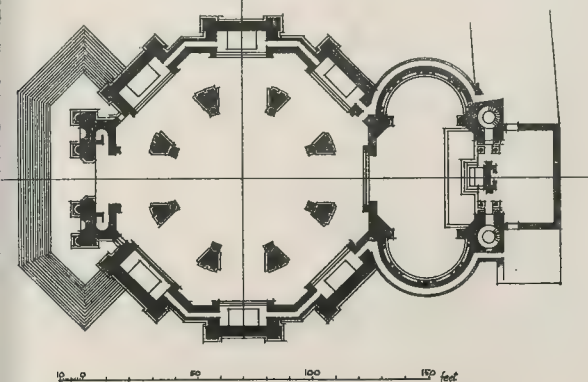
Campanile: S. Maria Formosa, Venice.

though, for some reason, it fails to shock one as it should. For, in spite of the usual athletic limbs of the saints and bishops on its skyline, the execution of all the detail is lighter and less coarse than in much Baroque carving of the period. Moreover, the detail itself is interesting; it may be almost said to be unique in its elements and its arrangement. The architect was Alessandro Tremignon, or Tremignan. Within the church there is much less to attract us, it being covered with indiscriminate decoration of a kind far inferior to that outside.

A refreshing contrast to the last is San Vitale, or San Vidal, a plain little church seldom troubled by visitors, lying near the Accademia Bridge. The façade indeed is so without freedom as to be barely definable as Baroque, decorated only with statues of the pious founder (a Doge) and his wife, and the good old cleric who inspired them to the deed. The grey and white interior has Corinthian columns.

Then there is Sant' Eustachio (or S. Stac) on the Grand Canal, built by Giovanni Grassi in 1678, with a façade by Domenico Rossi, dating from 1709.

There is S. Maria Formosa, with its strange campanile, a church remodelled in 1692 by Marco Bergamasco; and there are many more, but few among them are so important or so large as the great Jesuit temple—S. Maria dei Gesuiti, built in 1715-28, on the side of Venice nearest to Murano. We cannot but feel that here, as in many other parts of Italy, the Jesuits were too ready to make a display, too forgetful that an atmosphere of flaunting wealth may stifle any devotional feeling. Strip half the decoration from this church, and it would be admirable. The plan is excellent, and is monumentally conceived; the decoration is to a large extent good; the materials are priceless. Take, for example, the wall-lining, reminiscent of Morris tapestries or wallpapers, in cool green and white. Examine it more closely and you find it is of green and white marble inlaid. There are curtains in gorgeous tints which turn out to be also of marble; the very carpet on the steps leading to the altar is in the same precious stone. But if this church had all been finished, say in white and green and gold, with no other colour admitted, not even perhaps the lapis-lazuli of the altar, we should have had those same critics, who cite it as an example of how bad Baroque is, taking a totally opposite view, and perhaps trying to deny that it



S. Maria della Salute, Venice.

was Baroque at all. S. Maria dei Gesuiti may be an architectural curiosity; it is as much a lost opportunity.

On the Zattere is a smaller church of very similar name, S. Maria dei Gesuati, or del Rosario, built in 1726-43 by Massari, and sharing the trend towards a more eclectic style.

But before leaving these churches of Venice something should be said of their monuments. The family tomb in Venice had assumed vast proportions even in the XVIth century—one has only to visit the churches of S. Giovanni e Paolo or the Frari to see that—but in Baroque times it became colossal and lacked all the delicacy which one sometimes associates with smaller works of the kind. Familiar and frequently-illustrated examples are those to Doge Falier, in S. Giovanni e Paolo, by Andrea Tirale (1708), and that to Doge Giovanni Pesaro, in the Frari (1659), by Longhena.

Of Venetian Baroque palaces two exist of such outstanding importance that no others need be mentioned. They are both the work of that great genius Baldassare Longhena, and date from the second half of the XVIth century. As might be expected in an epoch of ostentation, their exteriors are of chief interest, though a certain skill is to be found in their planning, always on a vast scale.

The Palazzo Rezzonico (1650), on the Grand Canal, has at present little celebrity outside our profession except as the scene of Browning's death, but as Victorian prejudices gradually melt away we shall find the amateur critics coming round to agree with most architects that no pure Renaissance front on this canal compares with it.

The Palazzo Pesaro (1679-1710), also on the Grand Canal, closely resembles the last in general proportions, but is very much more ornate. Its cost is said to have been 500,000 ducats. It was built for one of the great officials of the State, the Procurator of St. Mark's, and its construction occupied thirty-one years. From front to back its depth must be nearly double that of the Rezzonico, but in many ways it is inferior. The diamond rustication of the lower stories produces an effect of over-decoration on the whole façade, which otherwise would not have been caused, for a Venetian palace can carry an abundance of ornament without ill-effects.

It is curious that, abreast of some of his most Baroque designs, Longhena was building palaces in which not a trace of that "corruption" can be found. An example of this is the Palazzo da Lezze (1654), on the Rio della Misericordia, a pedantic though thoroughly Venetian design. Space forbids us to say anything of Cominelli's Palazzo Labia, where Tiepolo painted some famous frescoes, but no study of this period in Venice would be complete without some mention of Giuseppe Benoni's Dogana, or Sea Customs (1676-82), almost as familiar in pictures of Venice as St. Mark's Campanile or the Salute. Standing prominently on a point of land at the mouth of the Grand Canal, its quaint outline surmounted by a great golden globe, and a moving figure of Navigation, this is one of the many picturesque features an ungrateful generation owes to Baroque Art.

M. S. B.

DISCOVERIES AT WEST HORSLEY CHURCH, SURREY.

SOME important and even puzzling discoveries have been made at West Horsley Church, which is now being restored under the direction of Mr. William Weir, of the Society for the Protection of Ancient Buildings. The church is situated by the side of the road leading from Leatherhead to Guildford, and among other reasons is of interest from the fact that there is well-founded ground for believing that Sir Walter Raleigh's head was buried there. Horsley House, the beautiful old mansion almost opposite the church, was once the seat of the Raleigh family.

Of the discoveries made in the church, perhaps the most notable is that of the remains of two low arches, one on either side of the chancel arch, the latter having cut through the smaller and lower arches. What would have been the actual height of these arches cannot be told, as there is not enough of them left, yet sufficient can be seen to make it clear that there must have been two, for one could not have bridged the space between the jambs. But two arches of about such height as these must have been, with a pier between, would give the requisite width. Nor can it be said to what period they belong, though they must be quite early, possibly Saxon. The present church, by the way, was founded in 1086. Antiquaries who have visited the church while the restoration has been going on have been greatly puzzled as to what these arches could have been, and have offered many and varying solutions of the problem. One suggestion which seems feasible is that they are the remains of a stone screen. We know on the authority of Mr. F. Bligh Bond that triple-arch screens were often built in the IXth and Xth centuries, and again in the XIIth, and it is possible this may have been a double-arch screen. Another suggestion which has been favoured is that these arches were part of an arcading at the east end of an earlier church. Anyhow, they are probably the oldest part of the existing building.

A further discovery made in the chancel arch was the staircase and doorway leading to the roof-loft. To ensure the safety of the arch it was deemed necessary to build up this stairway, for it was 2 ft. 6 in. wide in a wall only 3 ft. thick, and the arch was not safe. But the doorway to the roof-loft is shown, framed in timber.

A third find in the east end of the church, resulting from the stripping of the plaster from the wall, was in the south-west angle of the chancel, where may now be seen the remains—one jamb—of what appears to have been a low-side or so-called "leper" window. This was probably built up when the Perpendicular south aisle and the Nicholas Chapel were added.

At the western end of the church the chief discovery—again resulting from the stripping of the plaster—was the finding of the remains of frescoes on the west wall. This wall is part of the original Norman structure, and Mr. Weir thinks that the string course ornament of the fresco on the south side of the door has a Norman look. There are three tiers of figures in the frescoes in this case, but they are very indistinct, and it is difficult to say what they represent. On the lowest tier there appears to be a man who is waving away some beggars. On the row above are more men, and on the top row are two crucifixes—careful study having failed to reveal a third. On the north side of the door is a fresco of a life-size figure of a woman, probably of later date than the work on the south side. On either side of her is a banding which may represent a column, but no arch can be traced.

The tower, which is at the west end, has been built on to the nave at a later date, the lowest part being probably of the XIIIth century, the next stage XIVth century, and the top later still. The work now going on has revealed the fact that the tower was not bonded to the west wall in any way, and it has been further discovered that the plaster, with which the exterior of the west wall was already covered when the tower was added, was not even cut away. The north and south walls of the tower were cemented to the plaster. This is very curious. On the first floor of the tower, at the junction of the XIIIth and XIVth century work, has been found a very old timber floor, and on it rested the remains of an ancient belfry.

These are the principal discoveries as the result of the restorations, but two or three minor finds may be mentioned. One of these is the revealing of a third lancet window on the north side of the Early English chancel. This light is indicated on the outer wall, but could not be opened, as it might have endangered the safety of a Decorated window by its side. Then, in the Nicholas Chapel has been found, behind a large monument, the upper part of a Perpendicular window, which was originally the east window of the chapel, and on the south wall has been found, behind the monument to some members of the Nicholas family, a small door leading into the chapel. This door is XVIth century.

A few remarks concerning the church, apart from these finds, may be added. As stated, the present building dates back to 1086, and it is mentioned in Domesday Book. The north

arcade, cut in the Norman masonry, is probably Transitional. The south arcade is rather late in the Perpendicular period. It is difficult to date the chancel arch, but the chancel itself is Early English. On the north side of the chancel is a beautiful canopied altar tomb of the Decorated period. Resting on the side of the tomb is the finely-sculptured figure of a cleric, either Roger de Berners, rector of the parish, about 1320, or Ramulf de Berners, rector about 1350. On the canopy are some admirably-sculptured monkey heads—monkey was the crest of the De Berners family—and these animals figure in the stained glass of the window above. In the east window is some glass of the time of Henry III. or Edward I.

With regard to the connexion of the church with Sir Walter Raleigh, it appears that the Nicholas family bought West Horsley House from Carew Raleigh, son of Sir Walter, in 1661. After the execution of the latter Lady Raleigh it is said, kept her husband's head and through the years of her long widowhood, and then passed into the possession of her son Carew and was buried at the time of his death. In 1707 a head was dug up just outside the east wall of the Nicholas Chapel. There were no traces of any bones of a body, nor was the grave big enough to have admitted such.

THE CHURCH OF ST. THOMAS, PORTSMOUTH.

THE Church of St. Thomas, at Portsmouth, is in course of restoration, and an appeal is being made to the citizens for funds to complete the work to the tower. The church stands in the High-street of the old town, which was originally confined to a small area and surrounded with walls. A grant made by John de Gisors in 1180, "for the erection of a chapel in honour of the glorious martyr Thomas, formerly Archbishop of Canterbury," gives the earliest possible date of the building, and the details of the eastern portion show that the work must have been begun soon after the grant was made. No clear indication of the original scheme as a whole can be obtained, the central tower was taken down and all the work of the crossing rebuilt between 1683 and 1690, the date 1691 over the west door shows the progress of the work. The chancel, which was restored a few years ago, is 54 ft. by 25 ft. It has two bays with vaulted aisles. The north and south transepts are 25 ft. wide, the north transept being 39 ft. long and the south 29 ft. The nave—86 ft. by 27 ft. 6 in.—is of four bays, the eastern, representing the crossing, being wider than the others. It has round arches springing from columns which support leaf-galleries. The north and south aisles are 18 ft. 6 in. wide. At the west end is a fine organ, said to have been made for Tewkesbury Cathedral, and set up here in 1718. In the church is seen an abrupt transition from the work of the early Gothic period to that of the late Renaissance, with its tall column and the typical work of the time.

The external effect of the building is imposed both from its scale and from the fact that the tower at the west end is very plain and massive. It has small belfry windows, which are now hidden by the large dials of the clock. The tower is capped by a wooden domed cupola erected in 1702, with a lantern above, from which rises a spirelet with a fine gilded vane in the form of a three-masted ship, with flags at the bowsprit, fore, main, and mizen masts, and a large flag on the gaff. This was set up in 1710, and was the gift of Prince George of Denmark, consort of Queen Anne. He also gave to the church eight bells, said to have been brought from Dover Castle. They were recast at his expense, and placed in the tower in 1704. A small bell, which formerly used to give warning of fire, was removed in recent years from the church, and is now in the museum originally the Guildhall—on the opposite side of the street. The bell is of Spanish workmanship and bears the arms of Leon and Castile. The monuments in the church are of no great interest, except that of the Duke of Buckingham, who, when on the point of embarking with the army for the relief of Rochelle, was assassinated by Fenton, in the High-street, in 1628. James II. gave to the church a set of plate, the record of this gift being preserved in the registers on the back of Charles II.'s marriage certificate. The earliest register runs from 1653 to 1662. The second is a finely-bound book; it begins with the record of Charles II.'s marriage on May 7, 1662—now cut out and framed and hanging



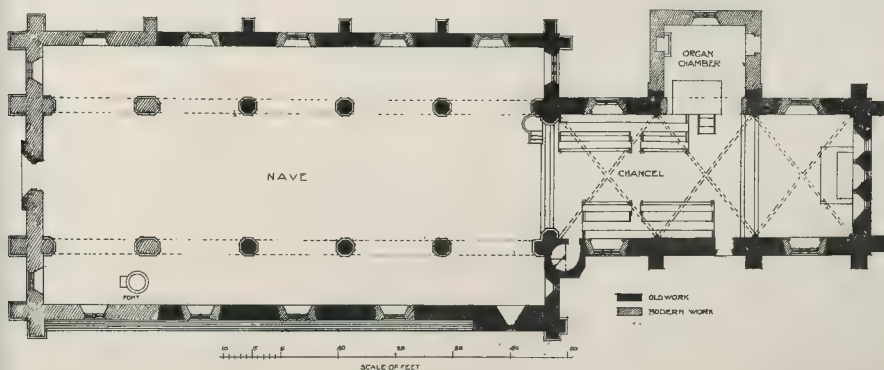
[Photo, by F. Frith & Co.]

The Church of St. Thomas, Portsmouth: View of Interior, looking West.

the vestry—and contains baptisms and burials to 1694 and burials to 1678, with a marriage of Charles II. The marriage of Charles II. of Braganza did not, however, take place in the Church of St. Thomas. Standing at a distance from what is known as the "Garrison Church"—a raised terrace that once counted as a defensive work—is the Garrison Church, a building of great historical and architectural interest. It has a vaulted chancel, a nave with aisles of five bays (an); the chancel was the chapel and the living-rooms of the hospital of St. John the Baptist and St. Nicholas, otherwise known as God's House, founded by Peter des Roches, of Winchester, before 1214. On November 2, 1214, John granted a charter of confirmation to the hospital, "in honour of the Holy Trinity, the Blessed Virgin, the Holy Cross, the Blessed Michael, and All Saints for the maintenance of the poor." In 1229 provision was made for the privileges of God's House should not be with those of the parish church, and the former was bound to pay 5s. quarterly as a pension to the mother church. A chantry was

formed here in 1325, with the assent of William de Hareweden, warden of the house of St. Nicholas and the convent of the same, and with the bishop's confirmation. Bishop Wykeham, by his will, left a set of vestments and a chalice to the hospital. Leland, who was at Portsmouth in 1539, says:—"There is also in the west-south-west part of the town a fair hospitale, sumtyme erected by Petrus de Rupibus, Bishop of Winchester, wherbyn were a late xij poore men, and yet vij be yn it." This house was surrendered to the Crown by John Incent on June 2, 1540. The last master of Portsmouth Hospital and of St. Cross, Winchester, is identical with John Incent, born at Berkhamstead in 1480, who became dean of St. Paul's. He founded the Berkhamstead Free Grammar School in 1541. Some of the buildings of God's House were used as a residence for the Governors of Portsmouth down to recent times. It was in these buildings—not in the chapel—that Charles II. was married. The allied sovereigns lodged here in 1814. With the exception of the chapel, the whole of the buildings were demolished in 1826. The Garrison Church was renovated and refitted by G. E. Street, R.A. about

1866. An ancient plan of the town of Portsmouth, made in the reign of Queen Elizabeth, shows the Church of St. Thomas, with its central tower, the buildings of God's House, the chapel, garden, and the wall which enclosed the whole. The "Platform" and "Square Tower" are here also, as well as the "Round Tower," which for so many centuries has guarded the entrance to the harbour. Edward III. began it, and from it Henry VIII. stretched across the waterway his "mighty chaine of yron"; and it now stands sentinel over the "boom"; that is to keep our ships safe from torpedo attack. Not many years ago the Garrison Church still had an altar cloth adorned with the arms of Portugal and a view of Lisbon, which, it is supposed, was used at the marriage. The town's wedding present—a gilt salt-cellar—is among the regalia in the Tower of London. Within the church is a brass to the memory of Captain John Mason, the founder of New Hampshire, in the United States, Captain of Southsea Castle, and Buckingham's host at the time of the murder. The history of the parish church is closely interwoven with that of the town of Portsmouth and with many great and



Garrison Church, Portsmouth: Ground Plan.

stirring events in our history. St. Thomas's tower has been a landmark for centuries to those returning home to "peace after stormy seas," and it may be hoped that the necessary funds will be provided for the preservation and maintenance of such a structure.

PALÆOLITHIC PAINTINGS IN SOUTH WALES.

An important archaeological discovery is announced in the *Times* of October 14. Hitherto no example has been known in the British Isles of the paintings of the Palæolithic Age, which have been found in several parts of France and Germany, and which include those vigorous representations of bison, mammoths, and other animals that proved such a surprise to the archaeological world. The distinguished French *savant* Professor Breuil on a recent visit to Oxford was much interested by the objects discovered in 1828 by Dean Buckland in Paviland Hole, on the Gower coast. A skeleton tinted with red ochre, known as the "Red Lady," and various implements and ornaments of flint and mammoth ivory convinced him that they belonged to the Aurignacian period, the earliest of the three stages of the Upper Palæolithic epoch. An investigation of the district was undertaken by him in company with Professor Sollas, of Oxford, with the object of ascertaining whether any paintings of the same period existed there. After a fruitless examination of a number of caves, they were at last rewarded by the discovery in Bacon's Hole, near the Mumbles, of an example of this ancient art, protected by a stalagmite deposit from obliteration. It consists merely of a series of red bands arranged one above another, similar to those found in the Font de Gaume in the Dordogne, but none of those delightful animal pictures. Since, however, one example of this primitive art has been found in our islands, we may well hope that others will eventually come to light.

THE TOWER OF BABEL.

The description of the building of the Tower of Babel as conceived by the medieval mind, given in the *Builder* for July 20, can be compared with that of Flavius Josephus, the Jewish historian, in his "Antiquities of the Jews," published in A.D. 93.

He says that the three sons of Noah—Shem, Japhet, and Ham—who were born one hundred years before the Flood, were the first to descend into the plains after the Flood, and persuaded others who were afraid of the lower grounds on account of the Flood to do likewise. The plain in which they dwelt, he says, was called Shinar.

The idea of building a tower he attributes to Nimrod, a grandson of Ham, "a bold man, and of great strength of hand." Josephus says that he, Nimrod, said "he would be revenged on God, if he should have a mind to drown the world again, for that he would build a tower too high for the waters to be able to reach." They, therefore, commenced the building of a tower, "neither sparing any pains, nor being in any degree negligent about the work; and by reason of the multitude of hands employed in it, it grew very high, sooner than anyone could expect, but the thickness of it was so great, and it was so strongly built, that thereby its great height seemed, upon the view, to be less than it really was."

Now follows the most interesting part of the description, wherein the materials employed are described.

Josephus says:—"It was built of burnt brick, cemented together with mortar, made of bitumen, that it might not be liable to admit water."

Later he says that the place wherein they built the tower is now called Babylon, because of the confusion of that language which they readily understood before, for the Hebrews mean by the word *Babel*, confusion.

The Sibyl also makes mention of this tower when she says—"When all men were of one language, some of them built a high tower, as if they would thereby ascend up to heaven, but the Gods sent storms of wind and overthrew the tower, and gave everyone his peculiar language, and for this reason it was that the city was called Babylon."

With regard to the material of which this tower was built, the Bible says:—"Go, let us

make brick, and burn them thoroughly. And they had brick for stone, and slime had they for mortar." Of course, this cannot be considered as independent proof in support of the description given by Josephus, as he most certainly consulted the ancient Jewish records, amongst others, for material for his writings, but we do not know what other evidence he had for his description of the material employed.

This much we do know, that bricks were used long before the time of the building of the Tower of Babel, both burnt and unburnt. Sun-dried bricks, or "adobes" (still made at the present day), were made by the Egyptians of Nile mud with reeds to form a binding; and to give only one instance of many, Sargon of Akkad made burnt bricks *circa* 3800 B.C., whereas the Tower of Babel was built some 1,700 years later, or *circa* 2247 B.C. Even glazed tiles were made before the Tower of Babel was erected.

As for the employment of bitumen for lime, this was but natural, as it was, and still is, a product plentifully supplied in these hot regions by nature. It was to be found oozing out of the ground, and in the form of lakes, some of not inconsiderable size. Tacitus describes the third lake into which the Jordan flows, and says that at certain times it throws up a quantity of pitch or bitumen, the gathering and use of which experience, the mother of all useful arts, has taught.

Birs Nimrud, the traditional site of the Tower of Babel, is but a hill of ruins, surrounded by the remains of the ancient city of Babylon. A hill of ruins surrounded by other ruins, standing in a vast silent plain, once a noble city filled with many inhabitants, and the home of the greatest king of his day, but now returned again to its first silent state, a sandy desert waste.

HISTORICAL NOTES.

The Baths of Caracalla.

THE excavations recently carried out in the Baths of Caracalla have led to important discoveries both from the artistic and antiquarian points of view. In the so-called "stadium" of the baths the medieval hunklin, in which it was the practice to calcine the marbles gathered from the surrounding ruins, has been found, and near it fragments of the rare marble of which the baldacchini columns at San Gregorio are formed. The clearing of the drainage channels of the baths has yielded two archaic statues of Greek marble of Apollo and Bacchus respectively, a fine life-size torso of an athlete, a charming statuette of a satyr, and, most beautiful of all, a more than life-size statue of Venus Anadiomene, with the arms raised in the act of arranging her hair.

The important remains of a temple of Mithra have also been discovered. "The main hall," says a correspondent in the *Morning Post* of September 9, "is composed of a large central nave paved with black and white mosaics and two side aisles, each divided into three parts by three [?] rows of three columns." The temple, the largest known, is rather over 70 ft. long and nearly 32 ft. wide. The Mithraic cult, especially popular among the soldiers of the Roman armies, was very widely spread throughout the Empire in the early centuries of Christianity, with which it had certain analogies, particularly in its doctrine of the remission of sins through the shedding of blood. Its ceremonies were conducted in subterranean chambers like this temple. The Taurobolium, or slaying of the bull by Mithra, is represented on the walls, while one of the altars, almost cubic in form, represents rocks among which a snake is wriggling.

Lord Llangattock.

LORD LLANGATTOCK, F.S.A., who died on September 24 at his country seat, the Hendre, near Monmouth, aged seventy-five years, restored at his own charges several churches in the county; to Monmouth he gave the public hall and gymnasium. He owned 6,100 acres in Monmouthshire and much property in Bermondsey, Southwark, Newington, and Camberwell. To Southwark he presented the site of the free library. He was educated at Eton and Christ Church, and was elevated to the peerage as Baron Llangattock, of the Hendre, in 1892. His portrait-bust, by Sir W. Goscombe John, R.A., was recently presented to him as Provincial Grand Master for the Eastern Division of South Wales.

Chester Cathedral Cloisters.

REPAIRS are now in progress in the cloisters of Chester Cathedral under Mr. Gilbey Scott. They were rendered necessary by the collapse short time ago of part of the vaulting in the eastern walk. On examination it has been found that a mass of earth and debris, estimated to weigh 250 tons, rests upon the top of the vaults, and it is therefore not surprising that the weight and moisture should have caused the accident. This rubbish, which has not been removed, is supposed to represent the remains of the Dorter, which is known to have occupied this position, and was allowed to fall into decay.

The repairs have brought to light some interesting architectural features, including a doorway leading from the Dorter to the staircase by which the church was reached at night, and a small quatrefoil window. Three small brick-up windows found over the reading pulpit in the refectory are to be restored, as the Dean and Chapter are now proposing to restore the whole of this apartment, which has been much disfigured by utilitarian alterations from time to time. The entire cost of the works is estimated at £10,000.

The Bishops' Well, Glasgow.

IN some work of reconstruction at the Royal Infirmary, Well, Glasgow, has been discovered what is believed to be the Bishop's Well, appertaining to the palace, of which the chapel and ruins gave place to the building of the Royal Infirmary, to the west of the Cathedral, at the close of the XVIIIth century. The well has been found immediately beneath the entrance steps; it is vaulted, in concrete to about 5 ft. square, and has a boarding oak on two sides. The well has been filled to within a few feet from the top, and a brick wall, built on the south side, forms a sump for surface-water and perhaps land drains; a pipe sewer was also inserted for draining the well away.

The Episcopal Palace, Sonning, Berks.

IN the course of excavations at Holme Park last week has been discovered some interesting remains of the old manor house—a palace of the bishops and deans of Salisbury, and originally, it is believed, the episcopal seat of a medieval diocese during the separation of Berks and Wilts from Sherborne. In Sonning Palace Richard II.'s consort, Isabel, lived the interval between his deposition and death at Pontefract. The remains now brought to light comprise some well-preserved tiles of glass, old pottery, knives, and a silver pew-minted at York, 1504-9. There are also fragments of stone masonry and stairs, tiled floors and medieval fireplaces, with walls of flint and stone that encompass an area of nearly 10 acres in extent. The work of exploration was undertaken at the instance of Mr. Heyson, well-known archaeologist.

A St. Paul's Museum.

ACCORDING to the *Times* of October 1 the authorities at St. Paul's Cathedral are considering the disposal of a number of fragments of woodwork, including specimens of carving in oak by Grinling Gibbons, and his school of great beauty, which are at present stored useless and unseen in various nooks and corners, especially in the Oak Room over the choir. It is felt that these and other objects of interest in their possession should be made available for public inspection, and it has been suggested that they should be presented to the Victoria and Albert Museum, either singly or in the case of the woodwork, made up into a stall, if the material is found sufficient and suitable for this purpose. Another suggestion is that a museum might well be formed within the Cathedral itself for the exhibition of many objects of artistic and historical interest in connexion with the present and previous fabrics, a museum analogous to that of the Opéra del Duomo at Florence.

Rubbings of Monumental Brasses.

MR. J. S. M. WARD, F.R.Hist.S., who has contributed articles on our pages on several occasions, has in the press a book of monumental brasses illustrated with twenty-five reproductions of "rubbings" of real archaeological interest, attaching memorial brasses, hitherto known and appreciated only by the few, and the little volume preparation should be acceptable to students of the subject.

THE BUILDING TRADE.

THE INSURANCE ACT : EMPLOYEES' REFUSAL TO PRODUCE CARDS.

WE have already commented on the duties of employers in connexion with insurance cards or books, showing that it was an offence under the Insurance Act and the rules made thereunder for an employer to retain an employee's book or card, or reverse side of the card is raised in a communication received by Messrs. Gratzke, from the Insurance Commissioners and published in the *Times* for 4th inst. in answer to inquiry as to what steps must be taken by a workman to refuse to produce his card. The answer was that the employer must get a stamp on an emergency card (see Rules dated 12, 1912, proviso to Rule 5). Messrs. Gratzke, however, wrote in reply that workmen not only refused to produce cards or obtain them, but they also declined to allow the firm to make any deduction from their wages. The Commissioners already prosecuted several employers who failed to comply with the Act, so perhaps they will turn their attention to reclaiming employees who place their employers in a position of difficulty.

Regarding insurance cards under Part I. of the Act, under Rule 5 (2) it would appear that an offence for an employed contributor to fail to produce his card when reasonably required to do so for the purpose of stamping; under Part II. of the Act we can find no provision as regards "unemployment." Rule 3 (2) only says "it shall be the duty of the workman to deliver or cause to be delivered his book to the employer." Does it involve a penalty?

In another question arises, Can a private individual institute a prosecution for an offence under Part I. of the Act? Under Part II., by (1), it is clear that proceedings for a refusal to comply with the regulations can only be instituted by, or with, the consent of the Board (see subsect. 3); but sect. 69, which deals with the breach of Part I., or of any regulations made thereunder, contains no such restriction, merely enacting that a person guilty of such an offence shall be liable to a penalty "on summary conviction," becoming daily more apparent how the Act is bearing upon employers. They are made the collectors of the sums due from their workpeople, and they are to find the sums due in the first instance themselves; if the workpeople throw difficulties in their way they have to perform a duty laid upon them by the Act on the workman, to procure an emergency card. If their people are guilty of the offence of refusing to produce a card under Part I. of the Act they are able to prosecute, under Part II. they do so by permission of the Board.

If the workpeople refuse to allow their employers to deduct from their wages, the Act contemplates, the employer has no recourse to proceedings to recover them. How is it in these days of labour unrest for employers to be continually taking proceedings against their workmen for the recovery of such sums?

It may be said that, as the Act is framed, the burden will seem to be laid upon the employers; but as it stands the least the employers can do is to prosecute workmen who carry out their duties under the Act, to confine their energies to employers. But by no means least, it surely should be an offence for a workman to decline to allow an employer to deduct the workman's contribution from his wages.

NEW DISPOSAL WORKS, ILLKESTON.

Mayor of Ilkleson (Councillor S. Shaw) has opened new sewage disposal works for the borough of Ilkleson. In responding to a vote of "The Engineers," proposed by Mr. C. A. Sudbury, Mr. Wilcox said he embodied the most recent scientific principles of sewerage disposal. The estimated cost of the works submitted to the Local Government Board was £2,000, and the scheme had been tried out well under the estimate. During the construction of the works no less than £100 had been paid in wages locally.

BUILDING BY-LAWS.

At the annual general meeting of the Institution of Municipal Engineers on October 11 Mr. Frederick W. Platt read a paper on "The Modernising of Building By-laws," in the course of which he said:—

"The recent circular letter of the Local Government Board to local authorities directing attention to the need of reviewing the existing codes of by-laws in operation in the various local governing centres of England and Wales is deserving of much attention. The Model Code has, on the whole, been serviceable. It now needs modernising, and the intention of the Board to do so is greatly welcomed."

The authors of the Model Code in drafting the earlier forms of by-laws had regard mainly to buildings of stone or brick construction, and, apart from what is considered their respective character, they are inappropriate to types of construction now in use, such as buildings of hollow blocks or slabs of terra-cotta, concrete, reinforced brickwork, etc.; for hollow or half-timbered walls and steel or other framed walls hung with tiles, slates, etc., filled in where necessary with incombustible materials; for buildings where piers are employed, and where large window openings are needed; or for the thickness of walls of outbuildings.

Again, the ordinary clauses for the laying-out of roads do not permit of the class of roads which have been designed in some garden cities, neither do they differentiate between the type of paving needed for varying grades of roads or for exceptional arrangements which are demanded in certain cases by the configuration of the ground.

What form should modernising take? Take the question of walls, floors, and roofs—that is, to ensure "due stability" in them. Should not the knowledge of the behaviour of materials be utilised in determining the various sizes of the respective parts rather than tabulated sizes of the thickness of each wall or of the materials being set out in the form of a by-law? For example, the present Model Code prescribes that buildings shall be enclosed with walls, termed external, party, cross, or return walls, constructed of hard, incombustible materials, such as good bricks, etc., and then proceeds to give the thicknesses of the walls according to the particular height the wall is to be erected, neglecting entirely whether any loads were to be transmitted to such walls from floors or subsequent loading when in use.

In this matter of loading it is common practice to find that the joists of buildings of the cottage type were rarely built into party-walls, but often are supported upon a wall half-brick in thickness and an external wall, the thinner wall thus carrying a greater proportion of the weight of the building than the thicker external wall. Obviously such an external wall, if built of the by-law thickness, might be either too thick when not loaded or too thin when loaded. The code does not recognise a wall half-brick in thickness, nor does it, under such conditions as here mentioned, prohibit its use. Another fallacy is where almost the whole of a story is required as an opening. The code here requires sufficient piers to be provided, or in some cases story posts, but never states what a sufficient pier or story post is, or how such is to be determined.

Again, modern buildings of the warehouse type are rarely simple in construction. They are often built upon highly valuable land, which leads to a varying distribution of the loads supported by the floors, whose strength has to be determined by the loading circumstances of each particular case. To apply a model code based upon a universal system of high loading to such buildings would result in unnecessary expense being incurred in the thickness of the walls or strength of the floors, without necessarily providing uniformity of strength throughout the building.

Therefore, if full advantage is to be taken of this opportunity to revise an existing code

of by-laws, consideration should be given to the desirability of including in the revised code power to determine that the various parts of at least buildings of the "public or warehouse" class should be so designed that when loaded as intended the buildings would be in equilibrium throughout. Obviously much care would be needed to draft governing regulations. The following points, however, might form the subject of consideration:—

(1) The type of building and the purpose for which it would be erected.

(2) The type of material to be used in its erection.

(3) The maximum stresses permitted in such materials.

(4) The method of calculation to be followed in determining the resistance of the materials, and the effect of the loading on the various parts for the determining of both external and internal forces.

(5) The extent of the details required from the building owner to enable the local authority to be satisfied that due stability would be obtained, and the nature of the declaration that the building would be duly supervised during construction.

(6) The nature, type, and extent of the tests to be made during and after erection to ascertain that the above conditions were fulfilled.

(7) The guarantee that the building would not be internally stressed to an extent exceeding the designed resistance.

Some such regulations would at once provide all the power that a local authority needed to ensure "due stability" in every portion of buildings other than those of the domestic type, and would remove from the code all those cumbersome rules respecting thickness of walls and their attendant variations consequent upon some contingency often more or less remote.

In matters of means of egress, disposition of seating in public assembly-rooms, position of staircases, situation and type of sanitary accommodation in buildings, all could be more usefully regulated by taking into account the type of construction of the building, as well as the nature of the business or undertaking to be carried on therein. What always obtains under the Model Code is that a minimum of structural stability, based upon an ordinary use, is prescribed; and this becomes in practice an actual maximum.

Domestic buildings would require different treatment to public or warehouse buildings. They are subject to greater changes and different usage. Yet modernising even in their "structural stability" by-laws is possible. Why should walls require footings if resting upon sufficient concrete or rock foundation? Why should parapet walls be needed, with all the risk of conveying moisture into the houses? Why should window-frames be required to be set back $4\frac{1}{2}$ in. from the face-line of buildings? Why should overhanging eaves be prohibited, considering all the protection from dampness they afford to the walls beneath them? Many other questions could be usefully asked by those revising by-laws.

And the inquiry could be carried on throughout those by-laws which are made for "purposes of health." Why should isolating traps, with their ground-level inlets, be demanded? Why should not power be obtained to enable a regulation to be made governing the cubic contents of a room and prescribing the ratio between height, length, and width of all living-rooms, instead of the present one dealing only with height? Should not a regulation be possible requiring all dwelling-houses to be provided with a pantry or larder, and also that all living-rooms should have at least one window in them through which the sunlight can pass every day the sun shines? By-laws dealing with the construction, direction, width, length, and paving of streets should be carefully considered. Should not regulations be made enabling the owners of streets to complete them with dustless paving rather than with the ordinary sett paving, which is often laid with open insanitary joints?

The limitation of the number of houses or other buildings in a row should be considered, and rules prescribed to direct that the course of streets should be such as to enable the maximum amount of sunlight to pass into the buildings erected upon their sides; and to further make provision for the encouragement of open spaces at the front in addition to the land set apart for street purposes, the latter of which might be reduced in width if additional space were provided for use as garden land in front of buildings. Some balancing clauses, whereby this type of laying-out would be made possible, would have an encouraging effect upon the minds of persons who would be considering the development of land, especially if the effect of the clause would be to reduce the cost of street works, which oftentimes are greater than the value of the land for which the works are undertaken.

Many other points might be adduced to show the need of modernising, but one question should be kept foremost in the mind of those considering the subject, and this is it: That the local circumstances should be fully considered before determining the phrasing of any particular regulation.

ADDITIONS TO BUILDINGS AT THE ROYAL BOTANIC GARDEN, EDINBURGH.

THE Town Clerk of Edinburgh has prepared a Report with reference to the additions to the buildings at the Royal Botanic Garden in regard to which differences have arisen between the Corporation of Edinburgh and the Board of Works in consequence of the line of the new buildings having been made to project about 18 ft. beyond the building line of the street. Sir Thomas Hunter points out that the Corporation objected to the encroachment, objection being mainly founded on public policy, but partly also on legal grounds. The objections were stated:—(1) Incongruity of surroundings (the new building is constructed of brick harled with stone facings, while hitherto Government buildings in Edinburgh have been substantial, dignified, and appropriate); (2) projection beyond the general building line; and (3) that the building presents an obstacle to the future widening of the street. The Board of Works now propose completing the extension of the laboratories, and the legal aspect of the Corporation's objection refers to this proposal. In the litigation which had taken place in the Court of Session between the Corporation and the Crown the Lord Ordinary had held that the Commissioners were subject to the 30-ft. line restriction, but the First Division held the opposite opinion. Even a successful appeal to the House of Lords would not assist the Corporation already erected. It would, however, mean less expense to the Corporation when they came to widen the street, if they had to deal with one building rather than with two, and the question was whether by arrangement the whole building might not even yet be kept back. It was regrettable that the Government should have insisted on erecting buildings in opposition to the wishes of the Dean of Guild Court and Town Council when there was no necessity for such a step.

According to the *Scotsman*, members of Edinburgh Town Council were in receipt of a letter on the 10th inst. from Mr. C. E. Price, M.P., which confirms the statements made regarding the possibility of an amicable settlement of the difficulties between the Office of Works and Edinburgh Corporation regarding the building line at the Botanic Gardens. Mr. Price asks the members to give the matter their careful consideration before next Council meeting, as Lord Beauchamp, the First Commissioner of Works, is anxious to get the matter settled as quickly as possible. The letter relates that the Parliamentary representatives of Edinburgh and other members connected with the city met Lord Beauchamp. His Lordship's difficulty, previous to the letter, was in getting the Treasury to spend money in pulling down the building it had so recently erected. After considerable discussion the following suggestion was made:—That the Town Council be at the expense of taking out the front portion of the present building and setting it back to the line desired. This could be done without materially altering the building as a whole, and would not involve a large expenditure of money, as the frontage and the rooms adjoining it are of such a nature that this proposal could easily be carried out. If this proposal is agreed to it would leave the Office of Works free to amend their plans for the new building, so as to find accommodation for the classrooms destroyed. It will necessarily involve the

Treasury in an increased expenditure, but there would be less difficulty in securing this than the former proposal to share the expenditure upon the buildings as a whole. Apart from the particular buildings concerned, other and more extensive proposals are under consideration by the Department, which, if carried out, will greatly increase the amenities of the Botanic Gardens.

REGISTRATION OF PLUMBERS.

THE General Council for the National Registration of Plumbers met last week at the Council House, Bristol. The High Sheriff (Mr. R. E. Bush) presided in the absence of the Lord Mayor. Representatives of public authorities and plumbers were present from all parts of the kingdom. In the course of the proceedings the Council adopted the recommendation of a Committee that, "In order that the public may have greater security for the efficiency of the sanitary appliances and water services in their houses, the work connected with such appliances and services may be so marked by registered plumbers that the names of the master plumbers, or other employers, and also of the operative plumbers employed to execute the work, may be identified and recorded, and a check may thus be placed on the employment of unqualified or irresponsible persons to execute plumbers' work." At the conclusion of the Conference the Chairman, Mr. H. D. Searles-Wood, F.R.I.B.A., made a statement with regard to the position of the building trade and the National Insurance Act, in which he said that one of the most important functions of the Act was the improvement of the public health. *Inter alia*, the Act empowered the Insurance officers to arrange for the testing of the skill and knowledge of any insured workman whose repeated failure to obtain or retain employment appeared to be due to defects in those respects, and in suitable cases to pay out of the employment fund all or any of the expenses incidental to the provision of his instruction. If that was construed, as it was anticipated to be construed, in its relation to the public health, the test and instruction of the plumber would call for the consideration of the General Council of the National Registration of Plumbers.

IMPROVED FIRE-ESCAPES FOR NEW YORK BUILDINGS.

THE question of improving fire-escape facilities in New York has recently been under consideration by the Bureau of Buildings under the direction of Mr. Rudolph P. Miller, the Superintendent. In New York the ordinary means of escape generally consists of a series of iron balconies at the several stories, connected by stairs and provided with a hinged ladder that can be let down from the lowest balcony in case of need. As such ladders are often found to be too heavy for manipulation by persons requiring to use them, it is now proposed that they shall be balanced with a counterweight and furnished with guides. In buildings with a large number of occupants balanced iron stairs are recommended instead of ladders. One advantage of balanced ladders or stairs is that the height of the lowest balcony above the street may be considerably increased. The capacity of exterior fire-escapes has been greatly increased in some cases by arranging two intersecting stairs in the form of a letter "X" between successive balconies.

GENERAL BUILDING NEWS.

CHANCEL, CHURCH OF ST. LEONARD, MUNDFORD. The chancel of the ancient church of St. Leonard, Mundford, Norfolk, has been reopened after restoration. Among the features of the work is a rood-screen, completing the old XIVth-century screen, and supporting the new organ in its carved case. The interior of the new roof of the chancel is treated in blue and gold, as is the Early English masonry of the east window. The alabaster reredos, containing the Crucifixion and eight other carved figures, is also treated in colour. Mr. J. N. Comper is the architect.

CHURCH, EDINBURGH.

A new church, situated at the west end of Rose-street, has been erected on the site of the old Charlotte Church. The new building, providing accommodation for 950 people, is in the Renaissance style, in harmony with the adjacent architecture of Charlotte-square. The two principal entrance doors are placed in the centre of the Rose-street front, and give access to the main entrance vestibule, which

extends the entire width between the principal staircases. The lower hall is specially arranged for Sunday-school work. The main auditorium is the baptistry, which sunk level with the platform. The gallery extends along the north, east, and west walls. An upper hall is centrally placed on the floor. This hall accommodates some 500 people, while in the basement hall accommodation is provided for between 400 and 500 people. There are also various other rooms including a business-room. The joint architects of the new building are Mr. James Arnott, of Messrs. Sydney Mitchell & Wilson, and Mr. J. Inch Morrison, Edinburgh.

ENLARGEMENT OF GABALTA CHURCH.

It is proposed to enlarge St. Mark's Church, Gabalfa. The plans, prepared by Mr. E. Vaughan, and approved by the Incorporated Church Building Society and the Llandudno Church Building Society, will increase the accommodation by 270 sittings, at a cost of 2,500. The first section takes the form of a new north aisle, the extension of the north-westward, and the provision of an organ chamber and heating cellar. By the second section of the proposed additions, which will be commenced as soon as funds are forthcoming, it is intended to add a south aisle, a new chancel with ambulatory, and a new vestry and choir vestries, and a tower at the west end. The total accommodation to be provided is 649 sittings, and the estimated cost of the whole scheme is 5,500. This includes the tower, 20 ft. in base and rising to a height of 70 ft. to the parapet.

CHURCH, LANGLEY MILL.

The new Church of St. Andrew, Langley Mill, has just been consecrated by the Bishop of Southwell. The church has been erected at a cost of 6,300. It is built in the Gothic style of Derbyshire stone, and contains a nave and south aisle and a south transept, with a tower, and a lady chapel. The timber-work is of English oak. The total length of the church is 120 ft. and the breadth 52 ft. and the tower 56 ft. The architect is Mr. J. S. Brooklesby, of Merton, Surrey. The church has seating accommodation for 500.

NEW HALLS, YORKER PARISH CHURCH, NEW GLASGOW.

The new halls in connexion with York Parish Church were formally opened on Saturday last. The halls have been erected from the designs of Mr. H. D. Walton, architect, at a cost of about 1,700. The large hall provides accommodation for 420 persons.

ST. JAMES'S (CHURCH OF SCOTLAND), EAST DUNDEE.

A bronze tablet to the memory of the Alderman John Somerville was unveiled in the church on the 10th inst. by the Mayor of Dundee (Alderman W. Breckinley, J.P.). The tablet is designed in the late Gothic manner. Spandril shields show the arms of St. James and St. Andrew, and floral ornament, which is sparingly introduced, is based on this. The inscription is enclosed within a cusped arch and surmounted by cross and crown. The tablet was modelled and cast by Messrs. H. W. Cashmore & Co. of Victoria-street, S.W., from the design and details of Mr. A. J. Clifford Esq., Lic.R.I.B.A., East Dulwich-road, S.E.

HIGH SCHOOL FOR GIRLS, KIDDERMINSTER.

The Countess of Dudley recently opened a high school for girls which has been erected by Worcester-shire County Council at Kidderminster. The school stands on a site which was formerly formed part of the Hill-grove Estate. The building is built of red brick, with dressings, and accommodates 200 students. There are eight classrooms, with art, music, laboratory, and lecture-rooms. A caretaker's house has also been erected. The total cost of buildings and equipment is about 10,000 exclusive of the site. Mr. J. Bridgewater, Cradley Heath, has been the contractor, and Messrs. Ritchard & Pritchard, of Kidderminster, the architects.

GEORGE HERIOT'S SCHOOL, EDINBURGH.

New science laboratories have been erected and added to the school at a cost of about 15,000. The new building is 175 ft. in length and three stories high, and contains geographical lecture, apparatus, preparation, master electrical research, dynamics, and other rooms. Electric light has been installed throughout, and the plans for the new works were prepared by Mr. John Anderson, superintendent of works for George Heriot's Trust.

COUNCIL SCHOOL, DALLAS-ROAD, LANCASTER.

The opening of the new Council School in Dallas-road, Lancaster, took place on the 8th inst. The new schools will take the place of the Sulyard-street Council School. The work in the designing and execution of the plans, says the *Lancashire Daily Post*, has been

led out by the Borough Surveyor, Mr. C. Bradshaw. The school is one of the designed with a detached or insulated hall. The Board of Education had the ordinary central hall type of school built to ventilate, and when used for singing will disturb the work in the classrooms. There will be through ventilation for classrooms and central hall by the plan adopted. The school is designed to accommodate 940 pupils, but as it will be also used as a room for manual training, cookery, and sewing, the total accommodation is for 1,000 pupils. The building is Renaissance in character. The basement will be used for manual training, cookery, and laundrywork. There is also provision for practical geography. The first floor will be utilised in summer as an air school. The hall is 61 ft. by 30 ft., is provided with a gallery at one end. The first floor is provided for. There is also the first floor of the junior school, with south aspect. There is also on the same floor head-rooms, a kitchen, a lavatory, and a storeroom. There is also a south aspect. Provision is made for science teaching and practical geography in this department. For the senior school, chairs are provided at their desks. By having a sliding partition, a music-room will be provided. Of the many classrooms there are only two provided with a north aspect, these are made especially light. Staffs are provided on each floor. There are also lavatories provided. The total cost of the school is about 14,000.

SCHOOL, GILMERTON, EDINBURGH.

Plans prepared by Mr. Inch Morrison, architect, Edinburgh, for a school to replace the old Female School, Gilmerston, have been adopted by the School Board. The school will accommodate 400 pupils.

PORTOBELLO TOWN HALL.

Edinburgh Dean of Guild Court, Edinburgh Corporation were granted warrant to build a Town Hall for Portobello. The new hall will face the High-street, and is designed to accommodate 600 people in the area and over 500 in the gallery. The platform will be about seventy people, and the whole building has been designed to suit operatic, theatrical, and similar forms of entertainment. In addition to the main hall there will be a kitchen, a lavatory, a bar, and a refreshment room. There will be crush halls at entrance, and corridors will run along the sides of the area for the freer movement of the patrons. The building, the front of which is to be of stone, will be set back from the High-street a distance of 45 ft., so as to be a drive in at each side of the main entrance. The cost of the Town Hall will be about 6,000. The plans have been prepared by Mr. Williamson, the City Architect.

NEW PAVILION, CARNOSTIE, N.B.

The Carnoustie Pavilion was opened on Friday last in Park-avenue, one of the main streets between the High-street and the sea. The hall is 45 ft. wide by 65 ft. long, has a seating capacity for about 900 people. The gallery is constructed on the cantilever principle, the holding capacity being about 200. There is a promenade along the back, which will accommodate nearly 200 people. The main front is finished in white Portland stone. The building has been erected from plans under the special supervision of Mr. P. Swanson, architect, Kirkcaldy, and the building will be between three and four thousand pounds. The contractors for the work were: Messrs. John Carnegie, Barry, joiners; Mr. J. Stewart & Sons, Dundee; iron and steelwork, Messrs. P. & W. McLellan, Ltd., Glasgow; plumber-work, Messrs. J. Farquhar & Son, Carnoustie; asphalt, Vulcanite, Belfast; slater-work, Messrs. Alexander & Sons, Carnoustie; plasterers, Messrs. James & P. Dundee; glaziers, Messrs. Gray & South, Dundee; heating, Messrs. Watt & Martin, Kirkcaldy; electric installation, Mr. J. B. Robertson, Edinburgh; rator, Mr. E. Mathewson, Carnoustie; engine and dynamo, Messrs. Morrison & Glasgow.

TRADE NEWS.

Under the direction of Mr. Robert Lynn, architect, Belfast, the "Boyle" system of dilution (natural), embracing Boyle's latest "air-pump" ventilators and air-inlets, has been applied to Warrington Female School. The Spittesloe Hospital, Luton, is being fitted with Shorland's warm-air ventilating plant at Manchester stores, with descending flues and patent exhaust roof ventilators, by Messrs. H. Shorland & Brother, of Failsforth, Manchester.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 TO 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Chelsea.—Erection of a projecting hood over the entrance to a house on the north-western side of Mallord-street, Chelsea (Mr. W. D. Caroe for Mr. P. Morris).—Consent.

Chelsea.—Erection of a projecting clock at No. 51, Sloane-square, Chelsea (Greenwich Time, Ltd., for Victualers, Ltd.).—Consent.

Deptford.—Erection of a urinal at the rear of the "Black Horse" public-house, No. 195, Evelyn-street, Deptford, to abut upon Hood-street (Messrs. Truman, Hanbury, Buxton, & Co., Ltd., for Mr. Capon).—Consent.

Fulham.—Erection of a two-story addition to the Burlington Laundry, Rigault-road, Fulham (Mr. J. Coddington).—Refused.

Hackney, South.—Erection of a building to abut upon the southern side of Leagrave-street and the eastern side of Chatsworth-road, Hackney (Mr. C. W. Hodgson for Messrs. Brook & Sons).—Consent.

Hammer-smith.—Erection of a cinematograph theatre to abut upon the western side of Queen-street and the southern side of Bridge-street, Hammer-smith (Messrs. F. Marcham & Co.).—Consent.

Hampstead.—Erection of an iron and glass porch in front of No. 61, Compayne-gardens, Hampstead (Messrs. L. Solomon & Son for Mr. M. Samuel).—Consent.

Kensington, North.—Erection of a porch at No. 13a, Penbridge-place, Notting Hill-gate (Mr. J. S. Beard).—Consent.

Kensington, North.—Re-erection of an iron and glass covered way at No. 14, Ladbroke-road, Notting Hill-gate (Mr. W. Willett for Mr. E. W. Martelli, K.C.).—Consent.

Kensington, South.—Addition at No. 128, Church-street, Kensington (Messrs. Chesterton & Sons).—Consent.

Kensington, South.—Porch and balcony at No. 5, Holland-park, Kensington (Messrs. Kemp & How for Mr. O. Gerdes-Hansen).—Consent.

Kensington, South.—Projecting hood at No. 18, Victoria-road, Kensington, next to Douce-place (Messrs. W. Whiteley, Ltd., for Sir Algernon Willoughby Legard, Baronet).—Consent.

Lewisham.—Addition in front of Stanstead Lodge, Northwood-road, Catford (Mr. A. Sykes for Mr. H. Gardner).—Consent.

Lewisham.—Erection of porches to four houses on the southern side of High-road, Lee, westward of Rembrandt-road (Mr. A. S. Gover for the House Property and Investment Company, Ltd.).—Consent.

Lewisham.—Erection of a building on the southern side of High-road, Lee, to abut upon Rembrandt-road (Mr. A. S. Gover for the House Property and Investment Company, Ltd.).—Consent.

Lewisham.—Erection of a projecting one-story shop in front of No. 6, Howarth-road, Catford (Mr. J. H. Beesley for Mr. F. Corbett).—Consent.

Lewisham.—Erection of eleven houses on the eastern side of Muirkirk-road, Catford, with flanks abutting upon Braidwood-road and Downhill road (Mr. R. Stewart for Lord Rowallan).—Refused.

Marylebone, East.—Erection of balconies in front of Nos. 179, 181, 183, and 185, Great Portland-street, St. Marylebone (Mr. R. Angell for Mr. C. E. Peczenik).—Consent.

Marylebone, East.—Erection of Nos. 216 and 218, Great Portland-street, St. Marylebone, with projecting bay-windows (Mr. F. T. Verity).—Consent.

Norwood.—Erection of Nos. 25 to 43, odd numbers only (inclusive), Doverfield-road, Brighthelm, with bay-windows, oriel-windows, and porches (Mr. Macintosh).—Consent.

Norwood.—Erection of bay-windows and balconies at Nos. 26 and 28, Rosendale-road, Dulwich (Mr. D. W. Chapman de Louth).—Consent.

Paddington, North.—Re-erection of projecting entrance steps and the erection of a projecting balcony at Welford's Dairy, Shirland-road, Paddington (Messrs. Harvey & Potter for Messrs. Welford & Sons, Ltd.).—Consent.

Paddington, South.—Retention of two oriel-windows at No. 23, Sussex-square, Bathurst-street, Paddington (Messrs. T. W. Hoath & Son).—Consent.

St. Pancras, North.—Erection of a flight of steps leading from the pavement to the basement level in front of No. 5, Highgate-road, St. Pancras (Mr. J. L. Worsell for Court "Purveyance," of the Ancient Order of Foresters).—Consent.

St. Pancras, South.—Projecting sign in front of No. 170, Tottenham Court-road, St. Pancras (Mr. P. J. Stannard).—Consent.

Strand.—Projecting sign in front of Tottenham Court-road Tube Railway Station, Oxford-street (Mr. E. P. Grove for the Central London Railway Company).—Consent.

Wandsworth.—Erection of houses with bay-windows and porches on the southern side of Hotham-road, the northern side of Clarendon-road, and both sides of a new road out of the southern side of Hotham-road, Wandsworth (Mr. A. Dawkins for Mr. R. B. Mason).—Consent.

Wandsworth.—Erection of a projecting sign at No. 186, Balham High-road, Wandsworth (Mr. R. S. Powell for Messrs. Herbert Clarke, Ltd.).—Consent.

Westminster.—Retention of an iron and glass hood at No. 16, Charles-street, Knightsbridge (Messrs. F. A. Shepherd & Sons).—Consent.

Whitechapel.—Erection of a bay-window in front of No. 15, Great Princes-street, Whitechapel (Mr. B. J. Capell for Messrs. Truman, Hanbury, Buxton, & Co.).—Consent.

Whitechapel.—Erection of a projecting clock in front of No. 1, Goulston-street, Whitechapel (Greenwich Time, Ltd., for Victualers, Ltd.).—Consent.

Woolwich.—Bay-windows at Nos. 68 to 76, even numbers only (inclusive), Dungeon-road, Eltham (Mr. J. J. Bassett for Lord Rowallan).—Consent.

Woolwich.—Erection of porches and bay-windows to ten houses on the western side of Rochdale-road, Plumstead (Mr. T. G. Arnold for the Royal Arsenal Co-operative Society, Ltd.).—Consent.

Woolwich.—Erection of three buildings on the northern side of Bexley-road, Woolwich, with flanks abutting upon Greenhoolm-road and Elderside-road (Mr. R. Stewart for Lord Rowallan).—Refused.

Width of Way.

Bethnal Green, South-West.—Erection of a building at Nos. 11-15, Satchwell-street, Bethnal Green-road, Bethnal Green, and to the omission of a layer of concrete over the site (Mr. W. W. Beaumont for Mr. E. Sherry).—Consent.

City of London.—Erection of a porch in front of the Dutch church, Austin Friars, City (Sir Alexander R. Stanning).—Consent.

City of London.—Re-erection of No. 67, Lombard-street, City (Mr. H. L. Anderson for Messrs. Glyn, Mills, Currie, & Co.).—Consent.

Finsbury, Central.—Erection of a building to abut upon Skinner-street and Good-street, Clerkenwell (Mr. F. D. Smith for the People's Picture Playhouse, Ltd.).—Consent.

Greenwich.—Erection of a building on the northern side of Wood Wharf, Greenwich (Mr. A. Roberts for the Anglo-Swedish Electric Welding Company).—Consent.

Greenwich.—Retention of a boundary at less than the prescribed distance from the centre of the adjoining footways in connexion with the proposed erection of buildings upon a site on the southern side of Kidbrooke-gardens, Blackheath (Mr. A. Griffin).—Consent.

Paddington, South.—Erection of a building on the eastern side of Polygon-mews, Paddington (Mr. W. H. Burt for Messrs. A. Turner & Co.).—Consent.

Peckham.—Retention of pavement lights and vaults at Nos. 11 and 13, Sylvan-grove, Old Kent-road, Peckham (Mr. W. C. Symes for Messrs. Henderson & Spalding).—Consent.

Southwark, West.—Erection of a building upon a site abutting upon Cathedral-street and Winchester-square, London Bridge (Mr. M. W. Mats for the proprietors of Hay's Wharf).—Consent.

Width of Way and Lines of Frontage.

Hoxton.—Erection of a block of buildings upon the site of No. 13, Dereham-place, and Nos. 4, 5, and 6, Norfolk-gardens, Curtain-road, Hoxton (Messrs. Lovagrove & Papworth for Mr. L. Eison).—Consent.

St. Pancras, South.—Erection of a building upon a site abutting upon Mabledon-place, Bidborough-street, and Hastings-street (Mr. W. H. Woodroffe for the National Union of Teachers).—Consent.

Wandsworth.—Retention of a urinal at the rear of the "Duke of Devonshire" public-house, Balham High-road, Wandsworth, next to Balham New-road (Mr. J. Fleming).—Consent.

Width of Way and Construction.

Bethnal Green, North-East.—Erection of a building of a temporary character at the rear of No. 278, Globe-road, Bethnal Green, next to Gauber-street (Messrs. Wilkinson & Wilkinson for Dr. J. A. Guinness).—Refused.

Wandsworth.—Retention of a cycle shed of a temporary character at the rear of "The Corner Pin" public-house, Summerstown (Mr. E. Penn for Mr. H. Washington).—Consent.

Lines of Frontage and Construction.

Deptford.—Building of a temporary character at No. 2, Truvellys-road, Deptford (Mr. W. Gilson).—Consent.

Dulwich.—Temporary motor-car shed at the rear of No. 100, Alley-road, Dulwich, next to South Croxted-road.—Consent.

Greenwich.—Wood and iron building of a temporary character at the corner of Woolwich-road and Westcombe-hill, Greenwich (the London and Counties Tradesmen's Association).—Consent.

Hackney, Central.—Three buildings of a temporary character at the rear of No. 62, Downham-road, Hackney, next to Culford-road (Mr. W. Peall).—Consent.

Hackney, Central.—Showcase on the forecourt of No. 100, Clarence-road, Hackney (Messrs. Eintracht & Merland).—Consent.

Hackney, Central.—Wood and glass showcase on the forecourt of No. 54, Mare-street, Hackney (Mr. W. E. Hinton).—Consent.

Hackney, North.—Temporary coal office at No. 43, Stamford-hill, Hackney (Messrs. A. W. Osment & Co., for Mr. H. F. Stanley).—Consent.

Hackney, South.—One-story addition and a water-closet building of a temporary character at No. 95, Rushmore-road, Hackney, next to Elderfield-road (Mr. J. Codrington).—Consent.

Lewisham.—Motor-house of a temporary character at No. 2, Brandram-road, Lee (Messrs. Harrison & Co., for Mrs. T. Downe).—Consent.

Lewisham.—Retention of a temporary wood and iron building at "Holmleigh," Baring-road, Grove Park (Mr. H. Le Forester).—Consent.

Lewisham.—Retention of a wood and iron building at No. 222, Verdant-lane, Hither Green (Mr. A. O. Harrison).—Refused.

Peckham.—Temporary wood and iron show building, used as an office, at Nos. 761 and 763, Old Kent-road, Peckham (Messrs. W. Cooper, Ltd.).—Consent.

Line of Frontage and Space at Rear.

Hackney, North.—Erection of an addition in front of a house on the southern side of Springfield, Upper Clapton, eastward of No. 8, and to the irregular open space at the rear of such house (Messrs. Bannan & Rowe for Dr. F. E. Turner).—Consent.

Hackney, Central.—Retention of a lean-to shed at the rear of No. 519, Mare-street, Hackney, abutting upon the northern side of Sylvester-road (Mr. J. H. Rogers for Messrs. F. Bax & Son, Ltd.).—Refused.

Width of Way, Deviation from Certified Plans, and Cubical Extent.

St. George, Hanover-square.—Garage building in Pembroke-mews, Halkin-street, Westminster (Mr. E. Wimperis for Messrs. Rawlings Brothers, Ltd.).—Consent.

Width of Way and Working-Class Dwellings.

Chelsea.—Erection of blocks of intended dwelling-houses to be inhabited by persons of the working-class, upon a site abutting upon the western side of Leader-street, the north-eastern side of Pond-place, and the south-western side of College-street, Chelsea (Messrs. Joseph & Smith).—Consent.

Space at Rear.

Greenwich.—Erection of a building on the western side of Blackwall-lane, Greenwich, with an irregular open space at the rear (Mr. A. Roberts for the Guardians of the Greenwich Union).—Consent.

Hackney, South.—Erection of lock-up shops on the southern side of Lea Bridge-road, Hackney, eastward of Lower Clapton-road (Messrs. Moon & Ballinger).—Consent.

Hoxton.—Erection of a water-closet building upon the flat at the rear of No. 209, Kingsland-road, Hoxton (Mr. R. S. Powell).—Consent.

Paddington, South.—Building upon the site of Nos. 81 and 83, Edgware-road, Paddington, next to Cambridge-street, with an irregular open space at the rear (Mr. P. W. Davis for Mr. E. Tombs).—Consent.

St. George, Hanover-square.—Erection of a building abutting upon Warwick-row, Princess-row, and Brewer-street, Westminster (Messrs. A. E. Hughes & Son for Messrs. F. Gorringer, Ltd.).—Consent.

St. George, Hanover-square.—Addition at the fourth-floor level of No. 15, Clarges-street, St. George, Hanover-square (Mr. E. Keynes Purchase).—Consent.

Strand.—Erection of a building at Nos. 13 and 14, Archer-street, W., with an irregular open space at the rear (Messrs. H. P. Adams and C. Holden).—Consent.

Space at Rear and Construction.

Kensington, North.—Erection of an open shed and trellis-work on the roof of the back addition of Nos. 11-13, Lansdowne-road, Kensington (Mr. E. W. Marshall for Mr. E. Davis).—Consent.

Deviation from Certified Plans.

Kensington, North.—Re-erection of No. 1, Ladbroke-terrace-mews, Kensington (Messrs. Stock, Page & Stock for Mr. L. O. Engleton).—Consent.

Height of Buildings.

Hackney, North.—Erection of an addition to a warehouse building on the northern side of Arcola-street, Hackney (Mr. M. Miller).—Consent.

Westminster.—Erection of a building to abut upon the northern side of Matthew Parker-street and the southern side of Lewisham-street, Westminster (Mr. H. Chatfield Clarke for Sir Robert Perks, Bt.).—Consent.

Separation and Alteration of Building.

City of London.—Alterations at No. 158, Bishopsgate, City (Mr. F. Sherrin for Messrs. Lockharts, Ltd.).—Consent.

Building for the Supply of Electricity.

Norwood.—Erection of a two-story addition to be used as a store, a one-story lavatory addition, and an external steel and concrete gangway at the premises of the South London Electric Supply Corporation, Ltd., Bengeworth-road, Loughborough-junction (Messrs. F. & H. F. Higgs for the South London Electric Supply Corporation, Ltd.).—Consent.

Alteration of Buildings.

Hampstead.—Additional story to a bay-window at the rear of No. 117, Broadhurst-gardens, Hampstead (Messrs. W. & E. Hunt).—Consent.

St. Pancras, East.—Erection of an addition at the rear of No. 240, Camden-road, St. Pancras (Mr. H. Goodchild for Mr. Windus).—Consent.

St. George, Hanover-square.—Additional cubical extent in respect of the rebuilding of the premises of Messrs. Wimbush & Co., Pembroke-mews and Belgrave-mews East, St. George, Hanover-square (Mr. E. A. E. Woodrow).—Consent.

St. George, Hanover-square.—Alterations and additions at Nos. 162 and 163, Grosvenor-road, Piccadilly, whereby the cubical extent of the premises will exceed 260,000 cubic ft. (Mr. E. G. Hammond for Messrs. Theo. Masui, Ltd.).—Refused.

Stepney.—Alterations and the erection of an addition to the bottling store at the premises of Messrs. Mann, Crossman, & Paulin, Ltd., Russell-street, Mile End (Mr. W. Stewart for Messrs. Mann, Crossman, & Paulin, Ltd.).—Consent.

Uniting of Buildings.

Chelsea.—Formation of openings exceeding the statutory size in division walls at the premises of Messrs. Harvey, Nichols, & Co., Ltd., Knightsbridge, and to the use of double rolling steel shutters in lieu of double iron doors to such openings (Mr. F. E. Williams for Messrs. Harvey, Nichols, & Co., Ltd.).—Consent.

City of London.—Uniting of Nos. 44-46, Barbican, and No. 7, Bridgewater-street, City, by means of an opening at the ground floor level (Mr. G. Vickery).—Consent.

Holborn.—Retention of openings in a party wall at Nos. 235 and 236, Tottenham Court-road, Holborn (Messrs. F. J. Eadie & Meyers for Messrs. Flower & Sons, Ltd.).—Consent.

Islington, East.—Uniting of Nos. 2 and 3, Clarendon-buildings, Horsell-road, Highbury (Mr. W. H. Hillyer for Messrs. J. Timpson & Co.).—Consent.

Kensington, South.—Double armoured doors in lieu of double iron doors to openings in a division wall at the premises of Messrs. Derry & Toms, Kensington High-street (Messrs. Mather & Platt, Ltd., for Messrs. Derry & Toms).—Consent.

Kensington, South.—Erection of an iron and glass roof over a portion of the passage-way, at present unenclosed, leading to the Kensington High-street Station of the Metropolitan District Railway, and between the premises of Messrs. Ponting's, Ltd. (Messrs. John Barker & Co., Ltd.).—Refused.

Peckham.—Opening with steel sliding doors in the party wall between Nos. 11 and 13, Sylvan-grove, Old Kent-road, Peckham (Mr. W. C. Symes for Messrs. Henderson & Spalding).—Consent.

St. George, Hanover-square.—Formation of openings in the party wall at the basement and ground-floor levels between No. 6, Pollen-street, and No. 14, Hanover-street, St. George, Hanover-square (Mr. Delissa Joseph for Messrs. Weekes & Co.).—Consent.

St. Pancras, South.—Formation of an opening of greater width and height than specified in the said section in a party wall at premises abutting upon Gough-street and Phoenix-place, St. Pancras (Messrs. Holman & Goodham for Messrs. A. W. Gamage, Ltd.).—Consent.

The recommendations marked * are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDING IN THE PROVINCES.*

ABERDEEN.—Two houses (585L.); Mr. W. H. Lee, builder, Hengood, *via* Cardiff.

Aberdeen.—Additions to factory (3,000L.). Rose-street, for Messrs. Harroft & Co., hosiery manufacturers; Messrs. Jenkins & M. architects, 16, Bridge-street, Aberdeen.

Accrington.—Extensions to Victoria Mill for Messrs. R. Holt & Co., Ltd., cotton spinner.

Apperley Bridge.—Pumping-station; Mr. Garfield, Sewage Works Engineer, Tynm Hall, Bradford.

Ayr.—Cold storage building, Mill-street (1,500L.), for Messrs. Murray & Sons; Mr. V. Cowie, architect, Alloway-chambers, Ayr.

Bangor.—Workhouse infirmary (17,580L.). Messrs. W. Thornton & Sons, builders, 3, Wellington-road, Toxteth Park, Liverpool.

Beckenham.—Plans have been passed for five houses, Arrol-road, for Mr. A. W. Kee and five houses, Shrewsbury-road, for Mr. V. Davies.

Beworth.—Baptist church, Coventry-road (2,350L.); Mr. T. R. J. Meakin, architect, Hertford-terrace, Queen's-road, Coventry; Mr. L. Bunney, builder, Leicester-street, Bedworth.

Bilthorpe.—School (567L.); Mr. J. Green, builder, 2, Wood-street, Mansfield.

Birstall.—Alterations to parish church, *etc.* Mr. G. H. F. Prynn, architect, 6, Queen Anne's-gate, Westminster, S.W.

Bradford.—Additions to milk depot, Morley-street (4,560L.); Mr. Reginald G. Kirkbride, architect, Town Hall, Bradford.

Brickhaven.—School; Mr. G. C. Campbell, architect, Methil-place, Methil, Fifeshire.

Bristol.—Offices, Royal Edward Dock; Mr. L. S. McKenzie, City Engineer, Town Hall, Bristol.

Burbridge.—Additions to factory for Messrs. Robinson Brothers, hosiery manufacturers.

Cardale.—Riding school (3,000L.); Mr. J. V. Bennett, 38, Lowther-street, Carlisle.

Chadkirk.—Extension to warehouse of Messrs. Syddall Brothers, calico printers, 1, The Collier, Printers' Association, Ltd., 1, James'-building, Oxford-street, Manchester.

Cheadle.—School (3,235L.); Mr. W. Alcock, builder, 3, Bank-street, Cheadle.

Chelmsford.—Proposed municipal offices for Mr. C. Brown, Engineer, Town Hall, Chelmsford.

Chester.—Sanatorium (25,000L.); Mr. A. Matthew Jones, Surveyor, Town Hall, Chester.

Chuckery (Walsall).—School; Mr. John Taylor, Surveyor, Town Hall, Walsall.

Cleveleys.—Alterations and extensions to premises for the Cleveleys Hydro, Ltd. (20,000L.).

Codnor Park.—Clubhouse for the Secretariat, Conservative Club, Codnor Park.

Coppull.—Picture palace, Park-road, for the Coppull Picture and Variety Hall Company.

Cottingham.—Hall, rear of Council Office (2,000L.); Mr. J. H. Hanson, Surveyor, Urban District Council, Cottingham.

Crook.—Four houses for the Durham and Northumberland Coal Owners' Association.

Crookling.—Sanatorium (30,000L.); Mr. G. T. Moore, architect, 1 and 2, Foster place, Dublin.

Darlington.—Addition to works, Broom-street, for Messrs. Robery, Owen, & Co., iron goods manufacturers; extensions to works, Foster-street, for Nuts and Bolts, Ltd.

Darlington.—Alterations to premises, exchange-buildings, Northgate, for Messrs. Falconer, furnisiers.

Darlington.—Electric theatre; Mr. P. M. architect, Newcomen road, Darlington.

Denbigh.—Town and Market Hall (10,000L.); Mr. John Davies, Surveyor, Town Hall, Denbigh.

Dorrock.—Alterations to station and station hotel for the Highland Railway Company (3,000L.); Messrs. Cameron & Burnett, architects, Academy-buildings, Inverness.

Dublin.—Laundry (2,500L.); Mr. G. O'Connor, 42, Great Brunswick-street.

Dunbar.—Reconstruction of old Castle Park Barracks; Messrs. W. S. Cruickshanks & Son, builders, Low Gilmore-place, Edinburgh.

Dundee.—Extensions to Harris Academy (13,500L.) and Morgan Academy (10,500L.); the Dundee School Board.

Dundrum.—Library (1,500L.); Surveyor, No. 1, Rural District Council Offices, Rathdown.

Dunfermline.—Extensions to Hill House (4,000L.); Mr. F. W. Deas, 23, Rutland-square, Elgin.

Durham.—School, Waldrige-lane (5,000L.); Mr. W. Rushworth, Architect, Shire Hall, Durham.

Earby (near Colne).—Warehouse and working shed; Messrs. Wakon & Landless, architects, Nelson.

* See also our list of Competitions, Contracts, *etc.*, on another page.

ple. Barton.—Church institute, Station-
(6,000.); Mr. W. H. Sheffield, architect,
Barton; Messrs. Elson & Knight,
ers, Earls Barton.
ington.—Hospital (12,000.); Mr. H.
y architect, Sunnyside-chambers, West
side, Sunderland.
and.—Factory for Messrs. George Lumb,
cotton spinners, Wellington Mills,
eo-street.
oter.—Headquarters for 7th Battalion
H Devon Regiment; Messrs. Ellis, Son,
nden, architects, Bedford-circus, Exeter;
ra. Soper & Ayres, builders, Magdalen
ch, Exeter. Children's home (7,000.); Mr.
M. Challice, architect, Bedford-circus,
er; Messrs. Soper & Ayres, builders,
aden Bridge, Exeter.
asgow.—Additions to works, Cardonald.
Messrs. Cockburn, Ltd., safety-valve
rs. Alterations to Council Chambers
(4); Messrs. Morrison & Son, builders,
adie-road, Polmadie, Glasgow. Episcopal
ch, Bridgeton (6,000.); Mr. H. D. Walton
West, 218, West Campbell-street, Glasgow.
age for Messrs. Hunter, Barr, & Co.,
esale clothiers, Coburg-street; Messrs. H.
p. Barclay, architects, 245, St. Vincent-
ch, Glasgow. Stores for Messrs. Lowrie &
whisky merchants, 44, Washington-street
(2); Mr. James Erskine, jun., Eskville,
estoun. Proposed church extensions
(000.), for the Glasgow Presbytery of the
ch of Scotland.
oucester.—Infirmary (50,000.); Mr. H.
H. architect, Queen-street, Gloucester;
ard & Son, builders, Stroud-road,
cester.
yvan.—Extensions to Co-operative Society's
shops (3,000.); Mr. James Davidson, 95,
rison-street, Glasgow.
ays.—Enlargement of Arthur-street School
51; Messrs. H. J. Carter, Ltd., builders,
rs.
at Harwood.—School (6,000.); Rev. F.
son, Vicar, St. Bartholomew's Church,
at Harwood.
alfax.—Extensions to Kingston Toffee
s for Messrs. Riley Brothers, manufactur-
confectioners.
rexford.—Cold storage and bacon factory
(4); Messrs. Grooms & Bellington archi-
tects; Messrs. Pollard & Son, builders,
mouth-street, Bridgewater.
ove.—Extensions to police-station; Mr. H.
Scott, Surveyor, Town Hall, Hove.
ucknall Torkard.—Addition to teachers'
ing centre (2,400.); Mr. C. J. Bristowe,
all, architect, Nottingham.
ull.—Alterations to premises, Adelaide-
th, for Messrs. Moore & Robson's
ories, Ltd; additions to premises, Wilde-
st, for Messrs. Reckitt & Sons, Ltd., blue
infactories.
unard's Bog.—Pavilion for the Glasgow
torial Association; Mr. T. Dunoon Rhind,
itect, 28, Rutland-street, Edinburgh.
Inverness.—Extensions to garage (2,000.);
rs. Cameron & Burnett, architects,
demy-buildings, Inverness.
eighley.—House, stables, etc., Farnhill
hill (1,448.); Mr. T. H. Haigh, architect,
Exchange-street East, Liverpool; Messrs.
l & Jamieson, builders, Liverpool.
lanally.—Hall for Boy Scouts (4,000.); Mr.
Ham Griffiths, architect, Falcon Bridge,
ully.
urgan.—Extensions to factory (3,000.); Mr.
Lynn, 13, Ann-street, Belfast.

Manchester.—Thirty houses, Blackley Estate;
Mr. Henry Price, Architect, Town Hall,
Manchester.
Millbridge.—Enlargement of Wesleyan
Sunday-school; Mr. J. W. Burrows, architect,
Mirfield.
Minehead.—Post-office; Messrs. J. Burgess
& Son, builders, Tregonwell-road, Minehead.
Mirfield.—Alterations to Ledgard Bridge
Mills for Messrs. George Lyles & Sons, yarn
spinners.
Molland.—Drill hall, etc.; Messrs. Ellis,
Son, & Bowden, architects, Bedford-circus,
Exeter.
Morecambe.—Extensions to St. Barnabas'
Church (1,800.); Rev. J. A. Jackson, St.
Barnabas' Vicarage, Morecambe.
Morrison.—Extensions to works for the
Duffryn Steel and Tinplate Works Company.
Newcastle.—Electric theatre; Mr. P. L.
Browne, architect, Pearl-buildings, Northum-
berland-street, Newcastle. Picture hall;
Messrs. White & Stevenson, architects, Pilgrim-
street, Newcastle. Proposed reconstruction of
Town Hall; Mr. F. Holford, Architect, Town
Hall, Newcastle.
New Mills.—Alterations at the Newtown
passenger station for the London and North-
Western Railway Company, Ltd., Easton
Station, N.W.
Newquay.—Ten houses, St. John's-road
(1,500.); Mr. J. Ennor, jun., Surveyor, Council
Offices, Newquay.
Ormskirk.—Electric sub-station and battery-
station for the Lancashire and Yorkshire
Railway Company; Messrs. J. Robinson &
Son, builders, 166, Bursough-street, Ormskirk.
Pentwyn (Aberystwyth).—School; Mr. T. G.
James, County Education Office, Newport.
Peterborough.—Construction of sewage
works (8,752); Mr. C. Chamberlain, builder,
Leicester.
Picking.—Adaptation of temperance hall
into cinematograph theatre; Mr. R. M. Cover-
dale, builder, Bridlington.
Pokesdown.—Fire-station (2,434); Messrs.
Jones & Soward, builders, Seamoore-road,
Bournemouth West.
Pontesford.—Garage and stabling (970);
Messrs. Dickens-Lewis & Haymes, architects,
Talbot-chambers, Market-street, Shrewsbury;
Messrs. Treasure & Sons, Ltd., builders,
Chester-square, Shrewsbury.
Portland.—Pumping-station, etc. (8,163);
Messrs. Jesty & Baker, builders, Castletown,
Portland.
Ravenhead.—Proposed parochial hall for the
Vicar of St. John's Church.
Reading.—Alterations to University,
Whitley; Messrs. C. Smith & Son, architects,
164, Friar-street, Reading.
Rooford.—Alterations and additions, etc., at
infirmary (2,970); Messrs. Myall Brothers,
Connaught-road, Hford.
Rotherham.—Additions at dust destructor
(3,751); Messrs. Heenan & Froude, builders,
Worcester.
Roxton.—Extension to premises for the
Hawk Spinning Company.
Scarborough.—Improvements and alterations
to premises (8,000.) for the Cliff Bridge Com-
pany.
Soulcoates (Hull).—Warehouse for Messrs.
Sissons Brothers & Co., Ltd., oil and whitening
manufacturers, Hull.
Shaw.—Extension to mill for the Hawk Mill
Company, cotton spinners.
Sketty.—Business premises; Messrs. Thomas
Meager & Jones, architects, Wind-street,
Cardiff.
Southampton.—The following plans have
been passed:—Three houses, Janson-road, for
Mr. J. Bowers; additions to Park Hotel,
Slurley-road, and alterations to Richmond
Tavern, Bridge-road, for Mr. A. F. Out-
teridge; alterations to Oddfellows' Hall, St.
Mary-street, for Messrs. Lemon & Blizard;
fourteen houses, Leigh-road, and motor garage,
Cranmere, Highfield lane, for Mr. J. Smith.
A plan has been lodged for four houses off
Highfield-lane for Mr. W. Frank Perkins.
Stafford.—School, Busherry-lane; Mr. G.
Balfour, Education Office, Stafford.
Stalybridge.—Premises, Harrison-street
(1,500.), for the Co-operative Society.
Stamford.—Headquarters for 4th Lincoln-
shire Regiment; Mr. H. F. Traylen, archi-
tect, Broad-street, Stamford.
Stanley.—Cemetery buildings, chapel, etc.;
Mr. J. J. Eltringham, architect, Railway-
terrace, Blackhill; Messrs. Brown & Thomp-
son, builders, Knutsley Guardians, Consett.
Stretford.—Picture hall (1,670); Mr. H.
Booth, architect, 42, Regent-street, Haslingden.
Plans have been passed as follows:—Ten
houses, Derwent-road, for Mr. John Dean; six
houses, Crownwell-road, for Mr. William R.
Bullivant; motor garage, Trafford Park, for
Messrs. Hall & Pickles.
Thornbury.—Enlargement of infirmary
(950); Mr. H. P. Thurston, Clerk, Guardians'
Offices, Thornbury.

Towcester. Seventeen houses (1,710); Mr.
Robert Marriott, builder, Higham-road,
Rushton.
Trafford Park.—Works for Messrs. Turner
Brothers, Ltd., asbestos manufacturers, Roch-
dale.
Tunstall.—Church (6,000.) for the Vicar of
St. Chad's Church.
Twickenham.—A plan has been passed for
alterations to St. Margaret's Laundry, Crown-
road, for Mr. G. L. Alexander.
Wellington.—Additions to workhouse;
Architect, Guardians' Office, Wellington.
West Hartlepool.—Electric power-station;
Messrs. J. W. White & Co., builders, High
Barnes Works, General Graham-street, Sun-
derland.
Weymouth.—Completion of naive and west
end of St. Paul's Church, Westham (2,770);
Messrs. T. Conway, Ltd., builders, Com-
mercial-road, Weymouth.
Wilmslow.—Club premises for the Secretary,
Conservative Club.
Worcester.—Proposed baths; Mr. A. G.
Parker, Architect, Town Hall, Worcester.
Yarmouth.—Extensions to police and fire
stations (4,656); Mr. J. E. Pestell, builder,
Lanoeater-road, Yarmouth. A plan has been
passed for additions to premises, Riverside,
Gorleston, for the Royal National Mission to
Deep Sea Fishermen.

THE LONDON COUNTY COUNCIL.

THE first weekly meeting of the London County Council after the summer recess was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chylesmore, Chairman, presiding.

New County Hall.—In reply to a question, the Chairman of the Establishment Committee stated that satisfactory progress was being made in the erection of the County Hall, and 186 men were now at work on the site.

Loans.—The Finance Committee recommended and it was agreed to make loans to various bodies as follows:—Hackney Borough Council, 1,385*l.* for underground convenience and 2,065*l.* for paving works; Hampstead B.C., 2,831*l.* for sewer works; Lambeth B.C., 10,000*l.* towards cost of Catford Bridge improvement; Poplar and Stepney Sick Asylum Managers, 2,160*l.* for Poor Law purposes; and Wandsworth Union, 2,600*l.* for Poor Law purposes.

The London Traffic Board.—The Chairman of the General Purposes Committee moved the resolution expressing regret that the Government did not just now propose to introduce legislation for giving effect to the recommendations of the Royal Commission on London Traffic with regard to the establishment of a Traffic Board, and also expressing the hope that such legislation would not long be delayed.

An amendment was moved by Sir John Benn to the effect that the establishment of a Traffic Board would be in violation of the principles laid down in the Local Government Act, 1888, and proposing that the machinery of joint committees provided by the Act for administering the concerns of adjoining localities should be put into force in connexion with the tramway service and of the construction of inter-county roads. He also proposed that the General Purposes Committee be instructed to take steps with a view to the Council obtaining from Parliament the transfer to them of the duties of traffic regulation now performed by other authorities.

In opposing this amendment, Mr. Cyril Jackson said that the Municipal Reform Party did not desire that the motor-buses should have any unfair advantages, but contended that, so far as they were useful for London traffic they should not be interfered with. If the police had not sufficient power to control them, the Home Office should obtain such powers.

Sir John Benn's amendment was lost, and the Committee's recommendation agreed to.

Cinematograph Halls.—Drawings have been submitted for the following:—By Mr. C. G. Dunand, for a cinematograph hall proposed to be erected in Albion-street and Lower-road, Rotherhithe; by Mr. T. H. Buen, for the adaptation of premises at the rear of the Castle Hotel, Eltham, for use as a cinematograph hall; and by Mr. P. H. Adams, for a cinematograph hall proposed to be erected in Osborne-place, Stepney.

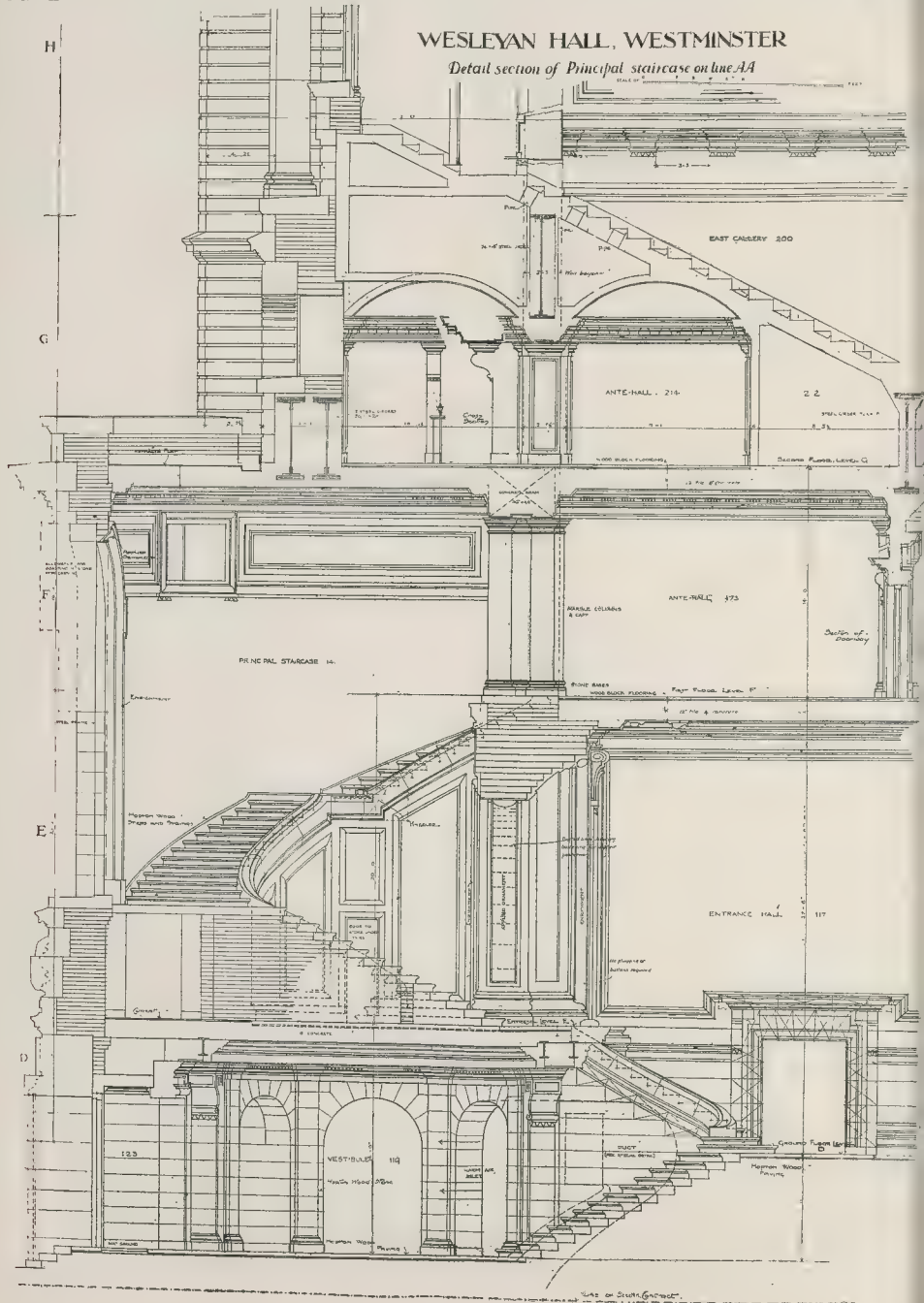
THE WESLEYAN HALL, WESTMINSTER.

The illustrations herewith are reproductions from the architects' drawings, showing interesting features in this building. The one on this page is a section taken through the eastern portion, and a good idea can be formed of the treatment of the entrance vestibule, which is carried out in Roman marble. A view of the staircase is also

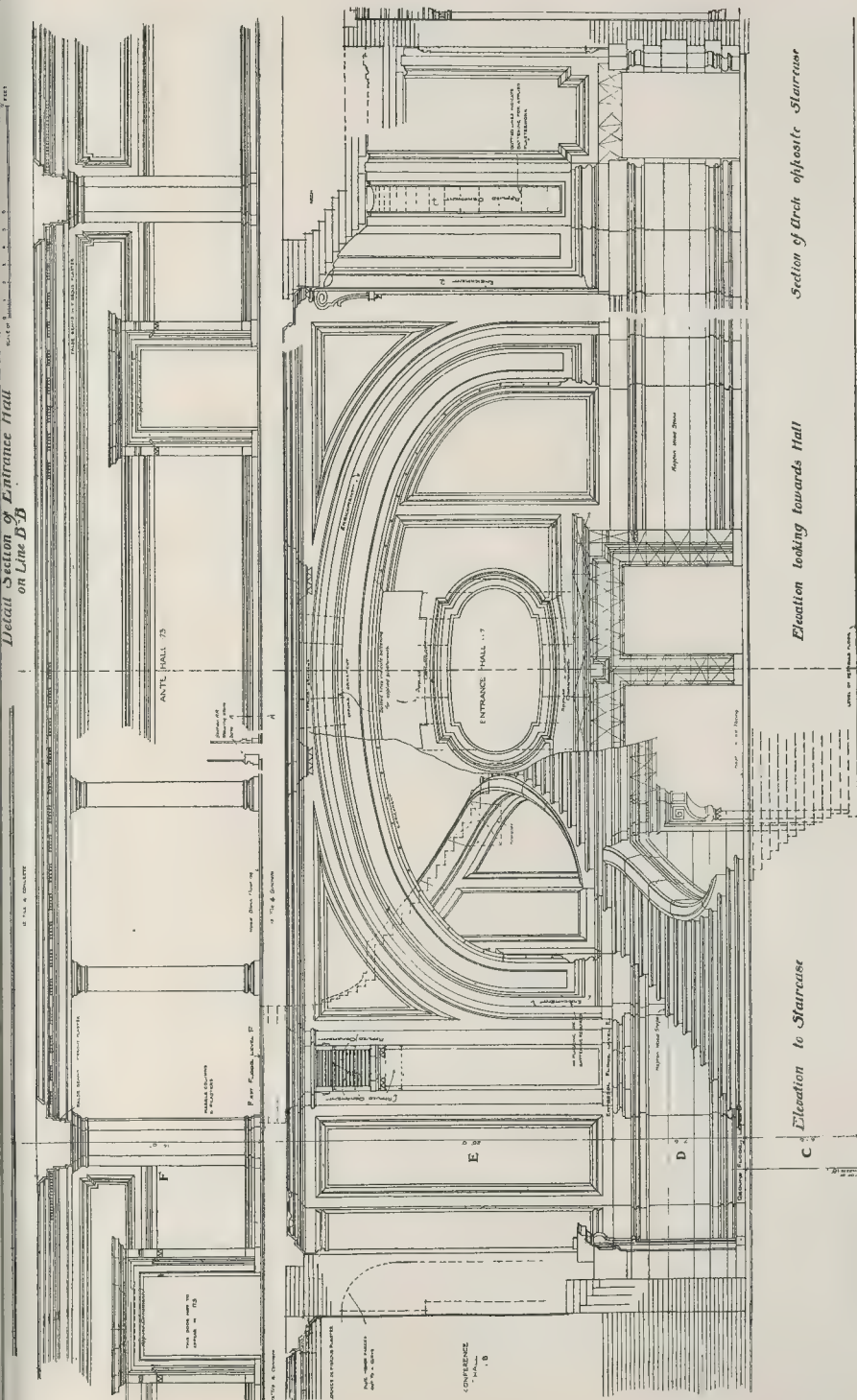
obtained with the continuous flowing strings, which are a feature of the design. The ground floor entrance hall and the ante-hall to the first floor are depicted, and the monoliths, which are executed in "Agni Fantastique," will be seen immediately above the section of the large brick arch which is situated between the ground and first floors. The ante-hall, shown at the higher level, is that to the gallery entrance, this being treated in a simple yet effective manner,

while a portion of the eastern gallery given, together with the steel girders, which act as fulcrum and tailing down members respectively.

The drawing on p. 453 gives another view of the staircase, this being a section taken at the east end of the building looking towards the large hall. The large arch constructed of brickwork with recessed face and is extremely bold in detail. The entrance doorways to the large hall, which occur



Detail Section of Entrance Hall
on Line D-D



The New Wesleyan Hall, Westminster.
Messrs. Lanchester & Richards, F.F.I.E.A., Architects.

the upper part of the drawing, are executed with Roman marble architraves, cornice, and frieze, while the high marble dado is also shown. The general treatment of this portion of the building can be well realised from these two drawings, although the value of the colour effects is, of course, entirely lost, and the ornamental metalwork is not seen; thus a great deal of the character is absent, and allowance must be made for this.

A large quantity of the Portland stone used in the Wesleyan Hall, of which we gave a description last week, came from the Combefield quarries of the Bath and Portland Stone Firms, Ltd., Portland.

We may add that Messrs. J. W. Singer & Sons, Ltd., Frome, Somerset, carried out some wrought-iron and bronze work in the building.

THE CITY GUILDHALL EXTENSION.

A SPECIAL meeting of the Corporation of the City of London was held on October 10 for the purpose of considering the Report of the City Lands Committee recommending the adoption of the scheme of Mr. Sydney Perks, the City Surveyor, for the general improvement and extension of the Guildhall. The whole scheme will involve an expenditure of 130,000*l.*, but it was recommended that one section, relating to the rebuilding of the entire block of buildings on the east side of the Guildhall-yard—i.e., the Art Gallery and the Law Courts—should be at once proceeded with.

Mr. C. F. J. Jennings moved the adoption of the Report, subject to its being referred to the Finance Committee with regard to financial details. He said it had taken the Committee nearly five years to arrive at the Report, which was satisfactory in the main. It could hardly be disputed that the South Court, North Court, and Police-court were not a credit to the City. It had been suggested that competitive designs should have been obtained, and if they had been building on an open site there would have been scope for a competition between the best-known architects, and in all probability the Committee would have favoured a competition, notwithstanding the expense. At the same time, competition did not always result in success, as was shown in the cases of the Law Courts in the Strand and in the first competition for Holborn-viaduct. As it was, the scope for design in this case was very limited. Firstly, no one could know better the accommodation which was desired than the Corporation's own officers, and, secondly, the design for the elevation was handicapped by the surroundings. The closing in of the court either wholly or partially was carefully considered and rejected, as was also the suggestion for building across the front of the courtyard. From the Surveyor's drawings it was shown that a closed quadrangle on the site would have meant little more than a well. In determining the style of the elevation they had to take into consideration the Guildhall itself and Wren's church of St. Lawrence, Jewry, which many archaeologists and architects considered of equal interest to the Guildhall. With regard to the front of the Guildhall, the Corporation decided to perpetuate George Dance's work when it arranged for rebuilding on the west of the porch, and the general public fully approved of the decision. They would all be sorry if in each new period the old had been swept away, and they were glad to have samples of the work of the leading architects of each period in their cathedrals and public buildings. The present front of the Guildhall was extremely interesting to architectural students, even although it was a mixture of styles—part Gothic, part classic, and part Moorish. While, however, they wanted to preserve Dance's front, it did not follow that they should copy it for fresh buildings. On the other hand, a Gothic design would be incongruous in conjunction with St. Lawrence's Church, and would be also unsuitable for the purpose of the buildings. On these grounds the Committee felt they had done right in calling in their own officer, Mr. Perks, who was not only an efficient surveyor, but a Fellow of the Royal Institute of British Architects.

Mr. F. Brinsley Harper moved as an

amendment:—"That the proposed scheme for the improvement of the Guildhall and adjoining buildings be referred to three architects (to be nominated by the President of the Royal Institute of British Architects and approved by the Corporation) for consideration and report." Having referred to the importance to London of the matter, he said the question they had to ask themselves was whether they had the best design. He made no complaint whatever about the internal arrangements, but they had to bear in mind that Mr. Perks was a surveyor, and in the terms of his appointment it was expressly laid down that his duties did not refer to the design or execution of any works of an architectural character. They were told that the designs had been submitted to Sir Henry Tanner and approved by him, but he did not suppose that, so far as the principle was concerned, Sir Henry had brought his mind to bear on it. They were building for posterity, and must be careful not to make mistakes. If they submitted the design to three architects nominated as he suggested, then, whatever happened, they could say they had done their duty. Mr. Harper proceeded to criticise the design, which he said would give a quadrangle 50 ft. longer on one side than the other, and said that if larger space was wanted for the Art Gallery they could find it over the City of London Court. He objected to the Guildhall being made a picture gallery at all, and considered that the Gallery should be a separate building. He thought it was a mistake to have this mongrel architecture.

Mr. C. A. Morton, in seconding the amendment, said it appeared to him that the laying down of the frontage of the new buildings was altogether a mistake. Whether it was good or bad Gothic, the fact remained that the Guildhall was a Gothic building, and now to the right and left they were going to adopt a sort of classic architecture. They might call it English Renaissance, but later on it would be called classic. In mixing up styles they might easily make themselves the laughing-stock of the world.

Mr. Ellis warmly supported the Committee's Report, and asked where the criticism of Mr. Perks's design came from. He had looked at the professional papers, and found none, and the *Builder*, which was the recognised medium of the architectural profession, had illustrated the design. If architects had thought this was such a bad design they would have rushed on the scene at once. It was, in his opinion, a scheme which commended itself to every business man.

Mr. Matthews Wallis deplored the bringing in of Sir H. Tanner to approve the plans. They were doing something which would be historical, and he refused to take the responsibility of saying that the design before them was right.

Sir George Woodman considered that it was too late to call in other architects now. He asked the Court to abandon all side issues and to support the Committee.

Mr. Miller Wilkinson, whilst not pretending to be an expert in architecture, claimed that he had an artistic eye, and he considered Mr. Perks's work most excellent, and that it would carry kudos not only on the architect, but on the Corporation.

Mr. Walker thought the author of the scheme ought not to shrink from the ordeal of submitting it to three of the best architects who could be selected by an independent authority.

Mr. Matthews opposed the idea of submitting the matter to three architects.

Mr. Davies believed Mr. Perks had solved the matter very well, and it had been approved by the highest authorities. Mr. Perks had won his spurs, and they had confidence in him.

Sir William Dunn said they had in Mr. Perks an eminent architect, and, with regard to the Royal Institute of British Architects, he asked if they were enamoured of any building put up in the City during the last thirty years. He thought the design of Mr. Perks compared favourably with any other work done in the City.

Mr. Kimber thought Mr. Perks would be the last person to take offence if they carried the amendment.

Mr. Banister F. Fletcher supported the amendment, and said he had listened with

amusement to some of the architectural criticisms. A member told him the previous day that architecture in this country in the reign of Henry VIII. If he were Perks, knowing the amount of feeling regard to the treatment of this building, he would like to be supported by three eminent architects in the way proposed. This was the most important piece of architectural work the Corporation had undertaken for many years. He had looked the plans, and agreed that Mr. Perks shown considerable ingenuity and skill in the way he had arranged the different departments, but when he came to proposed treatment of the Art Gallery entirely disagreed. They could not of a gallery 500 ft. long without interfering with the symmetry of the yard, and objected to the prolongation of the north wing. He agreed with Renaissance architects of the court, but they must be careful that the central outstanding feature—the XVth-century entrance gateway—should be preserved, and the wings on either should be made subservient. It would be an architectural mistake to spoil the symmetry of the yard by making the eastern wing longer than the rest, and it would mean neglecting the principal entrance to a block of offices and a public-house. This should be avoided and their efforts concentrated on disconnecting the Guildhall from any surrounding buildings, and especially which had no connexion with them. It was necessary to have an additional picture gallery, it might be done by carrying a bridge across the street at the second-floor level giving access to the upper part of the of London Court, which could be converted into a gallery.

The amendment was defeated by a majority.

Mr. H. Percy Monckton briefly moved "That it be an instruction to the Committee to obtain designs for the elevation from architects to be selected by the Committee such designs to be submitted to the Court for the approval of one thereof."

This was defeated, and the following amendments which stood on the paper thereupon withdrawn:—

By Mr. J. Guntton: "To refer back to the City Lands Committee to entirely renege the scheme to allow the Court on either side of the Guildhall-yard to be properly planned, and ventilated, the whole plan shown being dominated by the Art Gallery also to revise the design generally with a view to keeping the height of the new buildings of the east and west sides of Guildhall-yard below the height of the existing elevation."

By Mr. Banister F. Fletcher: "That while agreeing generally with the proposed Guildhall improvement scheme, it be referred back to the Committee—(a) to produce additional drawings, so that the lighting of all the new portions can be clearly ascertained; and (b) to produce a revised architectural treatment of the facades to the Guildhall-yard, and one which shall involve any lengthening of the existing eastern wing thereof."

The Report was then adopted.

THE SOCIETY OF ARCHITECTS REPORT OF THE COUNCIL.

WE take the following from the twenty-eighth annual Report of the Council for the year 1911-12:—

"Registration.—Early in the session the Council of the Royal Institute of British Architects, after further consultation with the representatives of your Council, drew up a new supplemental Charter and by-laws to enable the arrangements previously provisionally agreed upon to be carried into effect. In January last a special general meeting of the Royal Institute was held to consider the question of applying for a new supplemental Charter and by-laws to authorise the Council of the Royal Institute to enter into an additional agreement with the Council of the Society of Architects.

A copy of these documents and the explanatory statement of policy drawn up by

l Institute and submitted to their members was at the same time sent to the members of the Society for their information. This meeting the whole matter was referred back to the Council of the Royal Institute, who thereupon appointed a Committee to consider and report upon the subject. It is understood that this Committee has held a number of meetings, and from time to time it has been reconvened or strengthened, but up to the present the result of its deliberations have not been made known to your Council.

Council had, as stated in their last report, already decided that the routine of the Society should continue without interference to the negotiations proceeding between the two Councils, and they have decided to also take up the Registration Bill and to resume activities at the time at which they were temporarily suspended two years ago pending the negotiations referred to. Steps are therefore being taken to reintroduce the Society's Registration Bill during the next session of Parliament.

South African Branch.—The fifth annual report and statement of accounts were presented last November and published in the *Builder*. Your Council have placed on record their appreciation of the services of E. H. Waugh, on the termination of his term of office as Secretary of the branch, consequent on his election as President. The membership of the branch now stands at 101, and there is every indication of further extension in this direction in the near future.

The following were elected on the Executive Committee:—President, E. H. Waugh; Secretary, D. Ivor Lewis; Treasurer, J. Harris; Committee, G. S. Burt, G. W. Nicolay, J. F. Beardwood, C. H. Stott, the local Hon. Secretary, Johannesburg.

With regard to the progress of Registration in South Africa, it is understood that the proposed new Union Bill will be presented to Parliament next session, or as soon as members of the various architectural societies interested have agreed on the clauses of the Bill. The Society's branch are taking part, a very active and prominent part in promoting of the Bill, and in this they being heartily supported by your Council. The nominations of the following members to the South African branch as Honorary Officers for South Africa have been confirmed by your Council:—

Section I.—Architecture: (a) Planning and Design, Mr. E. J. Wellman; (b) Architectural History, Mr. D. Ivor Lewis. **Section II.—Building:** (a) Construction, Mr. Beardwood; (b) Materials, Mr. G. W. Nicolay. **Section III.—Practice:** (a) Contracts and Specifications, Mr. S. C. Dowsett; (b) Practice and Prices, Mr. M. J. Harris. **Section IV.—Education.** Mr. E. H. Waugh. The activity of the members of the branch has been keen interest they take in practical questions may be judged from the statement showing the distribution of proportion of members of the Society on the Council of the various South African branches of architects:—

Association of Transvaal Architects.—Total of nine, of whom seven are members of the Society, viz., Messrs. R. Howden, D. Lewis, M. J. Harris, D. M. Sinclair, G. Nicolay, and E. H. Waugh. **Transvaal Institute of Architects.**—Consists of, of whom two are members of the Society, viz., Messrs. J. F. Beardwood and Wellman; and five honorary officers, of whom three are members of the Society, Messrs. R. Howden (Vice-President), D. M. Harris (Hon. Secretary), and D. M. Harris (Hon. Treasurer), while others are honorary members.

South African Institute of Architects.—Council of whom one Mr. F. J. Ing, is a member of the Society and another is a candidate for membership.

Education Committee.—This Committee has met six times, and have made all the arrangements for the reading of papers, the use of new books and pictures, etc., they are dealing with the issue of a new yearbook, the provision of an electric lantern, and other accessories for the lecture-room, the development of the library, besides other matters of routine. The loan library

has been rearranged and the card index catalogue completed, and the department generally systematised.

General Purposes Committee.—This Committee have met five times, and has been principally engaged in carrying out an instruction from the Council to embody in the Articles of Association the scheme adopted by the Council for reorganising the Students' Section and examinations, etc., and in considering and reporting upon the desirability or otherwise of amplifying or revising the Articles in other directions in order to better meet the present requirements of the Society and to provide for future developments. The following are the chief revisions proposed:—

The new articles will (*inter alia*) define more fully the qualifications and privileges of honorary and retired members, members, graduates, and students. Graduates will be a new class, examined only in design and general culture, the object being to eliminate students who show no real aptitude for the profession.

The age limit for direct membership is to be raised from twenty-eight to thirty years, and the method of election of members, etc., is to be by show of hands unless a ballot is demanded. Honorary members, graduates, and students are to be elected by the Council.

It is proposed to make the certificate of membership renewable from year to year and to suspend from privileges a member who has not renewed his certificate by March 31, or if not renewed by June 30 to exclude him, subject to his having power to apply for reinstatement if the renewal is made before September 1.

There is to be a special general meeting in October for the election of officers, etc., it being proposed that the annual general meeting for consideration of the Report and balance-sheet shall be held at a later date, so that both may be presented together.

Provision is made for the resignation or cessation of office of a member of the Council under certain circumstances, and it is proposed that the house list shall contain at least two names more than the number of seats on the Council in order to ensure a contested election.

The machinery for the Council elections and the duties of the scrutineers are provided for and prescribed, and the position and duties of the permanent officers are more clearly defined.

The powers of the Council are to be widened in regard to dealing with any alleged breach of professional etiquette, it called upon to do so.

Professional Defence.—The question of forming a Board of Professional Defence for the purpose of advising and, if necessary, assisting members in cases involving matters of general professional interest to the profession or of public practice has been carefully considered with the result that an Advisory Committee has been formed consisting of the President, the Vice-Presidents, the Hon. Secretary, and Secretary of the Society, together with Sir George Riddell and Mr. E. J. Naldrett, barrister-at-law (hon. members), and Mr. A. Montefiore Brice, barrister-at-law, and the Hon. Solicitor, Mr. T. Baines.

An adequate sum has been earmarked to form the nucleus of a defence fund for use when necessary in forwarding the objects of professional defence.

This is a very important extension of the work of the Society, and one which it is anticipated will be of great practical value to the members. It is a privilege in which any member, irrespective of distance, can participate.

Cases submitted to the Secretary will be brought before the Board, who will advise the Council on the merits, and if the interests involved are of such importance to the profession generally as to warrant any action being taken by the Society as a corporate body the Board will further advise the Council as to what course the Society should follow.

It must be clearly understood that the scope of the Board will be confined to dealing with matters involving questions of principle affecting the general body of members, and therefore of the profession as a whole.

The Council think it well to draw the

attention of members to the decision of Mr. Justice Channell in *Crittall Manufacturing Company v. London County Council*, which was an action by a sub-contractor to recover against his clients failing payment by the builder. It would seem desirable that in future architects should obtain a written undertaking from the sub-contractor that he will not look to the client or the architect for payment.

Membership.—A proposal for the development of the membership referred to in your Council's last Report has now materialised by the adoption by your Council of a scheme for grading the membership on the following lines, having in view the time when examination will be the only test of qualification for admittance to the Society.

Students.—Students are to be persons above sixteen years of age who are following or preparing to follow the profession of an architect. They are to be elected by the Council and are to be subject to certain prescribed regulations, one of which is that they must compulsorily retire from the Society on attaining the age of twenty-five, if they have not previously presented themselves for examination, unless the Council extend the time. Whatever competitions or other awards for this class are instituted by the Council will be limited to students under twenty-two years of age. There will thus be every inducement for students to qualify for one of the higher grades as early as possible. The annual subscription will remain at half a guinea, and there will be in addition an entrance fee of the same amount.

Graduates.—Graduates are to be architects' pupils or assistants, or persons undergoing some other course of architectural training approved by the Council, who are above nineteen years of age and have satisfied the examiners that they are students who have an aptitude for the profession and the necessary artistic ability. The examination for this class is intended to eliminate those who it is felt would be misdirecting their energies by devoting any further time to entering the profession. The remarks as to election and compulsory retirement apply also to this class, except that the maximum age limit is thirty-one.

There is to be an entrance fee of half a guinea to those qualifying from the students' class, and one guinea in other cases, and in either case an annual registration fee of one guinea.

The Travelling Studentship and Scholarship or other competitions limited to graduates are to be restricted to those under twenty-eight years of age, and it will be to the advantage of graduates to sit for the qualifying examination for membership as soon as possible. Graduates will have no vote.

Members.—The only alteration in this class is the raising of the age limit for direct membership from twenty-eight to thirty years of age.

The proposal is in principle a graded scheme of affiliation leading up to corporate membership, with proportionate fees for the examinations and for the annual registration fees or subscriptions.

The scheme if adopted involves alterations to the Articles of Association, relating to entry forms and other documents relating to procedure, the appointment of examiners, and many other matters which will automatically arise. The scheme cannot therefore come into operation at once even after the necessary revisions have been made to the Articles of Association.

Proper time must be given for working out the details of organisation and for giving notice, particularly in the case of those who have some vested interests in the matter—that is to say, students who are holders of sectional certificates and any relegated candidates.

Professional Ethics.—Members are already familiar with the details of the proposals for a code of professional ethics as set out in the Report published in the *May Journal* of the discussion on the above subject held by the Society in April last. The matter has since been again before your Council, and suggestions for a set of regulations have been drawn up by them and distributed to the members for their consideration.

There appears to be considerable difference of opinion on the matter both as to the

necessity or desirability in principle of endeavouring to codify regulations of this kind, and as to what form a code if drafted should take. Your Council, after prolonged consideration, have decided to embody and publish in due course the results of the many valuable expressions of opinion and suggestions made by members in the form of a schedule of guidance on the main points governing professional etiquette in the practice of architecture, and in the meantime to take powers under the Articles of Association to deal with any alleged breach of professional etiquette affecting members which may be brought to their notice.

By so doing the Council will be free to adjudicate upon any case on its merits and able to administer whatever penalty (if any) the offence may in their opinion call for, without being subject to the limitations which a written code might be held to exercise upon them when acting in a judicial capacity.

Examination Scheme.—The whole of the Society's examination scheme is under revision, and in due course there will be two examinations, one for admission as graduates and the other for admission as members. The details of the scheme are in the hands of the Committee, and will be published in due course.

For the future assessors are to be appointed by the Council in each competition to draw up the conditions and adjudicate on the work submitted.

Although only one entry was received for the student essay competition for the quarter ending June 25, the work submitted by Mr. Rayson was considered of sufficient merit to justify the Council in awarding him the prize.

It is intended in due course to restrict the Travelling Studentship to graduates and the Scholarship and quarterly competitions to students, and the scheme of competitions will probably be extended and amplified to meet the needs of both classes.

Copyright in Architecture.—Since the last annual meeting the Copyright Act has become law, and so far as your Council are able to judge, it would appear that the general effect of the Act is to entitle architecture to the same recognition and protection as painting and sculpture, as artistic work. The advantages of the Act to the architect are (*inter alia*) that to some extent it settles the question of the ownership of his own drawings, which are also protected from unlicensed copying, and cannot be used over again for another building.

The copyright is, however, vested in the building owner, and passes to the client unless granted to the architect by agreement between the parties, and it would seem that unless this is done or the building can be shown to be a work of art there is no protection against its being reproduced. Also, while damages can be claimed for infringement of copyright, an injunction to restrain the erection of a building or an order for its demolition cannot be obtained once the building has been commenced.

National Insurance Act, 1911.—The Architectural Association, in conjunction with the Royal Institute of British Architects, the Surveyors' Institution, and your Society, have had under consideration how best the interests of their members and those in their employ who come within the category of insured persons under the National Insurance Act may be promoted, and have come to the conclusion that the formation of a special "Approved Society" for architects' and surveyors' assistants and clerks would prove advantageous to those concerned. Your Council, on being approached on the matter, have willingly co-operated, and, subject to sufficient numbers being obtained, it was decided to found such an approved society, and, as a membership of at least 5,000 is necessary in order to form a separate entity for insurance purposes, it is hoped that the support of the profession may be relied upon in furthering an effort which should prove of benefit to those in the professions who come within the provisions of the Act. The Society has since been approved by the Commissioners.

Architectural Education.—Your Council have had under consideration a proposal for introducing into England a system of education on similar lines to the *ateliers* of the

Ecole des Beaux-Arts in Paris. Your Council, being of opinion that it is desirable to extend this system in England, have appointed a Committee to confer with educationalists on the subject and report in due course.

Generally.—It will be seen from the foregoing that all the threads temporarily dropped during the Society's negotiations with the R.I.B.A. have been picked up and the various matters in abeyance have been carried through and placed upon a working basis. New ideas have also been evolved or adapted to meet the present and future requirements of the Society and widen its scope and influence. In the opinion of your Council there is every prospect in the near future of the scope and utility of the Society being very widely extended, and there is little doubt that a continuance of a consistent attitude in regard to Registration will still further tend to enlist the sympathy and support of those members of the profession who favour unity, and thus materially hasten the attainment of one of the Society's chief objects.

ENGINEERING AND MACHINERY EXHIBITION.

The International Engineering and Machinery Exhibition which is being held at Olympia, London, W., from the 4th to the 26th of this month is well worth a visit. It embraces a wide range of exhibits, but the most prominent part of it is the impressive display of machine tools. To those who remember the comparatively rough-and-tumble methods of many English machine shops twenty-five years ago this Exhibition demonstrates a great change. The vital importance of accuracy in securing a maximum output, and the conviction that the best plant is the cheapest, have at last been brought home to everyone, and the machines now exhibited are the outcome of the demand for a maximum of efficiency in not only machines for special purposes, but also in all the ordinary plant of those carefully and elaborately equipped factories which to-day represent the old "millwright's" shop.

Among the machine tools we noticed the lathes of James R. Kelly & Co., Ltd., Leeds; of George Swift & Sons, Halifax; of H. Milnes, Bradford; of Holbrook & Sons, Stratford, London; of Charles Taylor (Birmingham), Ltd.; of Drummond Brothers, Ltd., Guildford; of the Colchester Lathe Company; of Greenwood & Batley, Leeds; of the Timbrell & Wright Machine Tool Company, of Birmingham, and many others. There are also boring mills by Webster & Bennett, Coventry; by the Dickenson Machine Tool Company, Ltd., Keighley; drilling machines by most of the above-mentioned makers, and by others so numerous that we cannot find space for even a list of their names, and a multitude of other tools, nearly all excellent of their kind. There is a good display of milling machines and tools embodying the principle of using many cutting edges in rapid succession, each of which takes a "fine cut," the rapidity with which the work is done being due to the large number of edges at work. It is perhaps in these tools that the need for great accuracy is most felt, as the slightest departure from true running makes the cutter quite useless. John Holroyd & Co., Milnrow; The Selson Engineering Company, Ltd., London; and Darling & Sellers, Keighley, are among the exhibitors of milling machinery. Akin to this class is the ingenious adjustable reamer shown in action by Vickers, Ltd., Westminster. Essential adjuncts of milling tools, circular saws, and, in fact, of all accurate-cutting tools, are grinding and sharpening machines, and of these we may note Hill's (Derby) patent saw-sharpening machine, and grinders by Alfred Herbert, Ltd., Coventry; by James J. Guest & Co., Ltd., of the same town, and by Richard Lloyd & Co., of Birmingham. The Birmingham Small Arms Company, well-known for all such small work as is now generally made interchangeable—bicycles, motors, engineer's small tools, etc.—have an interesting show of their specialities in tools. Admirable die-finished castings are shown by the Patent Castings Syndicate, Ltd., Finsbury, and by Acrotors, Ltd., Upper Edmonton.

Some exhibits of especial interest to readers will be those of such firms as James Keith & Blackman Company, Ltd., the well-known makers of fans and air-pellers; the Sturtevant Engineering Company, Ltd., whose fans and exhausting plant accompanied in the Exhibition by examples of their rolls and crushers.

The Metallurgic Syndicate (Wakelin Dent), London, show their specialities in Adamantium Bronze for bearings, brass, etc., and Ormolum, a rich golden-colour alloy for architectural purposes. Pines Johnson & Co., Ltd., show a good assortment of their special paints for machine structural ironwork, and other uses.

The Korford Company, Westminster, exhibit their system of insulating machine foundations to prevent the transmission of vibration. This is an invention that should be considered by architects when arranging for lifts, motors, or other moving plant in buildings. A modification of it is useful for a sound-check in floor metal we turn to models exhibited by Bassett-Lowke, Ltd., London, whose productions range from most elaborate works here shown down to working models such as are the delight of mechanically-minded schoolboys.

The British Vacuum Cleaner Company, Ltd., has become "a household word," and the company now produces an important addition to the economy of factories in the shape of an excellent boiler-flue cleaning plant.

Before leaving the subject we may attract attention to the machines shown by "Addressograph (1910), Ltd." They are indispensable in offices where large numbers of names and addresses have to be put into wrappers, labels, envelopes, etc., or turned into such forms as dividend warrants, register sheets, etc.

An exhibition to which more than a few important firms have contributed cannot adequately noticed in the brief space we are able to devote to it. We have mentioned a few exhibits; there are dozens more equally good, and we recommend our readers to see for themselves.

FOREIGN AND COLONIAL

Labour in the Colonies.

The October circulars of the Emigrant Information Office and the annual edition of the penny and other handbooks issued by the Emigrants' Information Office, 34, Broadway, Westminster, S.W., show the prospects of emigration. In Canada there is no demand for more male labour during winter. In New South Wales, in Sydney, the building, furniture, and trades have been fairly well employed, competent men in these trades, and bodied labourers are in demand. In the employment continues to be good, and as nominated passages are granted to classes. There is a considerable demand for useful men; and there has been plenty of work for mechanics in the building and trades. South Australia grants cheap passage to rural workers and their families, and approved emigrants. The building, engineering, and other trades continue busy; a large amount of money is being spent on ways and other public works. There is a good demand for masons, plasterers, joiners, cabinet-makers, brick-makers, tinmiths, makers, galvanised ironworkers, brass fitters, and cooper smiths. There is a good demand in Queensland for labourers on railway construction, and in some places for mechanics if they are not too specialised. In Western Australia competent mechanics in the building trades have usually little difficulty in obtaining employment. In New Zealand work in the trades is fair, but there is no special demand for more mechanics. In the Union of South Africa employment in the building trades in Johannesburg continues active; but the number of men is quite sufficient. At Durban there has been a demand for a few good plumbers and plumbers, otherwise there is little demand for more labour in any part of the Union.

Building Material and Stable Fittings.—The *Diario Oficial* of September 14 puts a decree (No. 9,690) earmarking in favour of the Ministry of Justice and Home Affairs an extraordinary credit of 500,000 Mesta (35,300*l.*) for the purpose of completing the erection of the cavalry barracks intended for the Police Brigade in Salvador de São-Rio de Janeiro.

WESTMINSTER CITY COUNCIL.

the fortnightly sitting of this Council October 10 the following amongst others were dealt with:—

Issues of Historic Interest.—In reply to a letter for information from the Clerk of London County Council it was recommended that he be informed that the Council not aware of any places of interest in City which are not adequately protected. **Readily.**—The Improvements Committee decided a number of letters arising in relation to their action in May last with a view of raising the level of Piccadilly between Saville Club and the Junior Athenaeum and getting rid of the existing dip. The owner of the Sutton Estate raised no objection, providing there would be no pre-emption to the rights of lessees fronting on Piccadilly, and the London County Council thought the scheme one they might support. The Secretaries of the Saville Club and Junior Constitutional Club took strong objection to the proposal, and the Office of the Clerk wrote declining to surrender any park for widening Piccadilly westward from the Hotel. In view of the opposition, the Committee considered it useless to take any further steps in the matter at the present time.

Trust Surveyors' Fees.—It was agreed to communicate with the London County Council, expressing regret at the decision they had reached, to propose legislation to secure compensation to the Trust Surveyors of the London County Council for the fees charged by District Surveyors.

LEGAL COLUMN.

Land Valuation: Settled Estates.

In the recent case, *Knollys' Trusts, Saunders v. Knollys* (Lancaster, 1912), the Court of Appeal was asked to consider the effect of the provisions of the Land Valuation Act, 1909, in relation to the valuation of certain settled estates, the exception of a small plot of land upon which houses had been built, let on leases. About 275 provisional valuations had been made for the purpose of determining the value of the property. The person entitled to the property in remainder called upon the trustees to have these provisional valuations confirmed by independent valuers at the time of the estate, on the ground that the valuations were too low and the property therefore, he claimed, was prejudiced. It was stated that the cost of such a valuation would be £80,000, and the tenant for life would be liable to this expenditure. By the Finance Act, 1909, section 27, subsections (1) and (2), it is provided that the tenant for life should be liable to take steps to question provisional valuation if he is dissatisfied; but that if the tenant for life would come to the Court of Appeal, affirming the valuation, he should be entitled to the rental of the land. The only evidence in support of the valuation was an affidavit by a surveyor, who stated that in his experience valuations under the Act were usually too low. The Court of Appeal, affirming the judgment of the Chancery Division, held that this was a case of discretion by the trustees, and the Court, in the circumstances of this case, should not interfere with the discretion of the trustees. The case was referred to one or two points for consideration under the Act. The person who, as a rule, is to be appointed by the trustees, is the person who, as long as an occasion arises for the valuation of the property, is to be appointed. The person who is to be appointed is the person who has no particular interest in the property. This is illustrated by the facts of this case. The piece of land upon which the houses had been built, and which was not well developed without an "occasion" arising, was the tenant for life's objection to the valuation of the plot at the expense of the trustees. The remainderman entitled in reversion is a direct interest in the provisional valuation, and he can, as "a person interested in the land" under section 27 (5), take steps to question the valuation as if he were the tenant for life. It appears he must do so at his own cost, as by section 39 it is only the tenant for life who is empowered to question the valuation. The trustees who are empowered to question the valuation, and the facts of the case, the Court held the trustees to be entitled to exercise their discretion, and the Court of Appeal pointed out that circumstances might arise in which it would be the duty of the trustees to apply to the Court quite differently from the present case. It must be special circumstances, Lord Farwell pointed out that to hold in

the absence of special circumstances that a duty was imposed upon trustees to check the official valuations would be tantamount to an assertion that the Government Surveyors were not trustworthy.

LONDON COUNCILS.

Acton.—At the last meeting of the Town Planning Committee of the Council it was decided to make application to the Local Government Board for authority to prepare a town-planning scheme under the Act. In connection with this matter the Committee reconsidered a letter from the London County Council, stating that in any town-planning scheme which the Acton Council proposes adopting, provision should be made for the continuation, westward of Old Oak Common-lane, of the new Western-avenue suggested by the London Traffic Branch of the Board of Trade, for the purpose of relieving the Oxford-road, and expressing the hope that, in connection with the scheme, provision will be made for the widening of Old Oak Common-lane to 60 ft., and for securing an outlet from the Council's housing estate through the land proposed to be included within the scheme, on the north-western side of the estate. After a good deal of discussion it was decided to inform the London County Council that the Council was not prepared to definitely pledge itself in connection with the proposed Western-avenue until the financial proposals connected with its construction are placed before them.

Barnet.—A plan has been passed for Mr. J. M. Kennard, architect, 15, Railway-approach, London Bridge, S.E., for a building adjoining No. 5, Braddon-street.

Deptford.—At the last meeting of the Borough Council the tender of Mr. H. L. Holloway, Deptford, was accepted for the erection of the Central Library. The firm's prices were:—10,482, if erected in Bath stone and deal joinery; 1,529, extra for Portland stone and hardwood joinery; and 468, for sundry items. It has not yet been decided whether to accept the first or second quotation.

East Ham.—The Borough Engineer has been directed to pave a portion of Bartle-avenue with tarred macadam. Plans and estimates have been approved for making-up a portion of Masterman-road at an estimated cost of 794. Plans have been passed for Messrs. Red-bond & Co. for eight houses, Chesley-gardens, and for Mr. P. Hamlett for twenty-four houses, Monpelier-gardens. A plan has been lodged by Mr. R. G. Hindle for a cinematograph theatre on site of Nos. 949 and 951, Romford-road.

Eltham.—At the last meeting of the Parish Council it was decided to ask the Barnet Rural District Council to put in force the Housing of the Working Classes Act in Boreham Wood.

Friern Barnet.—Sanction has been received from the Local Government Board to the borrowing of 1,169, and 215, for carrying out improvements in Friern Barnet-road and Friern-lane respectively.

Hackney.—A portion of the footpath of Upper Clapton-road is to be flagged. The existing York flagging on the footways in a portion of Chapman-road is to be taken up and, as far as suitable, refaced and relaid to the full width of the footways; the asphalt-paving in other portions is to be taken up and concrete laid *in situ* to a depth of 1½ in., or thereabout, is to be put down, and various other repair works are also to be carried out at a total estimated cost of 552. The carriage-way in a portion of Wick-road is to be paved with 3-in. by 7-in. Guernsey granite sets, laid upon a bed of Portland cement concrete, at an estimated cost of 4,805. The tender of the Strand Building Company, 200, Strand, W.C., has been accepted for constructing an underground convenience in Kingsland-road. The amount of the tender is 1,151. Electricity mains are to be extended at an estimated cost of 70. A Report has been prepared by the Borough Engineer (Mr. N. Scorgie) upon the condition of the roads of the Borough through motor-bus traffic. In this Report he says that roads which, until the advent of the motor-bus, were in good condition, are now having their surfaces destroyed and their foundations disintegrated, while others have had to be entirely remade with more lasting materials. Where this has not been necessary up to the present time it has been found that the useful life of the road has been considerably curtailed, even to the extent of 25 per cent. Foundations of Portland cement concrete, which were sufficient a few years ago, are now quite inadequate, and in all reveals where defects have been found, and in new work undertaken, the foundations are now increased in depth by 50 per cent. From 1906 to 1909 the cost of repairs to certain wood-paved roads averaged 86, per annum, as against the annual average of 1,047, from 1909-12, while between April 1

and August 31 of this year the cost already amounts to 813. In addition, roads which would have lasted years longer under ordinary traffic, have had, and will have, to be renewed. In Stamford-hill, Kingsland-road, and Victoria Park-road, out of an estimate of 7,350, 1,300, is for foundation renewal. Plans have been passed for Messrs. G. Wilson & Co. for workshop and offices, Hertford-road, and for Messrs. Stapleton & Sons for additions to premises rear of Nos. 238-240, High-street, Stoke Newington.

Hendon.—The Surveyor has been instructed to submit an estimate of the cost of laying wood-paving in portions of Golders Green-road; also an estimate for specially-dressed granite setts laid in bitumen in that portion of the route from the cross roads, Golders Green to Edgware-road, where wood-paving would be unsuitable. At the time it was estimated that the work would be between 36,000, and 40,000. Plans and estimates have been approved for making-up Golders Green-road at an estimated cost of 1,356. The tender of Messrs. Turpin Brothers, at 225, has been accepted for carrying out repairs to the Hyde Fire Station. The following plans have been passed:—Mr. John Robinson, ten houses, Seymour-road, The Hyde; Messrs. Moss & Sons, three houses, Hammer-lane, Mill Hill; Messrs. Welford & Co., dairy, corner of West Heath-avenue and Finchley-road; Mr. P. Boulting, cinema, Brent-street; Messrs. Everath & Edgcombe, additions to Colindale Works; Mr. B. Wright, nineteen houses, Sneath-avenue, Golders Green-road; Mr. E. Streather, eighteen houses, St. Andrew's-road.

Hford.—At the last meeting of the Urban District Council the General Purposes Committee reported having considered plans and estimates of two schemes in connection with the proposed extension of the Town Hall and public offices, one for a portion of the extension and the other for the completion of the Town Hall and public offices upon land already acquired at the rear of the Town Hall, and that they had decided to adopt the latter proposal for further consideration. Councillor Gunary, speaking upon the question, explained that the scheme was estimated to cost 18,000. A good deal of discussion then ensued upon the question, in which instances of the present inadequate accommodation of the present building were put forward, but in the end the matter was referred back to the Committee.

Stepney.—A communication is to be addressed to the London County Council requesting them to reconsider as a metropolitan improvement the proposal to widen Cable-street at its junction with Leaman-street. The existing sewer in a portion of Exmouth-street is to be substituted by one constructed of new glazed-ware piping, at an estimated cost of 150. Plans have been lodged with the London County Council by Mr. W. M. Knight for the erection of a building at Hough's Wharf, Narrow-street, also by Mr. F. E. Harris for a building at the rear of No. 381, Mile End-road.

Wandsworth.—Plans have been passed for Mr. T. G. Rogers for the erection of a motor garage, etc., in Prince's-road, Southfields; also for Messrs. Holloway Brothers (London), Ltd., for twelve houses in Loxley-road, Springfield.

Watford.—The Library electricity sub-station is to be extended. At a recent meeting of the Urban District Council Mr. Tripp asked if the Council could not do anything to preserve the amenities of the town by insisting on more variety in the buildings. They did not wish to see row after row of houses all of the same stamp. On being informed that the Council had no power in the matter a suggestion was made by Mr. Gorie that a joint Committee of Councillors, architects, and builders should be called. The tender of Mr. W. W. Bateman, Chesterfield, has been accepted at 4,776, for certain work in connection with the Balmoral-road sewerage scheme. The following plans have been passed:—Mr. P. H. Cartwright, four houses, Oxhey-avenue; Mr. E. Fuiks, four houses, Oxhey-avenue; Messrs. W. King & Sons, vicarage, St. Alban's-road. A plan has been lodged by Messrs. Barclay & Co., Ltd., for new banking premises in High-street and King-street.

West Ham.—Alterations are to be carried out at Plaistow Hospital at a cost of about 100. The following plans have been passed:—Mr. J. H. Gladwell, alterations and additions to Railway Tavern, Freeman's-road, Custom House; Sir J. H. Bethell, cinematograph theatre, 61, Broadway, Stratford; Mr. H. I. Cundy, cinematograph theatre, Richmond-street, Plaistow; Mr. W. Hancock, cinematograph theatre, 302, Romford-road, Forest Gate. Plans have been lodged by Messrs. F. Sherrin and H. Harrington for a sailors' home, etc., rear 61, Lambert-road, Custom House, and a shirt factory, Hollum-place, West Ham, respectively.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —, Contracts, iv. vi. viii. x.; Public Appointment, xxi.; Auction Sales, xxvi. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

. It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

OCTOBER 23.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit of 11. 1s.

OCTOBER 31.—**Huddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100g., 50g., and 25g. Deposit of 21. 2s. See advertisement in issue of August 2 for further particulars.

OCTOBER 31.—**Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

NOVEMBER 23.—**Langside, Glasgow.**—BRANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson, A.R.S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

DECEMBER 1.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. 3, August 9, and p. 350, September 27.

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 800l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TEA-ROOMS, named "Li-Lim" to six times the size in "Competition News," December 1, page 638.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 18.—**Aylesbury.**—ROOM.—Erection of a nurses' sitting-room at the Isolation Hospital, Stoke-road. Plans and specification seen, and form of tender from Mr. W. H. Taylor, Engineer and Surveyor, Town Hall, Aylesbury, on 10s. 6d. deposit.

OCTOBER 18.—**Rhondda.**—ALTERATIONS, ETC.—For extensions and alterations at the Blaenllechau Infants' Council School; alterations at the girls' and infants' departments of the Cwmelydd Council School. Plans and specifications seen, and quantities and tender forms from the architect, Mr. Jacob Rees, Hillside Cottage, Pentre. Deposit of 11. 1s.

OCTOBER 19.—**Biddulph.**—REPAIRS.—For repairs of the Primitive Methodist Chapel, Biddulph. Specifications from the Rev. W. Lawrence, The Manse, Biddulph.

OCTOBER 21.—**Lostwithiel.**—HOUSE.—Erection of a dwelling-house at Penquite, Lostwithiel. Plan and specification with Mr. W. Littleton, Sweetshouse, Bodmin.

OCTOBER 21.—**Norwich.**—SCHOOL.—Erection of Wensum View Boys' Council School. Mr. C. J. Brown, architect and surveyor. Cathedral Offices, The Close, Norwich. Quantities on deposit of 11. 1s.

OCTOBER 22.—**Bradford.**—POST-OFFICE.—For erection of branch post-office at St. James's Market. Drawings and general conditions of contract seen, and quantities and form of tender with the City Architect, Town Hall, Bradford.

OCTOBER 22.—**Bucknall.**—STATION.—Erection of a relief station, etc., in Werrington-road, Bucknall. Plans with architect, Mr. A. R. P. Piercy, Union Offices, Stoke-on-Trent. Deposit of 21. 2s.

OCTOBER 22.—**Hanley.**—STATION.—Erection of a relief station at the rear of 97, Moston-street, Hanley. Plan with the architect, Mr. A. R. P. Piercy, Union Offices, Stoke-on-Trent. Deposit of 11. 1s.

OCTOBER 22.—**Heckmondwike.**—VILLAS, ETC.—Formation of a new street, and erection of a pair of semi-detached villas, off Chapel-lane, Heckmondwike. Plans seen, and quantities from Mr. William F. Cave, architect and surveyor, Market-street, Heckmondwike.

OCTOBER 22.—**Willersden.**—UNDERGROUND CONVENIENCE.—The Willersden D.C. invite tenders for a public underground convenience at South Kilburn, N.W. See advertisement in this issue for further particulars.

OCTOBER 23.—**Bradford.**—EXTENSION.—For the extension of Bradford County Court. Drawings, specification, and a copy of the conditions and form of contract, at Bradford County Court. Quantities and forms of tender, on deposit of 11. 1s., from the Secretary, H.M. Office of Works, etc., Storey-gate, London, S.W.

OCTOBER 23.—**Manchester.**—HALT.—The Lancashire and Yorkshire Railway invite tenders for the construction of a halt at Woodlands-road, Manchester. Plans seen, and tender, quantities, and specifications at the Engineer's Office, Hunt's Bank, Manchester.

OCTOBER 23.—**Oswest.**—EXTENSION.—Extension of mill premises at Oswest. Plans and specifications from Messrs. Holton & Fox, architects, Corporation-street, Dewsbury.

OCTOBER 23.—**Winsley.**—ADDITIONS.—For alterations and additions to the Sanatorium. Plans and specifications seen, and form of tender, quantities, and particulars from Mr. W. S. Skinner, architect, 27, Orchard-street, Colliage Green, Bristol. Deposit of 21. 2s.

OCTOBER 24.—**Caledon.**—RESIDENCE, ETC.—Erection of a medical officer's residence and a dispensary at Caledon. Plans and specification by Mr. James Hunter, B.E., Joburg.

OCTOBER 24.—**Hampton Court.**—EXTENSION.—For extension of the women's cloakroom at Hampton Court Palace. Drawings, specification, and a copy of the conditions and form of contract with Mr. G. J. T. Reavell, at H.M. Office of Works, etc., Storey-gate, S.W. Quantities and forms of tender on deposit of 11. 1s.

OCTOBER 26.—**Caerphilly.**—ADDITIONS, ETC.—For alterations and additions to Constitutional Club, Bartlett-street, Caerphilly. Drawings and specification with Mr. John H. Phillips, F.R.I.B.A., 7, Pembroke-terrace, Cardiff.

OCTOBER 26.—**Monkstown.**—ADDITIONS.—For additions to Raffoon House, near Monkstown, Co. Cork. Plans and specification with Messrs. W. H. Hill & Son, architects, 28, South-mall, Cork.

OCTOBER 28.—**Bastford.**—ADDITIONS.—For alterations and additions at the Newthorpe Outfall Works. Plans and specification from the engineers, Messrs. Elliott & Brown, A.M.M.Inst.C.E., Burton-buildings, Parliament-street, Nottingham. Quantities and form of tender on deposit of 11. 1s.

OCTOBER 28.—**Leek.**—SCHOOL.—The Staffordshire Education Committee invite tenders for new Council school. See advertisement in this issue for further particulars.

OCTOBER 28.—**Maldstone.**—SCHOOL.—For the erection of a new elementary school in Tonbridge-road. Quantities and form of tender from the Borough Surveyor, Mr. T. F. Bunting, Fair Meadow. Deposit of 21. 2s.

OCTOBER 28.—**Pontillanfrith.**—OFFICES, ETC.—Erection of Council offices, caretaker's house, and outbuildings at Pontillanfrith, Mon. Plans and specification seen, and quantities and form of tender from the Council's Architect, Mr. W. A. Griffiths, Post Office-chambers, Pontillanfrith, Mon., on deposit of 21. 2s.

OCTOBER 28.—**Whitchurch.**—SCHOOL.—Erection of new Council school at Whitchurch, near Bristol. Plans and specification with the architect, Mr. A. J. Pictor, A.R.I.B.A., Bruton. Quantities and forms of tender from Mr. A. Bradburn, quantity surveyor, 54, Baldwin-street, Bristol.

OCTOBER 29.—**London.**—EXTENSION, ETC.—For the alterations and extension of the convenience in Billingsgate Market. Specifications, on deposit of 21. 2s., from the Engineer, Guildhall, E.C.

OCTOBER 29.—**Pontardulais.**—SHED.—The London and North-Western and Great Western Joint Railway invite tenders for the erection of a goods shed at Pontardulais Station. Drawings, general conditions, and specifications seen, and forms of tender and quantities at the office of the Engineer of the Great Western Railway Company at Paddington Station, London, W.

OCTOBER 29.—**Saltburn.**—ADDITIONS.—Alterations and additions to Saltburn Elementary Council School. Forms of tender and plans and specifications with Mr. J. C. Wrigley, Secretary, Education Offices, Northallerton.

OCTOBER 30.—**Lymington.**—ADDITIONS.—For alterations to the cells, the provision prisoners' water-closet and lavatory at police-station. Specification, with conditions of contract, and information from Mr. W. J. T. County Surveyor, The Castle, Winchester. Deposit of 21. 2s.

OCTOBER 30.—**Sunderland.**—ADDITIONS.—Extension of additions to the Workhouse Infirmary, Hydon-road, Sunderland. Plans seen, quantities, on deposit of 21. 2s., from Mr. W. & T. R. Milburn, F.R.I.B.A., architect, 19, Tavett-street, Sunderland.

OCTOBER 31.—**Pembroke.**—PIER, ETC.—Erection of pier, promenade, baths, and pavilion, Merrion, Co. Dublin. Plans, specifications, conditions seen, and form of tender and quantities at the Town Hall, Ballsbridge, Co. Dublin. Quantities on deposit of 31. 3s.

* NOVEMBER 1.—**London, S.W.**—BOULEVARD WALL, ETC.—The Commissioners of H.M. Works and Public Buildings invite tenders for boulevard wall, iron railings, and gateways at Victoria Tower Gardens. See advertisement in this issue for further particulars.

NOVEMBER 2.—**Llanfyllin.**—HALL.—Formation of a drill-hall, etc., at Llanfyllin. I. specification, and quantities from Mr. H. Davies, M.S.A., architect, etc., Carno.

* NOVEMBER 2.—**Mardy.**—RESERVOIRS.—Works of completion in connexion with the reservoirs with the Engineer, 27, Galloway-road, Cardiff, and quantities and form of tender on deposit of 21. 2s.

NOVEMBER 3.—**Evesham.**—HALL, ETC.—Erection of a new drill-hall and instructor's house, accompanying officers' rooms, armoury, lecture rooms, etc., in Corporation-road, Evesham. Forms of tender and quantities from the City Engineer, 1, Market-street, Evesham. Deposit of 11. 1s.

* NOVEMBER 4.—**Dublin.**—HOSPITAL PLANS.—The Secretary of State for War is invited to tender for the Eastern War Hospital, at King George V. Hospital, Dublin. See advertisement in this issue for further particulars.

NOVEMBER 8.—**Knockree.**—BUILDINGS.—The erection of National School building, Knockree, Boyle, Co. Roscommon. Plans, specification at Boyle Royal Irish Constabulary Barracks, Boyle. Mr. Williams, Secretary, of Public Works, Dublin.

NOVEMBER 15.—**Lerwick.**—EXTENSION.—The construction of works in the extension of Lerwick Harbour, in the County of Zetland. Plans and specifications with Mr. James B. M.Inst.C.E., Central-chambers, 214, street, Aberdeen. Quantities on deposit of 21. 2s.

* NOVEMBER 19.—**Portsmouth.**—OFFICE OF CONVENIENCE.—The Portsmouth B.C. tenders for boatwains' office, meters, labourers' room, and gentlemen's convenience, Flat-house, Wharf. See advertisement in this issue for further particulars.

* NOVEMBER 19.—**Portsmouth.**—STORES.—The Portsmouth B.C. invite tenders for a block of ferro-concrete (Hemite) stores and offices on Camber Quay. See advertisement in this issue for further particulars.

NO DATE.—**Banbury.**—COTTAGES.—Erection of cottages on a site off Paradise-road, Banbury. Plans with architects, Messrs. G. & A. Lodge, 14, Hart-street, Bloomsbury, London, W.C. Quantities and form of tender on deposit of 21. 2s.

NO DATE.—**Barnsley.**—BATHS.—For the erection of the Public Baths, in York. Plans and tender forms, specifications, and quantities of tender, on deposit of 21. 2s., from Mr. W. P. Donald, Town Clerk, Town Office, Barnsley.

NO DATE.—**Blackburn.**—CHURCH.—Erection of the first portion of the new Evangelical testant Church, Fecit Brow, Blackburn. Plans to the architect, Mr. Fred J. Parkinson, 11, Broad-terrace, Blackburn.

NO DATE.—**Brecon.**—POLICE-STATION.—Formation of new police-station at Ystradgynlais. Plans to the architect, Mr. Charles W. Best, M.Inst.C.E., Brecon, Breconshire.

NO DATE.—**Dalton-in-Furness.**—PALACE.—Erection of the picture palace, old brewery site, Dalton-in-Furness. Quantities from Messrs. Howard & Howard, quantity surveyors, Old Bank-chambers, Cleckheaton.

BUILDING—continued.

date given at the commencement of each graph is the latest date when the tender, or names of those willing to submit tenders, is sent in.

DATE.—Halifax.—HEADQUARTERS.—For the on of headquarters for the 2nd West Riding R.F.A. Arden-road, Halifax. Mr. A. E. A.R.I.B.A., architect, 63, Albion-street.

DATE.—Loughborough, Leics.—HOUSE.—Construction of a refuse destructor house the existing destructor at the sewage farm. Plans and form of tender from Mr. A. H. R. A.M.Inst.C.E., Borough Surveyor, Town Loughborough. Deposit of 21 2s.

DATE.—Mountnessing.—COTTAGES.—For erection of two pairs of cottages on the bridge Farm. Plans and specifications, on it of Messrs. Stafford & Rogers, Ltd., works, Bedford.

DATE.—Perranuthnoe, Cornwall.—BURGAL.—For erection of a bungalow. Plans and specifications with Mr. Dennis, Perran Cross-near Marazion.

DATE.—TRALEE, REBUILDING.—For the re- of Messrs. Galvin's business premises, e. Drawings and specification with Messrs. n & Butler, architects, Mansion House-ers, Dawson-street, Dublin.

ENGINEERING, IRON, AND STEEL.

DATE.—Rhonda.—BRIDGE.—For the ruction of an iron bridge 12 ft. wide, ac-er near the Blaenrhonda Council School, s and specification seen, and quantities and form from the architect, Mr. Jacob Ross, Cottage, Pentre.

DATE.—21. Grimsby.—TELEPHONE.—For the lation of a new telephone system at the house. Specification from Mr. J. P. ringham, Clerk, Union Offices, St. Mary's-ers, Great Grimsby.

DATE.—23. Perth.—PILING.—For piling 280 yds. of the river bank at Shore-road, site South Inch, with larch piles, and pitch-the slopes of banks with stones. Plans seen specifications and quantities from Mr. R. lton, Borough Surveyor, 16, Tay-street, Perth.

DATE.—25. Tonbridge.—PLANT.—For the on of one 100-hp. Diesel engine and rior alterations and additions to switch-rl. Specifications and forms of tender from M. P. Plunkett, Electricity Works, Ton-ridge, on deposit of 11 1s.

DATE.—30. Collyford.—BRIDGE.—For tberning the Axe Bridge. Plans and cifications with the County Surveyor, The Castle, Collyford.

DATE.—31.—GLASTONBURY. MACHINERY.—Erection of pumping machinery in conjunction with the proposed pumping stations at the Bridge and in Porchester-drove. Specification by the Engineers to the Corporation, Messrs. A. P. I. Cottrell & Carr, minister, and 28, Victoria-street, Bristol. sit of 21 2s.

DATE.—31.—LONDON.—ADDITIONS.—For ments and additions to permanent way at

Walthamstow and District Light (Electric) Rail-ways. Drawings, conditions of contract, epecification, and form of tender from Mr. G. W. Holmes, A.M.Inst.C.E., Town Hall Annex, Walthamstow, on 51 deposit.

DATE.—2.—FENTYPRID.—RESERVOIR.—Construction of a service reservoir of 675,000 gallons capacity. Full particulars from the Engineer, 27, Gellwasted-road, Fentyprid.

FURNITURE, PAINTING, MATERIALS, etc.

DATE.—31.—CARDIFF.—PAINTING.—For painting at the Industrial School. Tender forms and specification of work from Mr. John J. Jackson, Secretary, Education Office, City Hall, Cardiff.

DATE.—25.—YSTRAD RHONDDA.—PAINTING.—For repairing, papering, and painting at the Sandy Bank Hotel, Ystrad Rhondda, for Messrs. D. John & Co., Ltd. Specification with Mr. W. Morgan, M.S.A., architect, Pentre Rhondda.

DATE.—26.—GLITHEROE.—PAINTING, ETC.—For painting and decorating the Clitheroe Congrega-tional church and school. Specifications may be obtained from Mr. G. Steer, 38, Salthill-road, from 6 to 8 p.m.

DATE.—26.—LONDON.—STORES AND MATERIALS.—The Port of London Authority invite tenders for supplies of stores and materials during the twelve months ending December 31, 1913. See advertisement in this issue for further particulars.

DATE.—26.—PADDINGTON.—PAINTING, ETC.—The Paddington Guardians invite tenders for painting, etc., works at Workhouse, 5, Wood-field-road, Hartrow-road. See advertisement in this issue for further particulars.

DATE.—26.—LONDON, S.E.—DEMOLITION.—The Metropolitan Asylums Board invite tenders for demolishing buildings, 155 and 157, Peckham Eze, S.E. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

DATE.—22.—LEEDS.—ROADS.—For the making of macadam roadways and asphalt footpaths in North Park-avenue and North Park-grove. Drawings at the City Engineer's Office, Municipal-buildings.

DATE.—24.—DEAL.—ROAD.—For making-up the Grove-road and Northcote-road. Specifications, plans, and particulars at the Borough Surveyor's Office, 23, Queen-street, Deal.

DATE.—24.—OCEAN.—ROADS.—For im-provement works on a section of the Great North trunk road. Plans and specifications seen, and quantities from Messrs. G. Gordon & Co., civil engineers, Liverpool.

DATE.—24.—ROMFORD.—GRANITE.—For the supply of about 1,800 tons of best blue Guernsey granite, hand-broken to 13-in. cube. Forms of tender from Mr. J. Turvey, the Surveyor, Council Offices, Romford.

DATE.—25.—RAINHAM.—ROAD.—For making a new road, about 315 yds. in length, on the Rainham Freehold Land and Allotment Company's Estate, Rainham, Kent. Plans and specifications with Mr. Marshall Harvey, architect, 36, Station-street, Sittingbourne.

DATE.—26.—BEXHILL.—SEWAGE.—For the construction of storm-water overflow sewers, enlargement of brick culvert, and extension of storage tanks at the sewer outfall, together with manholes and other works. Plans seen, and specifications, quantities, and forms of tender from Mr. G. Ball, A.M.Inst.C.E., Borough Surveyor, Town Hall, on deposit of 51.

DATE.—26.—NORTHWOOD.—SEWAGE.—Construction of three lengths of sewers, with manholes and incidental works. Plans and specifications seen, and quantities and forms of tender from Mr. W. Louis Carr, the Surveyor to the Council, at the Council Offices. Deposit of 11.

DATE.—26.—SHREWSBURY.—PAVING.—For paving with granite sets one avenue of the Cattle Market. Specification seen, and form of tender and quantities, on deposit of 11, from Mr. W. Chapple Eddowes, Borough Surveyor.

DATE.—26.—TURTON.—GRANITE.—For 15,000 tons of Welsh granite sets. Specification and forms of tender from the Surveyor, Council Offices, Bromley Cross, near Bolton.

DATE.—26.—WALTON-ON-THAMES.—MATERIAL.—For the supply of road material. Form of tender and conditions from Mr. R. Wilds, Surveyor, Council Offices, Walton-on-Thames.

DATE.—26.—LONDON, E.C.—MASONS' AND PATIORS' WORK.—The Streets Committee of the City of London invite tenders for repair and maintenance of all works of stone paving in the City. See advertisement in this issue for further particulars.

DATE.—26.—WEST HARTLEPOOL.—ROAD.—Construction of portion of Westbourne-road. Plans, sections, and specification seen, and form of tender, with quantities, from Mr. Nelson P. Dennis, M.Inst.C.E., Borough Engineer and Surveyor, Borough Engineer's Department.

DATE.—31.—KIDFIELD.—SEWAGE.—Construction of about 7,823 yds. of 6-in., 9-in., and 12-in. diameter stoneware, cast-iron, and steel pipe sewers, including about 1,657 yds. of 12-in. sewer in deep tunnel work (52 ft. maximum depth), with manholes and ventilating columns, tanks, bacterial filters with rotary distributors, and other works. Drawings and specification seen, and quantities, with forms of tender, at the offices of the engineer, Mr. Robert Green, M.Inst.C.E., 37, Waterloo-street, Birmingham. Deposit of 51.

DATE.—31.—ROMFORD.—GRANITE.—For supply of 1,800 tons of best blue Guernsey granite, hand-broken to 13-in. cube. Forms of tender from Mr. J. Turvey, Surveyor, Council Offices, Romford.

DATE.—1.—OTTERTY ST. MARY.—MAIN.—For laying 6-in. cast-iron water main with sluice valves, etc. Plans and specifications at the office of Mr. H. Finister, Engineer and Surveyor, Town Hall.

DATE.—1.—MALDON.—MAIN.—For laying 370 yds. of 6-in. water main. Specification seen, and form of tender from Mr. T. R. Swales, M.Inst.C.E., Borough Engineer.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
ERHOLD BLDG. SITES, CROYDON AND WALLINGTON—Greyhound Hotel, Croydon	Bowditch & Grant	Oct. 22
LS. BATTENS, BOARDS, TIMBER, ETC. Great Hall, Winchester House, E.C.	Churchill & Sim	Oct. 30
EHOLD BUILDING LAND, GREENWICH—Traffalgar Hotel, Greenwich	Humphreys, Skitt, & Humphreys	Oct. 31
EHOLD BUILDING LAND, ROTHERHITHE—Traffalgar Hotel, Greenwich	Humphreys, Skitt, & Humphreys	Oct. 31
EHOLD BUILDING SITE, NOTTING HILL GATE—At the Mart	Horne & Co.	Dec. 10

OBITUARY.

Mr. J. Parker.

the death, suddenly, in London, on October 5, of Mr. James Parker, of Turl, Oxford, in his eightieth year. Mr. er was the son of Mr. John Henry Parker, K. Keeper of the Ashmolean Museum, and or of the "Glossary of Architecture," of h the first edition appeared in 1855. Mr. r was educated at Winchester; honorary degree of M.A. was conferred him by Oxford University in 1877. He a leading member of the Oxford Archi-tectural and Historical Society, to whose scriptions he largely contributed, as well as e *Proceedings of the Geological Society*.

Mr. J. E. Hodgkin, F.S.A., F.R.Hist.S.

the death, on October 5, at the Wood-s, Putney, is announced of Mr. John E. Hodgkin, the art collector, aged 72 years. He published in three times his "Rariora," a catalogue of objects, s 20,000 in number, which he gathered ther, and twenty years ago brought out a work upon "Examples of Early English ury," in 1866 he published "Monograms,

Ancient and Modern." The Historical Manu-cripts Commission published J. C. Jeaffreson's digest of a volume of 400 pages relating to Mr. Hodgkin's English historical documents of the XVIth-XVIIIth centuries period.

Mr. V. Pendred, M.I.Mech.E., Soc. of Eng., etc.

Mr. Vaughan Pendred, who died at Streatham on October 12, aged seventy-six years, was appointed editor of the *Engineer* in 1865, and retired from the conduct of that journal seven years ago. His youth was spent on the family estate of Barraderry, Co. Wicklow, and he was educated at home. Though he had no special training as an engineer, he attracted the notice and help of Mr. Zerah Colburn, the then editor of the *Engineer*, who put some work in his way. His technical writings became known also to Mr. Passmore Edwards, who in or owner of the *Mechanic's Magazine*, who in or about 1863 appointed him as editor of his paper; he was then nominated to succeed Mr. Colburn on the *Engineer*. Mr. Pendred was a member of the Iron and Steel Institute, of the Society of Engineers, and (by invitation) of the Institution of Mechanical Engineers. One of his three sons succeeded him as editor of the *Engineer*.

TRADE CATALOGUES.

Messrs. Chance Brothers & Co., Ltd., Bir-mingham, send us a copy of their latest catalogue of Vitreous tiles and mosaic. The tiles, which are of solid glass throughout, and being non-absorbent, may be used on external walls, are made in two forms—with regular edges and with antique rough-cut edges. Moulded angles, cappings, and skirtings are supplied in great variety. Excellent illustrations are given of tiling schemes for entrance halls, staircases, bathroom walls, floors, fire-place surrounds, jambs, hearths, etc. The mosaic is manufactured in cubes as well as in irregular-shaped tesserae for random work. Where elaborate designs are adopted, Messrs. Chance will quote for material set up on paper ready for fixing, but simple schemes can be laid directly to the floor. Effective examples are illustrated of every sort of mosaic work. The firm, who also manufacture window glass of every description, ask us to state that a copy of their catalogue may be had by architects should they desire to have one.

We have received from the Carron Company their latest catalogue of rainwater, soil goods, and sanitary castings. Under the heading

are many designs for ornamental rainwater pipes, heads, bands, and gutters; the firm will submit designs for castings of any description on receipt of specification.

The Patent Rapid Scaffold Tie Company, Ltd., of 124, Victoria-street, London, S.W., send us a price list of their well-known Scaffold tie, containing photographs of a few of the many contracts where their Scaffold ties have been made use of. Among these we note the new Y.M.C.A. building in Tottenham Court-road; the new Money Order Office, Holloway; the reconstructed block of Oxford-circuit; and the Savoy Hotel extension. This last example is of especial interest from the fact that, owing to the limited time allowed for the contract, every platform was simultaneously worked from and heavily loaded with masonry. In this connexion it may be remarked that, whereas the computed safe load on ordinary scaffolds is 56 lb. per square foot, a scaffold constructed with Scaffold ties has been experimentally loaded to 350 lb. per square foot. Scaffold ties were used as cramps for the moulds to the reinforced columns at the Amalgamated Press building, Farringdon-street, E.C.

We have received from the British Ceresit Waterproofing Company, Ltd., of 63, Victoria-street, London, S.W., a booklet, entitled "Ceresit and its Uses in all Building Operations." As illustrating its employment in important contracts, we may select the new Liver Buildings, Liverpool; the Royal Society of Medicine, Henrietta-street, Cavendish-square, London, W.; and the new reinforced concrete swimming-bath at Chocade Hulme, near Manchester. Ceresit is now so widely known that we need do no more than remind our readers of its prowess in conquering the effects of damp as an exterior or interior walling, in damp-courses, cellars, roofs, floors, tanks, and a hundred other uses which will readily suggest themselves. Exhaustive tests have recently been carried out at the National Physical Laboratory, Teddington, on slabs of cement mortar treated with Ceresit, as compared with slabs without Ceresit. Each was subjected for a considerable period to the action of water at a pressure of 434 lb. to the square inch, with the result that no sign of dampness appeared on the under surface of the slabs treated with Ceresit, while the slabs made without Ceresit were found to be saturated with water, large drops being suspended from over the under surface.

Mr. Alexander G. Lee, of 14, John-street, Bedford-row, London, W.C., has just issued a new prospectus of the "All Time" sheet lead and asphalt damp-course, with a copy of which he has been good enough to favour us. The lasting qualities of lead, illustrated by the many inscriptions, coins, sheets, and pipes of lead which have come down to us from remote antiquity, suggested its use as a damp-resisting stratum eminently suitable for damp-courses. The "All Time" damp-course consists of a continuous layer of sheet lead, embedded between and closely compacted with two protective layers of specially-prepared fibrous asphalt sheeting. It is stocked in all wall-widths, in rolls from 33 ft. to 66 ft. long, without a joint. A six-fold watertight lap joint can be readily formed where required. It is supplied in four qualities, A, B, C, and D. Contracts have recently been executed for the War Office, the Admiralty, the Home Office, and many of the leading railway companies.

PATENTS.

APPLICATIONS PUBLISHED.*

- 20,552 of 1911.—Martin Hatz: Metal roofing sheets.
20,751 of 1911.—Florence Escalada: Houses for tropical climates.
20,749 of 1911.—Ognoslav (Ignaz) Kestovitch: Manufacture of composite boards, slabs, and plates of wood.
20,836 of 1911.—Samuel Abram: Brick and like moulding-machines.
21,162 of 1911.—Charles Harold Waithman: Windows.
21,256 of 1911.—George Edward Cluett: Wire fencing.
21,343 of 1911.—Harry Robert Middleton: Folding screens or partitions.
21,603 of 1911.—Herbert Alfred Humphrey: Methods of and apparatus for raising or forcing liquids.
22,624 of 1911.—Pierre Samain: Cocks or valves for water-mains.
22,968 of 1911.—Simplex Conduits, Ltd., and Thomas Birkett: Electric-light fittings.
23,258 of 1911.—Charles Henry Hubbard: Fastening or securing means for doors, gates, cupboards, or the like.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

23,538 of 1911.—Samuel Holt Donnelly: Multiple way cocks for hot-water supply systems.

24,351 of 1911.—Alexander Siewert: Metal beams.

27,539 of 1911.—Thomas Boyd: Glazing bars.
27,741 of 1911.—John Baptist Murphy: Apparatus for supporting window-sashes and the like, specially suitable for windows in doors of railway carriages.

479 of 1912.—Joseph Richard Parker: Knot holders for window blinds.

2,252 of 1912.—Thomas Boyd: Bar for collecting condensed water from windows and the like.

4,483 of 1912.—Walter Sinton: Means for use in fastening window-sash cords to the sashes.

6,156 of 1912.—Wilhelmine Frank: Plaster-carrying device for ceilings, walls, and the like.

9,333 of 1912.—Hector Verschaffel: Means for separating the water from the slurry in the manufacture of Portland cement.

11,065 of 1912.—William Mayo Venable: Moulds for casting columns in situ.

15,745 of 1912.—Heinrich Schwarz: Door-locks.

SOME RECENT SALES OF PROPERTY: ESTATE EXCHANGE REPORT.

October 1.—By T. P. & A. SAUL.
Weston, Lincs.—Freehold farms, 308 a. 1 r. 38 p., f. £18,510
October 2.—By DRIVER, JONES, & CO.
Ilmer, Bucks.—Lower Farm, 151 a. 1 r. 2 p., f. 4,410
October 3.—By ALFRED SPAIN & SON.
Gravesend, Kent. 35, Cobham-st., f. 260
27, Windmill-st., f. 270
25 and 27, Alfred-st., f. 300

October 4.—By KNIGHT, FRANK, & RUTLEY.
Essendon, Herts.—Essendon Place Estate, 129 a. 2 r. 35 p., f. 16,920

October 5.—By GEO. TARN, BALNBRIDGE, & SON.
Meltonby, Yorks.—Accommodation land, 37 a. 0 r. 16 p., f. 1,362

By H. W. & C. SPELMAN.
Cringford, Norfolk.—Cringford Estate, 50 a., f. 6,280

By THORNBOROUGH & CO.
Appelthwaite, Cumberland.—Elm Garth and 2 a. 1 r. 14 p., f. 490
Croschwaite, Cumberland.—Grange Farm, 121 a. 0 r. 21 p., f. 1,375
Three closes, 15 a. 1 r. 8 p., f. 490
Manor House and three cottages, 1 a. 1 r. 15 p., f. 1,650
Kensdale Farm, 179 a., f. 1,962

By DILLEY, SON, & READ.
Goodmanchester, Hunts.—Three farms, 600 a. 14,400

October 8.—By STURT & TYNDEN.
Highgate.—29, Cholmeley-park, ut. 95 yrs., g.r. 121, y.r. 85l. 850
42, Cholmeley park, ut. 97 yrs., g.r. 121, y.r. 75l. 800
41, Stanhope-gdns., ut. 91½ yrs., g.r. 81, y.r. 35l. 500

By P. & G. GREEN.
East Sheen. 307, Upper Richmond-rd., s. f., y.r. 45l. 640
Ealing.—17, Disraeli-rd., ut. 80 yrs., g.r. 71, y.r. 38l. 275
40, Blandford-rd., y.r. 30l. 530

October 9.—By EDWIN FOX, BOYSEFIELD, BURNETT, & BADDLEY.
Notting Hill.—Clarendon-rd., f.g. rents 40l., reversion in 4½ and 5 yrs. 920
Tallbot-gr., f.g. rents 20l., reversion in 3½ yrs. 440
Maida Vale.—Blomfield-rd., f.g. rents 5½, ut. 88 yrs., g.r. 21. 1,070

By BUNCH & DUKE.
Clapton.—1 to 8, 37 to 46, 57 to 61, Stouham-rd., ut. 38 and 40, Rossington-st., ut. 34 yrs., g.r. 43l. 10s., w.r. 72d. 8s. 2,355
Hackney.—59, Amburst-rd., ut. 47 yrs., g.r. 71, y.r. 38l. 330
125, Graham-rd., ut. 45 yrs., g.r. 61, y.r. 38l. 475
Clapton.—44, Median-rd., f. r. 38l. 280

By HEAPS, SON, & REEVE.
Camberwell.—46 and 62, Grove-lane, f. w. and g.r. 61, 10s. 655
Paddington. 51, Ambury-rd., ut. 50 yrs., g.r. 71, y.r. 43l. 215

By COLES & CO.
Bayswater.—86, Queen's-rd., ut. 36 yrs., g.r. 10l., y.r. 150l. 1,800

By DONALDSON & SONS.
Whitechapel.—3, Greenfield-st., f. w.r. 52l. 280

October 10.—By CHESTERTON & SONS.
Kensington.—44 and 46, Bedford-gdns., f. and ut. 11 yrs., g.r. 181, 10s., w.r. 175l. 1,515
Bedford-gdns., f.g.r. 37l. 10s., reversion in 21 yrs. 2,525
South Kensington.—23, Colchester-rd., ut. 37 yrs., g.r. 121, 10s., w. 435

By C. C. & T. MOORE.
Hackney.—3 and 5, Brunswick st., f. w.r., 145l. 1 s. 650
2, Spurstowe-ter., ut. 62 yrs., g.r. 61, w.r. 10l. 8s. 170
Leytonstone.—303 and 305, Cain Hall-rd., f. w.r. 62l. 8s. 605

By NEWBON & SHEPHERDS.

Highbury.—54 and 56, Compton-rd., ut. 32 yrs., g.r. nil, y.r. 85l. 70
St. Pancras.—4, 5, and 6, Alderton-pk., ut. 30 yrs., g.r. 3l., y.r. 173s. 70
78, Charington-st., ut. 31½ yrs., g.r. 3l., y.r. 60l. 25
1, Werrington-st., ut. 31½ yrs., g.r. 10l. 10s., y.r. 60l. 12
Harrington-st., ut. 12 yrs., g.r. 61, 10s., y.r. 55l. 12
123 and 124, Seymour-st., s. ut. 15 yrs., g.r. 2s., y.r. 105l. 31
Argyle-st., ut. 24 yrs., g.r. 21, y.r. 30l. 31
Bloombury.—42, Torrington-st., ut. 11½ yrs., g.r. 20l., y.r. 80l. 18
Kensington Town.—5 and 13, Adelaide-rd., ut. 28 yrs., g.r. 9l., y.r. 117l. 10s. 18
Camden Town.—127 and 128, Camden-st., ut. 18 yrs., g.r. nil, y.r. 100l. 95
85, 86, and 100, Camden-st., ut. 27 yrs., g.r. 18l., y.r. 100l. 18l.

By STIMSON & SOVS.

Harrington.—37, Harrington-rd., f. w. 23l. 12s. Manor Park.—51 to 73, 76 to 110 (even), 63 to 91 (odd), Carlyle-rd., f. w. 1, 1892l. 1 to 17, 17 to 23, 21 to 27, 111 to 125 (odd), 125 to 131, 131 to 137, 137 to 143, 143 to 149, 149 to 155, 155 to 161, 161 to 167, 167 to 173, 173 to 179, 179 to 185, 185 to 191, 191 to 197, 197 to 203, 203 to 209, 209 to 215, 215 to 221, 221 to 227, 227 to 233, 233 to 239, 239 to 245, 245 to 251, 251 to 257, 257 to 263, 263 to 269, 269 to 275, 275 to 281, 281 to 287, 287 to 293, 293 to 299, 299 to 305, 305 to 311, 311 to 317, 317 to 323, 323 to 329, 329 to 335, 335 to 341, 341 to 347, 347 to 353, 353 to 359, 359 to 365, 365 to 371, 371 to 377, 377 to 383, 383 to 389, 389 to 395, 395 to 401, 401 to 407, 407 to 413, 413 to 419, 419 to 425, 425 to 431, 431 to 437, 437 to 443, 443 to 449, 449 to 455, 455 to 461, 461 to 467, 467 to 473, 473 to 479, 479 to 485, 485 to 491, 491 to 497, 497 to 503, 503 to 509, 509 to 515, 515 to 521, 521 to 527, 527 to 533, 533 to 539, 539 to 545, 545 to 551, 551 to 557, 557 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WOOD (Continued).

Sea and Petersburg—	15	0	0	11	0
white dials, 3 in. by 1 in.	10	0	0	16	0
white dials, 3 in. by 9 in.	11	0	0	14	0
items—	14	0	0	12	0
white dials, 3 in. by 1 in.	14	0	0	25	0
white dials, 3 in. by 9 in.	13	0	0	14	0
items—	10	0	0	11	0
white dials, 3 in. by 1 in.	10	0	0	11	0
white dials, 3 in. by 9 in.	10	0	0	1	0
Pine—First, regular sizes	48	0	0	upwards.	
Second, regular sizes	32	0	0		
Third, regular sizes	33	0	0		
Fourth, regular sizes	38	0	0		
Pine—First, per ft. cube.	0	4	8	0	6
Second, per ft. cube.	0	3	0	0	3
Third, per ft. cube.	0	2	6	0	2
Fourth, per ft. cube.	0	6	6	0	8

ENGLISH ROLLED PLATE IN CRATES OF
STOCK SIZES.*

Per Ft., Delivered.

$\frac{1}{16}$ Rolled plate.....	2d.	Figured Rolled, Ox-	
$\frac{1}{8}$ Rough rolled and		anic Rolled, Oee-	
rough cast plate..	2d.	anic, Arctic, Muffed,	
$\frac{1}{4}$ Rough rolled and		and Rolled Cathe-	
rough cast plate.,	3d.	dral, white.....	3½d.
		Ditto, tinted.....	5d.

* Not less than two crates.

TO CORRESPONDENTS

We cannot undertake to return rejected communications, and the Editor cannot be responsible for loss of drawings, models, or for models or samples sent to or left at this office, unless he has specially asked for them.

Drawings, models, or samples sent in for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience will result if no attention is paid to this.

Any commission to contribute articles, or drawings, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, and the Editor reserves the right if it is unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be sent to the Editor, and the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BURSLEM.—For new offices, Moorland-road, Burslem, for the Burslem Burial Society. Mr. Reginald T. Longden, architect, York Chambers, Stoke-on-Trent, and St. Edward-street, Lough.

W. H. Newark	£5, 112	Cornes & Sons.....	£4, 400
Colley & Lindop	4, 825	G. Goodwin	4, 360
T. Fynney	4, 700	A. E. Chatfield	4, 350
W. Rogers	4, 594	T. Godwin	4, 299
J. Cooke	4, 450	Grants*	4, 259
G. M. Sambrook ..	4, 422	P. Pemberton.....	4, 155

<p>Leicester City Council Education Committee. Mr. Ernest G. Fowler, Architect and Surveyor:—</p>			
W. Moss and Son	£651 11 0	F. Sleath	£525 0 0
E. P. Norton	580 15 2	E. Fox, 6, Ev-	
G. Greaves	544 10 0	ington-street,	
J. C. Kellett &		Leicester* .	520 0 0
Sons	535 0 0		

GRAYS.—For the erection of fencing at Parker-road School site, for the Essex Education Committee. Mr. Christopher M. Shiner, A.R.I.B.A., Architect and Surveyor, 7, Adam-street, Adelphi, W.C., and Grays, Essex

H. H. Carter	£502 10	J. J. Lawrence	£472 0
Brown Bros.	494 0		

KINGSTON-ON THAMES.—For alterations to bank front, 39, Market-place. Mr. G. Reginald Farrow, A.R.I.B.A., and Mr. Sydney R. Turner, architects, Amberley House, Norfolk-street, Strand, W.C. :—

		Time Required, Weeks.
W. S. Pinney	£326	...
Weightman & Son.....	273	5
Caze	261	...
J. R. Offer & Son	236	7
J. H. Jenkin & Co.*	192	7

LONDON.—For the construction of a new police station at South Fulham. Mr. J. Dixon, Surveyor, F.R.I.B.A., architect, Surveyor to the Metropolitan Police District, New Scotland-yard, S.W. Quantities by Messrs. Thurgood, Son, & Chidgey, 8, Adelphi-terrace, Strand, W.C.:

Harris & Wardrop	£14,423	Lole & Co.	£13,725
Rice & Sons	14,323	Appleby & Sons	13,553
F. Minter	14,140	J. Smith & Sons	13,559
Lorden & Sons	13,987	Galbraith Bros.	13,491
Todd & Newman	13,969	Wallis & Sons	13,390
Treloope & Sons	13,960	Adamson & Son	14,997
Holloway Bros.	13,890	E. Lawrence & Sons	12,987
F. & H. Higgs, Ltd.	13,878	Patman & Fotheringham	12,783
W. Willett	13,829	John Garlick, Ltd.	12,335
Prestige & Co.	13,771		
Higgs & Hill	13,744		

LONDON.—For the supply of (i.) three electrically-propelled shop trucks and (ii.) three wheel-turning lathes for the third section of the central car-repair depot, for the London County Council:—

(i.) Three Electrically-Propelled Shop Trucks, etc.

Hume, Nelson, & Co., Ltd.	£975 0
British Westinghouse Electric & Manufacturing Company, Ltd.	916 10
S. H. Heywood & Co., Ltd.	905 0
Scholey & Co., Ltd.	753 10
Brush Electrical Engineering Company, Ltd., Loughborough	680 0

Estimate of the Chief Officer of Tramways comparable with the tenders £571.

(ii.) Three Wheel-turning Lathes.

Lathes fitted with hand screw gear for the headstock rams.	Lathes fitted with power screw gear for the headstock rams.
Pollock & MacNab, Ltd.	£2,630 0
Tungate, Ltd.	2,573 0
Buck & Hickman, Ltd.	2,445 10
Whitechapel-road, E.	2,331 15

Estimate of the Chief Officer of Tramways comparable with the tenders £2,950.

LONDON.—For fixing low-pressure hot-water heating apparatus required for the garage at the tramways depot at No. 23, Belvedere-road, for the London County Council:—

W. G. Cannon & Sons, Ltd.	£110 0
Bosser & Russell, Ltd.	95 10
J. Womner-Smith, Gray, & Co., Ltd.	85 0
G. & E. Bradley	85 0
Cannon & Bedford	85 10
Palowkar & Sons	81 0
J. Yaton & Co., Ltd.	82 10
G. N. Haden & Sons	82 5
Brightside Foundry and Engineering Co., Ltd.	64 0
Wendley Holding Co., Ltd., Wembley	51 10

LONDON.—For substituting incandescent burners for the flat-flame burners at present in use at the Council's Dwellings, and for repairs to the gas-lamps, for the London County Council:—

J. C. Christie	£278 10 0
Etna Lighting and Heating Co., Ltd.	650 15 6
W. Sugg & Co., Ltd.	210 10 0
Tilley Bros., Kingsland-road	497 0 0

LONDON. For supply of a new pair of chains for one of the lift screens at the Southern Outfall, for the London County Council:—

J. Wright & Co.	£271 10	Walton & Clough	£212 0
Gibbons Bros., Ltd.	141 10	T. Larmuth & Co., Ltd.	65 0
Leach, Goodall, & Co., Leeds	128 0		

LONDON.—For a supply of cast-steel valves for the vertical engines at the Southern Outfall, for the London County Council

J. Rogerson & Co., Ltd.	50s. a cwt
T. Firth & Sons, Ltd.	38s. a cwt and 6s. for each test piece required.
W. Jessop & Sons, Ltd.	38s. 6d. a cwt and £1 1s. for each pair of test piece required.

LONDON.—For provision of iron railings to be fixed on the new wall at the Greenwich Generating Station, for the London County Council:—

Hill & Smith, Ltd.	£69 16 10
D. Rowell & Co.	69 1 8
Watts, Fincham, & Co.	63 10 0

Less 2½ per cent. discount.

LONDON.—For electrical dischargers for use in the tramway sub-stations, for the London County Council:—

Forratt, Ltd.	£2,906 13 10
The General Electric Co., Ltd.	2,861 18 4
Spagnoletti, Ltd.	2,785 0 0
The British Westinghouse Electric and Manufacturing Co., Ltd.	2,732 10 6
Johnson & Phillips, Ltd., Charlton	2,639 7 4

[Estimate of the Chief Officer of Tramways comparable with the tenders £2,2 0.]

MARKET HARBOUR.—For handicraft centre, for Lancashire County Council Education Committee Mr. Ernest G. Fowler, Architect and Surveyor:—

Garfield, Tilley, & Johnson	£469 0 0	E. Fox	£431 9 0
Haycock Bros.	460 8 8	G. Jarman & Sons	
F. Sleath	456 0 0	Nicholsdale	
J. C. Kellott & Son	438 0 0	Harborough	427 0 0

OGMORE VALE.—For alterations to the Fox and Honnds Hotel, for the Rhonda Valley Breweries Company, Ltd. Mr. T. J. Evans, architect, The Court, Penfold:—

W. Symonds & Sons	£2,730 0 0
D. Davies & Sons	2,595 0 0
Melhuish Bros.	2,560 0 0
W. A. Jones	2,514 12 0
W. H. & T. B. Evans	2,493 0 0
G. Thomas	2,386 8 2
D. Walters	2,392 14 0
Knox & Wells, Cardiff	2,332 0 0

STOCKPORT.—For taking down one of the bays of the covered market, etc. Mr. J. Atkinson, A.M. Inst.C.E., Borough Surveyor:—

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STOKE.—For new offices at Wolfe-street, Stoke, for Messrs. J. A. Robinson & Sons, Ltd. Mr. Reginald T. Longdon, architect, York-chambers, Stoke-on-Trent, and St. Edward-street, Leek:—

Ball & Robinson	£915 0 0	Colley & Lindop	£863 7 0
Grant	900 0 0	T. Godwin	857 0 0
S. Heath	885 0 0	S. Wilton	798 0 0
Bettelley	875 0 0		

STOKE.—For new offices at rear of offices at Wolfe-street, for Messrs. J. A. Robinson & Sons, Ltd. Mr. Reginald T. Longdon, architect, York-chambers, Stoke-on-Trent:—

Ball & Robinson	£1,540 0 0	W. Grant	£1,800 0 0
T. Godwin	1,530 0 0	J. Cooke	1,530 0 0
Meeklejohn & Son	1,520 0 0	Colley & Lindop	1,427 15

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A JOURNAL FOR THE ARCHITECT

AND FOR ALL INTERESTED IN THE

CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 538.

OCTOBER 25, 1913.

ILLUSTRATIONS.

MASONIC TEMPLE, ABERDEEN: THE STAIRCASE.
MR. HARBOURNE MACLENNAN, ARCHITECT.
DITTO, FRONT ELEVATION TO CROWN-STREET.
MR. HARBOURNE MACLENNAN, ARCHITECT.

COUNTRY HOUSE, NEAR GUILDFORD, SURREY. MR. R. F. JOHNSTON, ARCHITECT.
"TWO GABLES," BURNHAM, BUCKS. MR. R. F. JOHNSTON, ARCHITECT.
THE ARCHITECTURAL TREATMENT OF THE HEAD OF THE SERPENTINE.
A.A. SILVER MEDAL, AWARDED TO MR. R. M. PIGOTT.

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ARCHITECTURAL REVIVALISM AND THE NEW DELHI.

THE oscillations of authority exhibited in British Government buildings during the past century are probably beyond compare. Munich has a reputation for pulsive artistic government, Vienna at least in two great directions during the long reign of its present Emperor sued opposite ideals, but London, without the impulse of Munich the compulsion of new Vienna, has deduced an architectural miscellany wonderful range and extraordinary density but of small resulting influence. Have as the result of a century of governmental development and building leaved no architectural school and re consecrated no other tradition n that of eclectic revivalism as a ional characteristic. The neo-Greek which one hundred rs ago succeeded to the current dition of Chambers and Nash has us, among others, such monuments the Bank of England, the late ented Post Office, the National lery, and the British Museum, each

having necessarily an underlying characteristic plan expressing a modern purpose, but clothed in as purely Grecian architecture as the architects could command. The Gothic revival which ensued, in the contrariety of revivalism, gave us the Houses of Parliament, certainly one of the most important buildings of the XIXth century in Europe, having its aftermath in the Royal Courts of Justice, effervescing with scholarly enthusiasm, but less characteristic either of our past or present than any other official building of similar scale. Between these Gothic landmarks lie such achievements as Holloway Prison and the Record Office, each purposeful and expressive, but nartistic because inflamed with false sentiment. Queen Anne then stepped into the breach in the actual break-up of traditional lines of artistic thought, claiming to be a *via media* in the battle of the styles, to which the New Scotland-yard remains, already in the distance, as another monument of individual power, without parentage or descendants, among

the miscellanies of official architecture. A manner of design which originated in purely domestic traditions was exaggerated into the scale of a great public office in this chief instance, and in a multitude of others applied to a wide group of large school buildings, imparting only quaintness where something more satisfying and educative would have been welcome. Meanwhile, outside the stream of enthusiasm, beyond the influence of the revivalists of the bygone, there existed a current type which the elect rudely classed as nartistic, employing the ordinary forms of cornices, arches, and imposts, and which for want of an historic label was properly named Victorian, a good name which has unfairly attained an almost contemptuous meaning. This style, for such it is, lacks that flavour of antiquity valued by the epicure in game, which is supposed to give value and justification to the later Georgian or the works of the Adam Brothers. It represents the practical residuum of modern architecture deprived of that artistic attention to refinement,

proportion, and decoration which was appropriated by architects devoted only to revivalism. Shorn of the ephemeral trappings of fashion and gyrating taste, this Victorian type of building remains our most generally representative architecture. Its defects are our fault, and its permanence and commercial usefulness a constant witness against our perverse tendency to gather only the fruits and flowers of past architectural growths instead of attending to the roots from which true development proceeds.

If we did not habitually look backwards for architectural guidance and inspiration the opportunity which the new Delhi affords for progress and development would offer no ground for discussion of the "style" or epoch proper for its buildings. For more than a century we have indulged ourselves in these antiquarian studies with only a pseudo-artistic intent. Nothing is of greater value to the architect of to-day than an intelligent knowledge and sympathetic appreciation of the building motives of the past, if the aim of his inquiry is directed to the mind which planned rather than to the accidents of its artistic expression. But the employment of the ancient styles, with superstitious reverence, as artistic fetishes, or as magic "open sesame" to beauty, is not really that intelligent archaeology which is desirable; instead of this it has led to mere revivalism without permanent benefit to the stream of our national architecture. It is therefore important that architects should recognise and break with the habit of weighing every modern opportunity for a great building as an occasion for the selection of another suitable artistic style from their gallery of antiquity.

The distinction between artistic revivalism and intelligent archaeological study must be preserved and insisted upon; the one is superficial and both facile and fascinating to a ready draughtsman, while the other is essential and difficult of elucidation, involving in its analysis of purpose (so to speak of the mentality of a building) research into economic motives and methods of construction of essential value in the promotion of our adaptative and progressive habit of architectural thought.

Review of the lessons of history in an attempt to appreciate the attitude of mind towards the architectural problems of a new capital city displayed by the great nations of antiquity will furnish the guidance and inspiration which this problem demands, but the discussion of style upon the basis of artistic sentiment will be fatal to any hope of laying architectural foundations which succeeding generations can be content to build upon. The modern English architect with this uniquely characteristic subject must undertake to think soberly, without the fictitious glamour of antiquity cast upon his imaginations, and endeavour, as he very well can, to be at once true to our own *Zeitgeist* and to his own genuinely artistic perception of refinement in building art. The material for architectural expression lies at hand in the universally accepted classic tradition, always progressive, and in the hands of continental architects manifestly

original and consistent. If enthusiasm is the note of the modern student there is as much stimulant in the study of the present as of the past.

Our building art is *de facto* as extensive as our Empire, for from the capitals of Canada in the North West to the new Federal capital of Australia in the South East, wider far than the ægis of ancient Rome, all are being built in modern practicable adaptations of classic architecture, and need only that artistic power to make them fine which we have hitherto spent in looking backward. The special influences of climate, material, and purpose will condition and express themselves in this classic style quite truly in Delhi, while conviction that the path is one of definite progress will give vitality to the school which must arise locally to carry out in many varied applications the official architecture of the new capital. Greater Britain cannot afford to put back the hands of the architectural clock-face which keeps time for ages.

THE UNITY OF ART.

AT the opening meeting of the new session of the Architectural Association Mr. Gerald C. Horsley, F.R.I.B.A., closed his Presidential Address, which he had devoted mainly to new developments in the School of Architecture, with the reminder that the underlying purpose of all educational effort and development is to help forward the course of our art, and that therefore it must be based upon the principle that art is unity. In this at least all thoughtful students, old and young, will agree. Yet none the less there is need that we should thus be reminded of it as a fundamental principle which, especially in the presence of the young student, it is scarcely possible to dwell upon with too great an insistence. The principle has many aspects, and we do not at present wish to touch upon that of the universality or continuity of true architecture or the unity of all the other arts under architecture, but only on that aspect which insists upon the axiom that all genuine architecture must first of all be a unity in itself. Tried by this standard, where does architecture stand to-day? In education—in textbook, classroom, and examination—those studies having for their object the making of buildings beautiful are still to a too large extent dealt with separately from those of their efficient arrangement and construction. The personnel of the profession—principals, assistants, pupils—tends to divide into two broad types, often with a quite healthy and good-humoured contempt of each other, the "artistic," with great and sometimes scholarly knowledge of styles, and ingenuity in aesthetically designing in them; and the "practical," with knowledge of construction and materials and ability to arrange and carry out buildings. And in actual practice, apart from the broad cleavage of building into engineering and architecture, there is in the latter a growing divorcement between architectural features and the real factors of construction. The true construction of

buildings tends to be lost in a conventional semblance of construction applied from without, often noble and beautiful enough—were it but true. The two purposes of art, use and beauty, dragged apart and the name of art reserved for the abstract adornment of what is conceived of as in itself ugly. Can it be denied that these things are so, and are becoming more tolerated? Truly we need to be reminded every day that art is unity, that the beginning of architectural beauty are to be sought in true and efficient arrangement of construction and the right and joyful use of materials; and that the intelligent study of the old styles is useful mainly to these ends. Aiming at this with the utmost of our striving we shall try to run our course and hand on the torch alight to those who take our place.

NOTES.

Wren—and a Statue.

ADVERTING to our lead article of the 18th inst. and our comment in the same issue upon the absence of a statue to Sir Christopher Wren in the metropolitan gallery, we may mention that M. Gustave Pessard, of Paris, has just issued a pamphlet in which he gives a classification of the statues erected in Paris by famous men, and shows there are fifty to poets, forty-seven to authors, thirty-nine to painters, twenty-three to architects, and twelve to sculptors. Pessard reckons that, besides the monuments in burial grounds, the number of men thus individually commemorated exceeds nine hundred, the poets being the most numerous. The figures of Wren, Pugin, Barry, C. P. Cockersell and other architects, sculptured in marble in relief around the podium of the Prince Albert Memorial, completed in 1871, are by J. Birnie Philip.

Buckingham Palace.

THROUGH the courtesy of the First Commissioner of Works and Sir Aston Webb, R.A., we have had an opportunity of seeing the approved design for the new front of Buckingham Palace, which we intend to illustrate in our next week's issue, together with an article on the architecture of the Palace. Considering the strict limitations under which Sir Aston Webb has been compelled to work, which have precluded him from altering the arrangement and spacing of doors and windows, we consider the design will meet with general approval. The new front is restrained, quiet, and dignified, and forms a fitting architectural background to the late Queen's Memorial.

"The City Beautiful."

AN American writer, in an article "On the Modern Towns in America," which appeared in a recent number of *Scribner's Magazine*, protests against the use of the phrase "the city beautiful," although he contributes many useful ideas towards the practical realisation of a beautiful city. We do not feel inclined to resent his protest. The phrase has become hackneyed, and as soon as a phrase which may be pleasant enough in itself is adopted without discrimination it no longer becomes misapplied, but loses its

inal significance. In any case, the peculiar epithet in question can only properly used in giving expression some ideal conception, because the grammatical inversion could not very be applied to an existing state of gs. There are many beautiful cities, there is no existing city beautiful. Two terms indeed involve different conceptions. By a beautiful city we fully either mean an aggregation of things retaining their original position form, as in Nuremberg, Rothenburg, Reges, and many another ancient town at mediæval town which retains its ent atmosphere is not beautiful?; we mean the replanning and re-elling, the erection of fine buildings, pleasant spacing out of hitherto cested and wasted areas, and so on, in Paris or Vienna. The aesthetic ication of the term would, of course, regard to these two types carry ous values; in neither case would it y precisely the same thing, although would be susceptible of explicit ysis. But to talk of the city beautiful ke talking of the Elysian fields, spiration or a figment of the imaginay; and this no doubt was the idea to be conveyed by those who first it. But the term has been used abused out of recognition. To the city it probably suggests some imita- of the so-called quaint and pictur- in planning and building, which ivered a perfectly natural develop- in older cities, and presently it serve as a trade description for less purposes, if indeed it has not dy done so. In any case, a certain osity is attached to the phrase, and far we are in agreement with our ican friend in his protest against its erminate application.

THE threatened destruc- tion at the hands of the speculative builder of the city and natural charms of Pewley n, Guildford, once again raises the ion of the need for a green girdle d London. This hill, which is some t. above sea level, commands one of most varied and beautiful views in y, extending from Hindhead on the and to Leith Hill on the other. The ic has hitherto enjoyed uninterrupted s to the whole of the hillside, which favourite resort of the townsfolk of iford. The owner has always been ag to consider proposals for acquiring and for the public, and in 1906 gave own of Guildford an opportunity of using it. Although obligations just ed into in other directions prevented iford from considering the offer, it is hoped that circumstances may now re propitious, and that, with a new road and wooden fence across the is a proof of the urgency of the case, own may at the last moment be able ve the situation. But if natural y must be destroyed, at least ordered rtistic beauty should replace it. If iford cannot afford to preserve this in its present condition, it would, we me, be competent for its Corporation uire and develop it on Town uing or Garden Suburb lines as a ue-producing scheme. This, at any

rate, would save it from the sordid ugliness that would otherwise most probably be its fate. But, although Guildford is more immediately concerned, London also has an interest and some responsibility in the matter, for the Surrey Downs are its natural breathing-space and playground. If, owing to the conditions which obtain in an old civilisation, it is hopeless to expect that London will ever emulate the large American cities and obtain control over the whole of its southern heights as a step towards such a green girdle as is already possessed by Vienna, it certainly appears feasible to preserve the view-points and the woodland tracts along the crest of the whole range of the Downs, and so obtain a continuous series of drive-ways and reserves of incalculable benefit to the metropolis.

PARIS NOTES.

THE amenities of Paris are as much disturbed as London by the pulling up of roads and the erection of hoardings; but the proposal to deface the Place de la Concorde by placing within its area the exits and entrance, with an exterior balustrade, of a station for a new line of the Metropolitan is scarcely likely to be carried into effect. The outcry of public opinion would be too great. The Parisians are proud of their finest "place," and are not likely to permit any vandalism of the sort. They say that if a station is necessary in the neighbourhood it can very well be placed in a secluded position adjacent to the Tuileries gardens. The original layout of the Place de la Concorde, as designed by Gabriel, was not carried out completely, but as it is it remains one of the principal ornamental features of the city. Public squares do not, we believe, come within the regulations which could secure their classification as historic monuments; but we are glad to see the announcement that another work of Gabriel has just come within the operation of this regulation. It is not perhaps until recent years that l'Ecole Militaire, designed by this architect, has obtained the attention which it deserves for its architectural qualities. It is now included in the itinerary of most English students visiting Paris. It was one of the first works for whose design Gabriel was solely responsible, although it was constructed under the charge of another architect. The present wings were added in 1855.

The number of original drawings and sketches which are practically lost sight of in the great museums and libraries of both France and England must be enormous. They possess value not only as independent works of art, but as documents which throw light upon an artist's processes in the creation of his completed work; and many of them are of an architectural character. Students, therefore, will be particularly grateful to M. Fijalet, the Director of the National Museums, for his scheme to reserve rooms in the Louvre for the exhibition of selections from the 40,000 drawings or prints which are in the care of the Museum. It is proposed to show from time to time either the drawings of a particular period or those of a certain artist or of a certain school. We dare say that these exhibitions will lead to discoveries which may help to unravel some knotty points in connexion with architectural biography and history.

The epidemic which has prevailed in France for some time, and which involves the theft or destruction of pictures and other works of art exhibited in the public galleries seems to be spreading. The theft of Leonardo's "Mona Lisa" from the Louvre was probably the most serious instance; but there have since been many others. The worst of the business is that the malefactor is rarely discovered. The arrest last month

of G ry-P  ret, who stole two Phoenician statuettes from the Louvre in September, 1911, is an exception. The arrest took place in Egypt, and his extradition has been demanded. But quite recently four pictures at Versailles have been cut with a knife; a celebrated picture in the Gallery at Nancy has been seriously burnt by, it is presumed, a lighted cigar; an important painting of Christ, by Domenico Costi, has disappeared from l'Eglise de la Mis ricorde, at Livourne, and there are numerous other unfortunate instances of the kind.

When the Parisian laughs he laughs heartily, although always perhaps with a touch of malice. The autumn Salon has provided him with his latest joke. The result is rather a curious position of affairs. While some of the most eminent critics and one or two of the more serious French journals are developing theories on the Futurists, Cubists, and other exponents of the Post-Impressionist movement, whose works have found a place on the walls of the Grand Palais, other writers are recommending the exhibition as a cure for hypochondria and neurasthenia on account of its mirth-provoking qualities. It is possible that these curious art manifestations may be laughed out of court; there is nothing so deadly as ridicule. The Post-Impressionists themselves are probably accepting the ridicule in a spirit of martyrdom. The incompetents among them probably prefer being laughed at to remaining entirely unnoticed.

PICTURE EXHIBITIONS.

THE autumn season for the exhibition of pictures is now in full swing, and the galleries of various societies, as well as those of the well-known dealers, are giving us, we presume, of their best with varying degrees of success. In a general way the autumn shows of the societies rarely attain the standard of the earlier exhibitions of the year. The thirtieth exhibition of the Royal Institute of Oil Painters, recently opened in Piccadilly, shows little sign of age; the Institute would seem indeed to remain pretty much where it first started! Much has happened in the world of painting, in the British school as in others, since this corporation of painters was first organised, at a time which was not a very interesting period (although never more popular) for British art. In the galleries at Piccadilly this late Victorian influence largely predominates. But we do not wish to do the Institute any injustice, for its exhibition contains many works of first-rate quality. Mr. Lavery, who is ubiquitous, shows some of his later studies of pretty seaside bays. Like Mr. Sargent, Mr. Lavery would seem of later years to have forsaken his commissions for portraits to indulge in a personal predilection for the charms of natural scenery. Both artists have apparently become a little tired of a *m tier* which either their circumstances, talent, or clients had, more or less, imposed upon them. But while Mr. Sargent discovers his pleasure in the more tumultuous aspects of Nature, in its cascades and rocks, Mr. Lavery finds it in the tranquil seas off the Lido, or in some other seaside resort of Southern Europe or North Africa. His pictures of this type are growing in interest, and the two which he shows at the Piccadilly Galleries indicate greater freedom in the Lavery formula than others which we have recently seen elsewhere. Mr. Reginald Frampton, in his large picture of Saint Christopher, follows some of the old masters in his choice of subject; the saint bears in the person of the infant Christ "the burthen and weight of all this unintelligible world." The symbol of this passage of the legend does not make it quite suitable for pictorial representation, because the giant form of the saint has actually to bend under the weight of a small child. We feel this difficulty—the difficulty of conveying a symbolic idea in terms of actual representation—in regard



Ghent Exhibition, 1913: The British, Belgian, and French Pavilions.

to Mr. Frampton's composition, which is otherwise powerful and attractive. In the same artist's two small pictures of Alpine scenery the mountains are resolved into a decorative form and pattern without losing any of their natural impressiveness. This departure from the merely photographic resemblance of this romantic scenery is interesting, and we should like to see some more ambitious attempt by Mr. Frampton of the same kind. Mr. Glyn Philpot is vague and mysterious in "The Paschal Light," in which the sombre interior of a cathedral is partly illumined by the candles carried by a group of processional priests. The vigour and freedom of Mr. Edgar Bundy's costume pictures is well represented in his "Welcome." The character of the landlord of the inn, as well as that of the soldiers whom he is welcoming, is an admirable evocation of cavalier times, and provides an illustration of a possible episode. The only picture which Mr. Lee Hankey has sent to the exhibition is chiefly interesting for the variety of technical methods employed in its composition; here he leaves the canvas bare, here incrustates it with paint with the palette knife, here employs smooth brushwork. The whole effect is perhaps a little fragmentary, but this humble interior with the mother and child shows also an honest attempt at interpretation, however curious the process of the artist's construction. Miss Gloag, in "The Yellow Coat," achieves one of her audacious studies in colour, which are always a relief to the monotony of the more conventional formulas of the average picture-gallery; while Mrs. Betty Fagan's large picture of a group of children at their morning tub was probably painted for the purposes of reproduction. Mr. Hughes Stanton, Mr. Bertram Priestman, Mr. Terriok Williams, and Mr. Louis Sargent all show interesting work. Mr. Frank Salisbury has sent his design for a large panel for the Houses of Parliament. Apart from a view of St. Paul's from the river by Mr. Arthur Bell, a fountain at Versailles by Mr. Forrester, and a "La Salute" (viewed from the west of the Grand

Canal) by Mr. Arthur Streeton, we did not observe any pictures of architectural interest.

If at the exhibition of the Royal Society of British Artists in Suffolk-street there are no pictures of greater individual merit than at the galleries in Piccadilly, the general effect is more animated, although it is not equal to the spring exhibition. The President, Sir Alfred East, contributes some typical landscapes, pleasant transcripts of Nature interpreted with a grace and facility, if not with very much depth, to which we are accustomed. The art of Sir W. B. Richmond has never perhaps found happier expression in recent years than in his pictures of the hills and valleys of Italy, and his view near Urbino is a very good example of his work in this direction. "A Florentine Podere," by Mr. L. W. Lang, is an ingenious composition of brilliant contrasts of vivid colour, in which the detail is carefully elaborated. Mr. Frank Salisbury, who seems to be fortunate in his commissions for large decorative paintings, shows the sketch of an historical scene designed for a panel for the Royal Exchange. The two landscapes by Mr. Alfred Hartley, "In Cornwall" and "Down Along a Somerset Valley," provide spacious schemes of colour in which everything inessential is subordinated to a broad, general effect. There is little of architectural interest at the exhibition. The general design of Mr. Richter's picture of St. Paul's from the river, with a mass of busy shipping in the foreground, is good, but his colour is ineffective and hard; while the church of the Madonna del Sasso at Locarno loses nothing of its picturesque quality in the handling of Mr. Boot.

At the Leicester Galleries there are at the moment three one-man exhibitions. The collection of the sketches of the late Mr. Phil May are admirably representative of the artist, and would seem to have lost none of their quality of freshness in the years which have passed since their first reproduction in the pages of *Punch*. Mr. May's skill in pen-drawing was not less than his remarkable gift for the humorous observation of character,

which has certainly never been equalled by any *Punch* draughtsman except Charles Keene. No modern painter possesses a similar intuition for the possibilities of colour to be found in a hayrick or an old barn than Mr. Clausen, or indeed in rural life and the generally. The small exhibition of some of his recent works (we presume) at the Leicester Galleries include studies in still life, and studies in virtuosity, which are well worth observing for their technical accomplishments. Mr. Clausen is indebted for his method to some of the scientific painters of the French school, but his outlook is not controlled by his method; the sentiment of country obviously appeals to him for its own sake as well as for a subject for prismatic ornamentation. The third artist of the individual group represented at these galleries is Mr. Arthur Rackham, who shows a series of water-colour drawings designed to illustrate "Æsop's Fables" and "Peter Pan." The quaint and fanciful art of Mr. Rackham finds admirable expression in these drawings, and perhaps his exhibition would have gained more had he been represented by a smaller number of illustrations.

THE GHENT EXHIBITION, 1913.

PREPARATIONS are in active progress at Ghent to secure for the Universal and International Exhibition next year the co-operation of exhibitors and the public. The promises to be important, and, although building industries will not be represented specially, a variety of attractions will be arranged.

The Exhibition, which is under the patronage of the King of the Belgians, will be opened in April simultaneously with the famous Quinquennial Flower show promoted by the Société Royale d'Agriculture et de Botanique de Gand. When it is mentioned that the azalea and rhododendron hall will cover about 3½ acres, and that the hothouse for orchids will occupy 2 acres, it will be seen that the Exhibition will be on a large scale. The total area will be about 250 acres.



Ghent Exhibition, 1913; Palais de l'Horticulture et des Fêtes.

M. Van de Voorde, Architect.

While Ghent, the city of twenty-six miles, is celebrated for its artistic and historical resources—and Sir Ernest Cassel is among those who have perpetuated its picturesque beauty—the commercial activities of the city are innumerable, and visitors will find permanent as well as temporary attractions.

Ghent, the capital of the Province of East Flanders, is situated on the confluence of the Scheldt and the Scheldt. It is 34 miles by rail from Brussels, and is connected with the sea by the Terneuzen Canal. Communication with England is thereby established for commercial and general purposes. There are miles of docks, and the harbour is capable of holding 400 vessels.

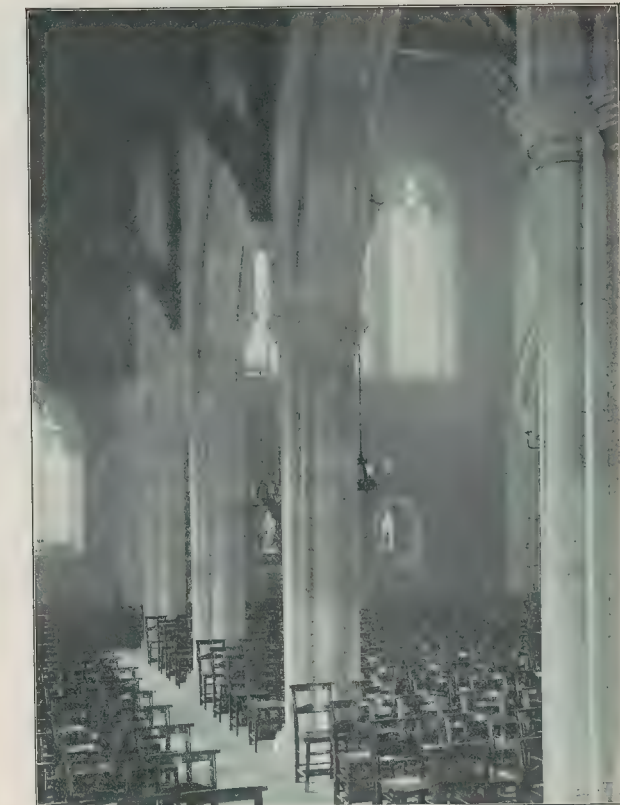
The railway line runs through the Exhibition grounds, and the new station of Ghent St. Peter, with Brussels to the east and London to the west, is already in use. The building is an imposing structure, with a lofty tower to mark the entrance, and has a frontage extending about 1,000 ft. The waiting-halls and offices are well planned. Every facility is afforded for local and long-distance traffic. Tramways are also being built.

The 27 acres set aside for the industrial exhibits are nearly covered. The British, French, and Belgian palaces are already completed. Steel construction and ferro-concrete have been used extensively, and in the opinion of many experts the total effect will be finer than the Brussels Exhibition of 1910. The setting is more spacious, and the surroundings are good.

The architect for the exhibition buildings is Professor Van de Voorde, of the University of Ghent.

The Horticultural Palace will be a permanent structure, and should be a valuable acquisition for Ghent. The span of the roof is said to be one third wider than that of the Crystal Palace. This building is in the form of a vast cross, the long stem of which represents the horticultural show proper, and a broad transverse section, when fitted for seating, can be adapted into a magnificent theatre or concert-hall. The whole space may be utilised, however, for horticultural displays when required.

While special prominence will not be given to building appliances (the Exhibition at Leipzig, May-October, covering this ground), it is anticipated that the British display at Ghent will include machine tools, radial drills, pneumatic and electric tools, radial mills, compressors, pumping machinery, saw-sharpening machinery, belt-screwing and nutting machines, ball bearings, feed-water meters, water-power plants, pumps, power lammers, drilling machines, shafting and power transmissions, double helical and reduction gears, magnetic clutches, lathes, planing and shaping machines, driving chains, drop forgings, engines, electric lighting and pumping plants; crushing, grinding, green-separating, dust-collecting, and ventilating machinery; woodworking machinery,



St. Christopher's Church, Sneinton, Notts.

Mr. F. E. Littler, A.R.I.B.A., Architect.

oxi-welding apparatus, belting, and similar features.

The Board of Trade will secure for British exhibitors the most favourable rates of carriage, arrange for cartage, send an erecting staff, undertake decorations, and provide show-cases, window-dressers, and signs. All these items, which have been found a costly business for the exhibitor, are now dealt with by the Board of Trade, and are

included in the space charges. Valuable help will be given by the Government's expert Engineer, who will see that suitable concrete foundations are provided of sufficient strength, and extreme precautions are being taken to avoid risk from fire.

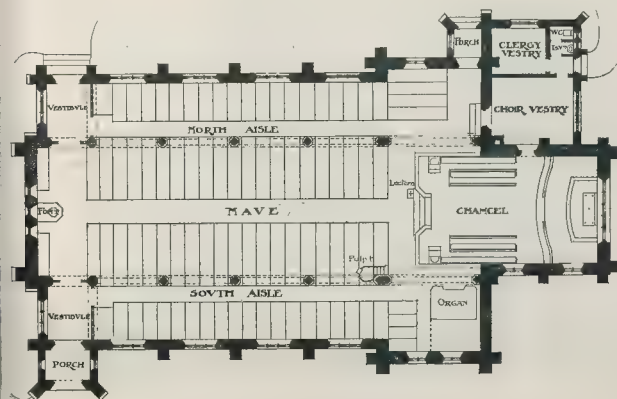
The London office of the Ghent Exhibition, 1913, is at 1, Southampton-row, where particulars may be obtained.

AN EMINENT COLONIAL ARCHITECT.

ARCHITECTURE in South Africa lost one of its chief practitioners by the death, on September 3, at Salisbury, Rhodesia, of Mr. Francis Edward Massey, F.R.I.B.A.

Mr. Massey was articled in 1875 to his father, the late Philip E. Massey, A.R.I.B.A., and in 1878 entered the office of Alfred Waterhouse, R.A., with whom he worked for about fifteen years. He became a student at the Royal Academy Schools in 1885. In 1887 he won the Soane Medal and 50% of the Royal Institute of British Architects, the subject for the year being "City Police-courts and Police-station for a Provincial Town." He also won a Medal of Merit in the Tite Prize Competition in 1888 (subject, "A Post-office"; won by Mr. G. Kenyon). In 1889 he was awarded a Medal of Merit in the Owen Jones Studentship Competition, won that year by Mr. H. V. Lanchester, and in 1891 another Owen Jones Medal of Merit, with 56.58. Mr. Francis W. Bedford being the winner on this occasion. He travelled in Italy and France in 1890-1890.

With this exceptional training, and with prospects of the brightest, he went, in 1896, to South Africa, where his life-work was founded. He went into partnership with Mr. Herbert Baker in 1897. In association with Mr. Baker he designed and carried out numerous buildings



St. Christopher's Church, Sneinton, Notts.

Mr. F. E. Littler, A.R.I.B.A., Architect.



St. Christopher's Church, Sneinton, Notts.

Mr. F. E. Littler, A.R.I.B.A., Architect.

in and about Cape Town, among them being the Cathedral; the Union Parliament Buildings; the Diocesan College, Rondebosch; the Churches of St. Barnabas, St. Michael, and St. Philip; the City Club; the premises of the National Mutual Life Association of Australasia, of the South African Association, and of the Guardian Assurance Company; the laboratories of the South African College; the Rhodes

Building; the De Beers Consolidated Mines Building; the Administrative Building for the De Beers Explosives Works; and the Seamen's Institute. Many private houses were built during the partnership; also the Dale College Buildings, Kingwilliamstown, and the Mother Cecile Memorial Hall, Grahamstown. After 1910 Mr. Masey practised independently, examples of his work being the Salisbury

Club, Rhodesia; the Salisbury Board of Executors Building; the Bulawayo Museum; and the Church of St. John, Bulawayo; and the Educational Buildings for the Beit Trustees at Bulawayo and Salisbury. Mr. Masey was selected, with two London architects, to submit designs for the new Salisbury Cathedral.

In 1901 Mr. Masey was elected a Fellow of the Royal Institute of British Architects, his



St. Christopher's Church, Sneinton, Notts.

Mr. F. E. Littler, A.R.I.B.A., Architect.

posers being Messrs. Arthur H. Reid, Herbert
er, and Alfred Waterhouse.

In 1899 the South African Society of Archi-
s was founded to follow up the work of the
neering and Architectural Association of
th Africa, a body which, founded in 1884,
e to an end in 1886 with the discovery of
Transvaal Gold Fields. Among the Com-
ee of the new Society were Messrs. A. W.
ermann, Arthur H. Reid (now Hon.
etary R.I.B.A. for South Africa), and C. H.
th, A.R.I.B.A., with Mr. Massey as Hon.
etary. The country was in an unsettled
e, and it was not until December, 1901,
the South African Society of Architects
an to acquire power. Mr. Herbert Baker
nwhile had been elected to membership. In
r, 1902, the name of the Society was changed
the Cape Institute of Architects, with Mr.
n Parker, F.R.I.B.A., as President. Alliance
y the parent body in London was arranged
907, the year in which Mr. Massey became
ident.

Following a visit to the Mediterranean, Mr.
ey contributed to the R.I.B.A. *Journal* in
1910, an essay on "Some Thoughts upon
Possible Origin of the Doric Order of Greek
itecture." In January, 1911, he read a
ar before the Rhodesia Scientific Association,
titled "Zimbabwe: An Architect's Notes."
was published in pamphlet form, and re-
ed a visit to the ruins undertaken in 1909
he request of the Rhodesia Government.
sides being occupied with the details of his
ession, Mr. Massey took a large share in the
ation and management of the Architectural
ety, which was established to promote the
ation of architects and the progress of
itecture in South Africa. He will be missed
a large circle of intimate friends, and his
x will find a place in the annals of the
ny. The deceased was fifty-three years of

r. Francis E. Massey's brother, Mr. Frederick
Massey, is in practice in South Africa, and is
itect to the Diocese of Bloemfontein.

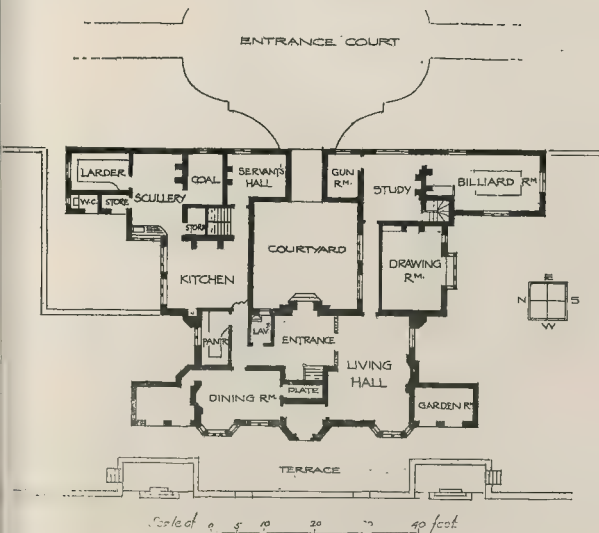
CHRISTOPHER'S CHURCH, SNEINTON, NOTTINGHAM.

ns church has been built recently in a
district to accommodate 600 persons.
y planned with a wide nave and with the
septs and chancel so arranged that the
of the east end and the pulpit is obstructed
ittle as possible. A feature of the plan
ne bringing of part of choir well into the
y of the church



St. Christopher's Church, Sneinton, Notts.

Mr. F. E. Littler, A.R.I.B.A., Architect.



Home Place, Warwickshire.

Mr. Harrison Fielding, Architect.

The exterior of the church is built in red
sanded-faced bricks and Coxbench stone, the
roofs being covered with tiles. In the interior
the stonework is executed in light mottled
Alton stone, the varying tints of red and grey
giving a pleasing effect.

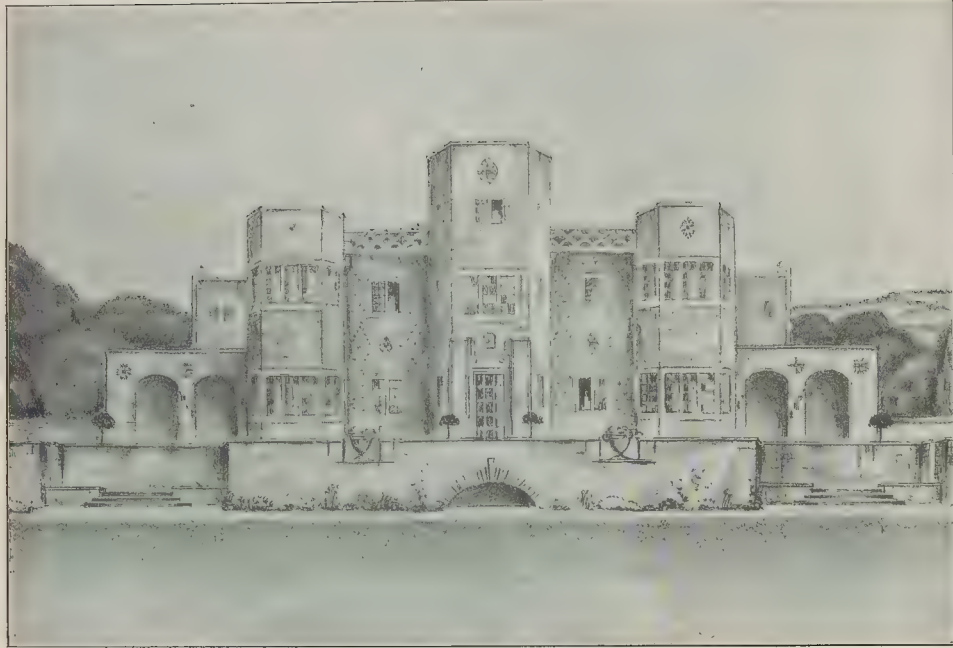
The cost of the building was about 7,000l.
Mr. F. E. Littler, A.R.I.B.A., of Nottingham,
was the architect.

A FLAT-ROOFED HOUSE.

THIS house is being erected on a wooded
upland commanding distant views to the north
and west. Standing in the path of the heavy
winds these quarters produce, the house
seemed to demand some evidence of protection
and security, and a somewhat severe treatment
has been given the building. Much of this,
however, is relieved by panels and diaper work
of coloured mosaic.

The entrance hall is approached across a
paved courtyard, and leads on one side to the
dining-room and kitchen offices, and on the
other through a panelled screen to the living-
hall, with drawing-room, study, gun and
billiard rooms adjoining. The study has a
small staircase to a dressing-room over. Lead-
ing from the dining-room is an open-air room
for meals, and flanking the house on the opposite
side is a garden-room. The latter is provided
with glass screens, and can be converted into
a winter-garden in cold weather. On the first
floor are ten bedrooms, dressing-rooms, lava-
tories, etc.

The whole of the roofs are flat, being con-
structed of concrete covered with asphalt, and
on a lower and secluded portion of them a roof-
garden is to be formed whence one will be



Home Place, Warwickshire.

Mr. Harrison Fielding, Architect.

able to look down on the surrounding country spread out like a map. A five court is being arranged on another portion of the roof, also a tank for storing the rain water. The architect is Mr. Harrison Fielding, of Bedford.

THE WESLEYAN HALL, WESTMINSTER.

An interesting constructional drawing is shown on p. 471, giving the framing for the lantern, which occurs at the top of the main dome. It will be seen that the only steelwork consists of four rolled steel joists—one being placed at each corner—and some small channels, which occur as horizontal ties; the remainder of the construction being of timber well framed together with bracketing for the various moulded features. This is an excellent drawing, and exhibits a thoroughness on the part of the architects, Messrs. Lancaster & Rickards, which is far too often lacking in our modern work, where there is a great tendency to avoid the preparation of detailed constructional drawings and to leave these to the contractor or sub-contractor who is appointed to execute the work. The principle of the framing is sufficiently explicitly shown on the drawing to need no further explanation. The building was fully illustrated in our issues for October 11 and 18.

ARCHITECTURAL SOCIETIES.

Bristol Society of Architects.

A conversation, which inaugurated the opening of the Bristol Society of Architects' winter session, was held at Church House, Clifton, the residence of the President, Mr. G. H. Oatley, F.R.I.B.A. Amongst those who availed themselves of the President's invitation were Messrs. J. Foster Wood, F.R.I.B.A., and Mowbray A. Green, F.R.I.B.A., Vice-Presidents; Messrs. G. C. Awdry, F.R.I.B.A., W. L. Bernard, F.R.I.B.A., G. C. Lawrence, A.R.I.B.A., T. H. Weston, F.R.I.B.A., Austin B. Botterill, A.R.I.B.A., and B. Wakefield, Lic.R.I.B.A., members of Council; Messrs.

C. D. Ruding Bryan, J. H. Cavell, J. R. Edwards, E. H. Gibbs, A. R. Gough, A.R.I.B.A., A. Harford, C. A. Rowley, Lic.R.I.B.A., C. E. Skinner, T. H. Skinner, J. H. La Trobe, F.R.I.B.A., and C. F. W. Dening, Lic.R.I.B.A. (Hon. Secretary). During the evening a number of sketches and photographs—the outcome of the Saturday afternoon sketching tours—were on exhibition, those contributing being Messrs. C. D. Ruding Bryan, J. H. Cavell, A. R. Gough, F. H. Weston, T. H. Skinner, and C. F. W. Dening. Mr. Harvey Pridham lent a number of his drawings of Gloucestershire fonts. The President, in the course of a short address to students, emphasised the value of sketching, and offered to present a prize as an incentive.

Royal Institute of the Architects of Ireland.

A special meeting of the Council of this Institute was held at the Institute Rooms, No. 31, South Frederick-street, Dublin, on Monday last. In the absence of the President, the Vice-President, Mr. R. Canfield Orpen, B.A., occupied the chair, and there were also present: Messrs. G. P. Sheridan, J. H. Webb, H. Allberry, C. H. Ashworth, L. O'Callaghan, W. Kaye-Parry, F. Batchelor, F. G. Hicks, and C. A. Owen, Hon. Secretary. A considerable amount of correspondence was dealt with. The conditions governing the competition for the design of the new Municipal Offices for the Dublin Corporation were considered, and the Hon. Secretary was instructed to communicate with the City Treasurer about several points therein.

THE SURVEYORS' INSTITUTION.

The programme for the first half of the coming session has been tentatively fixed as follows:—

November 11, 8 p.m.—Presentation of the portrait of the late Sir Edward Boyle, K.C., M.P., etc., by his son; presentation of the Gold Medal for the best paper read during the session 1911-12; the opening address of the President, the Hon. Edward Strutt.

November 25, 8 p.m.—"Land Values

Taxation: A Criticism of the Evidence Before the Departmental Committee on Imperial and Local Taxation," by E. M. Konstam, barrister-at-law.

December 16, 5 p.m.—"The Value and Marketing of English Timber," by M. C. Duchesne, Fellow.

January 13, 1913, 8 p.m.—"Notes on the Mortgage of Real Estate," by A. Laurence Cox, Fellow.

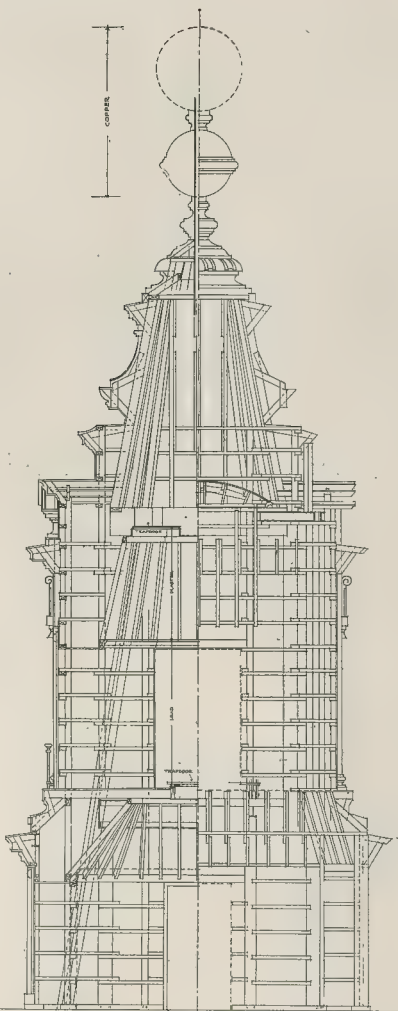
January 27, 1913, 8 p.m.—"The Amendment of Rural Building By-laws," by W. Woodward, F.R.I.B.A., Fellow, and "Some Urban Housing Problems," by M. Price Holmes, Fellow.

ENGINEERING SOCIETIES.

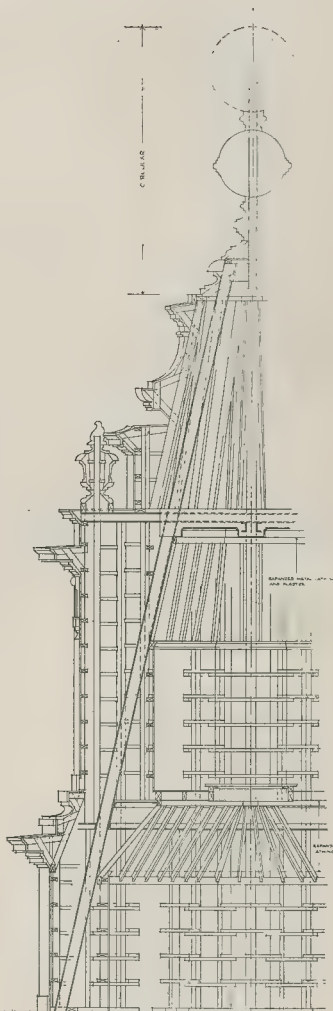
Institution of Civil Engineers.

The Council of the Institution of Civil Engineers have made the following further awards for papers read during the session 1911-1912:—A Watt Gold Medal to Professor W. H. Burr (New York), and the Crampton Prize to Professor R. J. Durely (Montreal). They have also awarded the following Telford premiums for papers published in the *Proceedings* without discussion during the same session:—To Messrs. Paul Seurot (New York), David Anderson and Harry Cunningham (London), S. P. Smith, D.Sc. (Birmingham), E. G. Rivers, I.S.O. (Richmond), and E. H. Morris (Manchester), and Professor A. H. Gibson, D.Sc. (Dundee). The Howard Quinquennial Prize for 1912 has been awarded to Mr. J. H. Darby (Sheffield) in recognition of improvement introduced by him in iron and steel production, and the Indian Premium for 1912 to Mr. H. G. Mitchell (Madras).

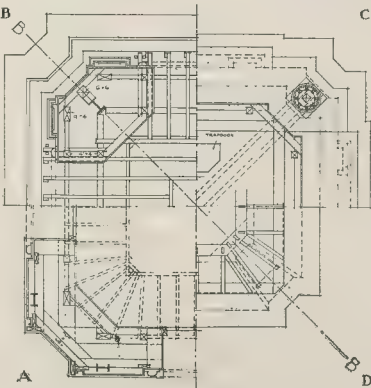
The Council have made the following awards in respect of students' papers read during the session 1911-1912:—The James Forrest Medal and a Miller prize to Mr. E. P. Currall, B.Sc. (Birmingham); and Miller prizes to Messrs. J. H. Taylor (Glasgow), W. P. Warlow, B.Sc. (Bristol), G. Ingram (London), E. F. Hunt, B.E. (London), H. J. F. Gourley, B.E. (London), H. G. Hoskings (London), E. A. Cross, B.Sc. (Birmingham), and J. & W. Legg (London); and the James Prescott Joule Medal to Mr. V. E. Green (Birmingham).



Half section on line AA Half Elevation



Half section on line BB



Plans at A, B, C, & D

WESLEYAN HALL WESTMINSTER

Detail of lantern to Dome,
showing carpentry:

SCALE 1" = 10' 0"

Messrs. Lanchester & Rickards, F.F.R.I.B.A., Architects.

GENERAL NEWS.

Professional Announcement.

Mr. John Brooke, F.R.I.B.A. and President of the Manchester Society of Architects, of 18, Exchange-street, Manchester, has taken into partnership Mr. C. Ernest Elcock, late of J. M. Porter & Elcock, of Colwyn Bay, and for the future the practice will be carried on under the style of "John Brooke & Elcock."

Buckingham Palace Front.

In Wednesday's Parliamentary Papers Mr. Bennett-Goldney asked the Hon. Member for St. George's-in-the-East, as representing the First Commissioner of Works, if the design of the proposed new front to Buckingham Palace had been approved by the First Commissioner of Works or by any responsible body of architects or artists; whether the drawings for the proposed elevation have been submitted to the present President of the Royal Institute of British Architects, to any Committee of that body, or to the President of the Royal Academy; whether, if the proposed new front is paid for out of a memorial fund, the Government will have any control or supervision over the work, and whether this House will be permitted to have an opportunity of expressing an opinion upon the designs before they are finally decided upon; whether it is proposed to allow any competing designs to be sent in for selection from any other architects of high repute; and, if not, whether any of the demerits of some of the more recent architecture at present disfiguring the other end of the Mall are likely to be repeated in the new front of the palace.

Mr. Wedgwood Benn said the design has been approved by the First Commissioner of Works. It had not been submitted to any other person or Institute, but the Office of Works would maintain complete control and supervision of the work. It was not proposed to ask for any other design.

Designs of Public Buildings.

In the House of Commons Mr. King asked the Prime Minister, on Tuesday, whether his attention has been called to the criticism usually directed to designs accepted and plans adopted for public buildings and other undertakings by his Majesty's Office of Works; and whether, in order to give public confidence in the work of that department and to ensure the best value, taste, and style in all future public works, he is prepared to introduce some method of securing the best possible advice and general approval, either by appointing a representative consultative committee or otherwise.—The Prime Minister, in reply, said the First Commissioner is responsible for the designs of all public buildings, the erection of which devolves upon his department, and he is satisfied that, so far as ordinary buildings are concerned, no useful purpose would be served by the appointment of a consultative committee such as that suggested. The First Commissioner feels that he can rely with confidence upon the experience of his trained staff. In the case of exceptional buildings, such as the War Office and the new public offices, it has been the practice to seek the assistance of architects of eminence outside the department.

Royal Commission on Ancient Monuments.

In the House of Commons Capt. Murray asked the Prime Minister whether he was aware that at the present rate of progress the labours of the Royal Commission on Ancient Monuments would in all probability take some forty years to complete, and that within that period a vast number of monuments would have perished or have been restored beyond recognition; and whether, in these circumstances, he would consider the advisability of adding to the staff of the Commission in order that the work might be finished within a reasonable period.—The Chancellor of the Exchequer, in reply, said:—"It is hoped that the Ancient Monuments Bill now under consideration of a Joint Committee of both Houses may be amended so as to enable the Office of Works and its Official Inspector of Historical Monuments to deal with imperilled monuments as cases arise, and I shall be prepared to consider any proposal that may be made for adding to the expert investigating staff employed by the English Commission."

Calton Prison, Edinburgh.

In the House of Commons Mr. Wedgwood Benn, for the First Commissioner of Works, has informed Mr. Hodge that there is a project under consideration for removing Calton Prison, Edinburgh, and using the site for Government offices. Details were not yet worked out, for no buildings could be commenced before the matter was laid before Parliament. In any designs for new buildings care will be taken to preserve the amenities of Edinburgh.

St. George's Hall, Liverpool.

The Council of the Royal Institute of British Architects, at their meeting on the 14th inst., passed the following resolution, a copy of which was forwarded afterwards to the Liverpool City Council:—"The Council of the Royal Institute of British Architects has seen with regret the City of Liverpool's plans for altering the southern termination of St. George's Hall. The Council believes that alterations to such a building are only justifiable when inevitable, and trusts that, in view of the widespread opposition of architects to any interference with St. George's Hall, the City Council will reconsider the matter."

Our Austrian Municipal Visitors.

The visit last week to the City and the Corporation of London of Dr. Josef Neumayer (Bürgermeister of Vienna), Herr Franz Leithner (Bürgermeister of Bad Ischl), and Herr Karel Gros (Mayor of Prague), with sixty other representatives of those municipalities, terminated with a farewell banquet on Friday evening at De Keyser's Royal Hotel. The programme included visits to the Tower and Tower Bridge, lunch at Leathersellers' Hall, a reception at the Austro-Hungarian Embassy, and a dinner at Vintners' Hall on Tuesday; visits to the City of London School, Guildhall School of Music, St. Paul's, and the Central Criminal Courts, lunch at Messers' Hall, and a state banquet at the Guildhall under the presidency of the Lord Mayor on Wednesday; visits to the Metropolitan markets, the National Gallery, and British Museum, luncheon at the Mansion House, and a visit to the Houses of Parliament on Thursday; and on Friday visits to Burnham Beeches and Windsor Castle, where they took tea in the Orangery by invitation of the King.

St. James's Club House, Piccadilly.

Some additions are about to be made to the premises of the St. James's Club at the corner of Brick, formerly Exmoor, street, by Messrs. Maple & Co., Ltd. The house stands on the site of the old Greyhound Inn; it was originally styled Coventry House, having been sold by Sir Hugh Hunklock for 10,000 guineas to George, sixth Earl of Coventry, who married the beautiful Miss (Maria) Gunning. It was afterwards occupied by the Ambassadors' Club, who dissolved in 1854.

Arlington-street, St. James's.

A notable house in this thoroughfare will be offered for sale at the Mart on October 29. It is No. 5, on the east side, being the second home of Robert Walpole and his son Horace in that thoroughfare, whereof Horace writes, in 1768, to Montagu:—"From my earliest memory Arlington-street has been the ministerial street." Horace Walpole was born, 1717, in a house that stood opposite; his father removed thence in 1742 to No. 5, and the son quitted No. 5 for Berkeley-square (corner, north-west, of Bruton-street) in 1779. His father's first home in the street, as rebuilt by Kent, for Henry Pelham, was since Lord Yarborough's; the drawing-room is depicted in the second scene of Hogarth's "Marriage à la Mode." A tablet has been affixed to the front of No. 9, the residence in 1804-6 of Charles James Fox.

Relics of Volta.

Sir Henry Norman, M.P., has found in an "antiquities" shop in a small Italian town what he believes to be a genuine collection of the electrical appliances which Volta made for his experiments that led to the discovery of "voltaic" electricity, together with the original one-fluid primary battery—Volta's "crown of cups," and many personal and domestic articles used by him, as also some of his papers, letters, portraits, etc. It appears that these objects have passed from father

to son, having been bequeathed by Volta to his cook and body-servant, who was the uncle of the present owner's grandfather. Sir Henry Norman suggests that in the event of their authenticity being established the apparatus, appliances, and other articles might be purchased for presentation to the Royal Institution.

Property Sales.

The landed properties recently placed in the market comprise the following:—No. 1, Quadrille Court, Lymington, modernised under the directions and superintendence of Mr. S. J. May, F.R.I.B.A. The early XVth-century manor-house, known as Hergest Court, with 418 acres, at Kingston, co. Hereford, mentioned in "Malvern Chase," and occupied for nearly three hundred years since 1430, by the Vaughans and their descendants. The Wilderness, Earley, near Reading, and White Knights Park, formerly belonging to the Duke of Marlborough. Breccles Hall, Norfolk, 3,000 acres, of which the record begins in 1276, when the land belonged to John de Breccles; the house, built by the Woodhouses, being of the Elizabethan period. The Grove, Chigwell, Essex, a residence, reputedly, of Sir Francis Drake. Norton Priory, Seley, an interesting Tudor house, by Pagham Harbour with earthworks in which ancient British remains have been found. Birnam, on the south bank of the Tay, near Dunkeld, where the famous wood has been replanted with fir, the traditional scene of Macduff's encampment being at Court-hill in the vicinity; and The Oaks, with 180 acres, near Banstead, a house that gave its name to an historic race, having been a hunting seat of the Earl of Derby and containing some fine work by the brother Adam. The house was originally built by the Hunters' Club for their resort in the hunting season; Edward, twelfth Earl of Derby, made large additions to the house and stables.

BOOKS.

Modern Sanitary Engineering. Part I.: House Drainage. By GEORGE THOMSON, M.A. M.Inst.C.E. (Constable & Co., Ltd. 1912. Pp. xv. and 266. Price 6s. net.)

THE author of this book remarks in his Preface that it is not so easy to find books which are based on general principles, and which lead from these to practical applications, as it is to find those which tell merely how work is usually done. With this in mind he has endeavoured to give, first, a general indication of the requirements of a system of drainage to deal next in some detail with the special requirements of the different parts and with the way in which these are met; and then to consider how these parts are to be combined into an effective whole. The intention is not simply to indicate what is the usual practice but to consider the reasons which have led to that practice.

The result is an excellent book which the student would do well to read; it will save him a good deal of doubt when afterwards studying text-books which give only what is actually done in order to comply with by-laws.

The author was, we believe, one of the witnesses who gave evidence before the Departmental Committee, appointed by the Local Government Board to consider the Disconnecting Trap, whose Report, published since the book before us went to press, was noticed in our issue of September 13. He refers to the subject of that Committee's investigations and expresses as his own the view that the question of the retention of the disconnecting trap is one chiefly of workmanship, and that if "really tight drains" were universal the intercepting trap would be useless. He also appears to see no objection to the ventilation of sewers by house soot pipes. "So soon, therefore, as we reach standard of construction which will allow the abolition of the main trap without risk, a soon should that trap be abolished." Possibly he might modify this after seeing the Committee's expressed views that the ventilation of sewers is a matter the importance of which is much over-estimated, and that the question of "smell" is not to be put aside as of moment. Even with the present arrangements a whiff of air from the disconnecting house drain occasionally is blown into our bedroom windows or drawn down our chimneys and it is offensive enough. How much worse

would it be if the soil ventilating pipe were directly connected to the practically inexhaustible source of offence existing in the sewer. If the hint of the Report were taken, we should retain the interceptor and the high "outlet" vent and do away with the low "inlet" vent which is so often a real and constant nuisance, arranging our pipes with a view only to prevention of siphoning and to the provision of a certain limited amount of ventilation.

These questions are carefully dealt with by Mr. Thomson in the course of his earlier chapters. Then, after discussing the conditions governing the various fittings usually met with, a couple of chapters are devoted to the designing of complete systems of drainage and to the peculiar requirements of certain special classes of buildings. Then follow some forty-three pages devoted to tests, testing, and sanitary inspections; the particulars here given are of especial value, as they are to be found in very few of the ordinary text-books. Finally the disposal of sewage from isolated houses is dealt with, and the book is completed by a very good index.

Estimating, being the Analysis of Builders' Prices. By THOMAS D. L. PYER. With forty illustrations. Part I. (Portsmouth: The Ubique Press, Ltd., 1, Middle-street.)

WHATEVER criticism may be passed on this work, want of thoroughness will certainly not be one basis for fault-finding. For detail it is one of the most complete works we have ever had under consideration. If such may be deemed a fault, one might complain that the author has entered rather too much into detail. It is, however, easy to drop some of this detail, and, probably most of those who use this work in their studies will do so.

The work is evidently for provincial use, and those who have had experience with what may be termed "country" pricing of quantities will welcome anything that may tend to put him on a more satisfactory footing. The prices given for labour and upon which the work is based are 5½d. per hour for labour and 1d. per hour for skilled trades, except mason, which is given at 9d., and plasterers at 8d. and 1s. These strike us as low even for country towns of any size.

Notwithstanding the low prices for labour and a some cases of materials, the prices for work generally are little, if any, lower than those of good London builders in competition—e.g., 15s. per yard cube for cement concrete, six of broken brick to one of cement, and 14s. 10s. per rod or reduced brickwork, notwithstanding the fact that he bases his prices upon a bricklayer and labourer laying an average of 700 bricks a day of ten hours, although we do not think there are many even in the provincial towns who work ten hours a day. We think, however, his average on page 100 not quite correct if his initial figures are. He takes an average between 1,000 per day for footings, 800 for 1½-brick walls, and 500 for 1-brick walls. By simply averaging these figures he allows that there is as large a proportion in footings as in the remainder. This we are confident would not be borne out by experience.

We point out these little matters as showing that while his results may be right, according to London standards, the working seems somewhat at fault, and we think it is somewhat unfortunate that a London basis was not adopted for rates of wages. But while we could criticize the work on these grounds we must congratulate the author upon his most painstaking and careful work, a study of which will be most useful as an introduction to the analysis of prices for building work. Observation as to the time taken in various works being largely the basis of pricing, it would be a good idea if the student with this work before him verified some of the examples given.

We shall look forward with a good deal of interest to the continuation of the work, the art under notice taking us only to the end of to bricklayer's work.

Workmen's Compensation Digest. By DOUGLAS KNOCKER. (London: Butterworth & Co. 1912. xxvii., 455, and 39 (index) pp.)

THIS work contains every case of present validity or authority decided under the Workmen's Compensation Acts (1897, 1900, and 1906) and Rules in the House of Lords and the Supreme Court of Judicature in England up to May 15, 1912, and reported either before or since, and also every such case

decided in the Scottish Court of Session and the Supreme Court of Judicature in Ireland, and reported up to May 15, 1912. It therefore gives every decision, whether English, Scottish, or Irish, which might be of use to those who are interested either as litigants or advocates in the great field of legislation with which it is concerned. The arrangement of the book is all that could be desired. The actual text of the 1906 Act is first set out, and then under every word or phrase which has been the subject of judicial decision or comment are given all the cases relating thereto. In some instances extracts from the more important judgments are quoted by way of illustration of the principles which the Courts have applied in their interpretation of the Act. The learned author in his Preface makes an apology for the fact that he has arranged the various cases in parallel columns so as to show at a glance those which have been decided in favour of the workman and those in favour of the employer. Though, as the author himself admits, such an arrangement is, on principle, indefensible, in that the general application of the rule forces on to one side or other of the dividing-line cases which may not definitely favour either the employer or the workman, at the same time, in our view, the great practical convenience of the arrangement more than compensates for this disadvantage. The completeness and up-to-date character of the digest renders it invaluable to employers of labour, who will certainly be able easily to learn from its pages how and in what circumstances liability towards their workmen arises. There is a good table of cases, and a very useful index, and space has been left for the noting-up of subsequent cases as and when they are decided. We can with confidence recommend the volume not only to architects, builders, and other employers of labour, but also to all who are in any way concerned with the law and practice of workmen's compensation.

Engineering and Metallurgical Books, 1907-1911: A full Title Catalogue, arranged under subject headings, of all British and American books on Engineering, Metallurgy, and Allied Topics, published during the five years 1907-1911, with their English and American prices and publishers' names. By R. A. FENNIE. (London: Grafton & Co., 69, Great Russell-street. 1912. Pp. ix. and 206. 7s. 6d. net.)

MR. FENNIE deserves thanks for this continuation of his useful, though probably irksome, labours. The scope of the work is well indicated by its title, and a glance through its pages gives a very good idea of the directions in which mechanical studies are for the moment being particularly directed. For instance, under the heading "Aeronautics" fifty-one works are mentioned, including a "Bibliography of Aeronautics" which itself contains a total of 954 pages. Motor boats, motor-cars and motor cycles are separately dealt with, but together account for fifty-five books, to say nothing of books dealing especially with details of ignition devices, internal combustion engines, magnetos, carburetors, etc., which are classified separately. Reinforced concrete, too, continues to inspire many, so that the author has to make fifty-two entries under this head. The subject headings of the groups are placed alphabetically in the body of the book, and a classified list of these subjects is placed at the beginning. At the end is an index of authors, editors, translators, etc.

The book is clearly printed and adequately cross-referenced, and will doubtless save much time to many who wish to see at a glance what recent literature is available upon any of the special subjects dealt with.

Redress by Arbitration. By H. FOULKES LYNCH. Fifth Edition. By ARTHUR REGINALD RUDALL. (London: Eppingham Wilson. 1912. 8vo., xv. and 102 pp.)

THE first edition of this little digest of the law relating to "Arbitration and Awards," by the late Mr. H. Foulkes Lynch, was an excellent attempt to supply a handy book for consultation pending arbitration proceedings, and also to provide an elementary text-book on the subject for the use of law students. The aim of the author was entirely successful,

and the work has certainly proved its usefulness to all concerned in arbitration matters, whether as arbitrators, parties, or advocates. The editor of the fifth edition has adhered to the original form, and has only made such additions and alterations as lapse of time and other circumstances have rendered necessary. The growing disinclination of commercial men to submit their difference to the decision of the Courts, and the consequent increasing tendency to seek redress by arbitration rather than by action, renders this work more valuable than ever. Architects and surveyors should find it extremely useful. There is a good table of contents, and an alphabetical list of the cases cited. The Appendix contains a sufficient number of forms for all ordinary purposes, and the index is quite adequate.

The Land Transfer Problem. By J. S. RUBINSTEIN. (London: Spottiswoode & Co. 8vo., 68 pp.)

THIS is a paper read at the thirty-seventh provincial meeting of the Law Society, held at Cardiff, September 24 and 25, 1912, which discusses fully the respective merits of the systems of registration of deeds or registration of titles as solutions of the land transfer problem. The author has on several previous occasions read similar papers on the subject, which have been mainly concerned in proving that, owing to our condition of land tenure, the attempt to introduce a workable land transfer system by the abolition of deeds and by substituting in their place the system of registration of title has failed, and was bound to fail. Mr. Rubinstein approaches the question as a solicitor, and succeeds in making out a very good case for his contentions. Without expressing any opinion of our own as to the particular views enunciated, we think that Mr. Rubinstein's brochure is well worth perusal by all who are interested in land tenure and the problem of land transfer in this country.

CORRESPONDENCE.

The Architecture of the New Delhi.

SIR,—I learn from the articles in your issues of the 11th and 18th inst. on "The Architecture of the New Delhi" that an interesting discussion as to what should be the character of the architecture of the new city is being carried on. May I, as an Anglo-Indian missionary of twenty-one years' standing, be allowed to make a humble contribution to it?

I do not profess any special knowledge of architecture, but it seems to me that as this new city of Delhi marks a new departure in Indian history, and stands neither for Hindu nor Moslem supremacy, but as a commemoration of the Coronation of a greater Emperor of India than ever reigned in the past, its architecture should be as distinctive in its own way as was the case in previous centuries whenever a new conquest took place and a new Delhi was built, or an old Delhi was modified, so as to mark the event.

Mr. Havell has already advocated that the new city should be built in some indigenous style, and such a proposal will readily meet with the approval of many. But, whilst indigenous styles undoubtedly have the merit of being Oriental, they necessarily carry with them the idea of the supremacy of one or other of the great religions of India, which in this case does not apply.

It appears to me that the main idea to be kept in mind is that of Christian Imperialism, and if we desire that the architecture of the new city shall be emblematic of the actual facts of the situation which necessitates the building of a new city at all, this idea may be developed along one of two lines—the New Delhi may stand (a) either for British Sovereignty and the Christian religion, or (b) for an embodiment of the same idea underlying the principle of religious neutrality, which is the foundation upon which the "Pax Britannica" has always stood, and which would be best expressed in some eclectic style of architecture which would speak of universal brotherhood and of the fusion of all religious thought into one world-wide recognition of the Fatherhood of God.

How to embody such ideas in architecture must, of course, be left to experts and the

task may not be easy. All I would emphasise is this—the New Delhi, built by the British Government in 1912, must be no mere reproduction, however beautiful or stately, of a Delhi which some Rajput or Mogul conqueror might have built a few centuries ago—it must have a distinctive architectural message of its own for the people of India and for future generations.

If architecture can write "sermons in stone," perhaps the inspiration for the right ideal may be found in Tennyson's lines, where he represents Akbar the Great as having had a dream, and as seeing the realisation of his religious aspirations in the coming of the British and in the gradual advance of Christianity—

I watched my son,
And those that follow'd, loosen, stone from stone,
All my fair work: and from the ruin arose
The shriek and curse of tram'd millions, even
As in the time before: but while I groined,
From out the sunset pour'd an alien race,
Who fitted stone to stone again, and Truth,
Peace, Love, and Justice came and dwell therein,
Nor in the field without were seen or heard
Fires of Duties, nor wall of baby-wife,
Or Indian widow: and in sleep I said
"All praise to Allah, by whatever hands my mission be
accomplished!"

It might also be borne in mind that India is now passing from its Renaissance into a fuller life of liberty and progress. Some adaptation of the styles of architecture which marked the same period in the West might not be inappropriate, and such would certainly give the distinctive character to the New Delhi for which I plead.

I feel sure there are British and Anglo-Indian architects well able to deal with technical data of this kind, and I hope that the best men will be encouraged to put forth their best efforts, as the opportunity is altogether unique.

J. P. HATTHORNTWAITE,
Late Principal of St. John's College, Agra.

The Church of St. Thomas, Portsmouth.

SIR,—In the interesting notice of this church which appeared in the *Builder* of October 18 there is no mention of a singularity in the planning of the choir, to which, as it makes the building one of the most interesting in the history of architectural development in England, it may be worth while to call attention.

The feature in question is briefly that, while the side aisles of the choir are divided into four bays, the central division is for purposes of vaulting treated as two only, each pair of pier arches being grouped together to form one great square vaulting compartment above. This peculiarity, though it is by no means uncommon on the Continent, is shared in England by the neighbouring Boxgrove alone, and the treatment of the scheme is precisely the same there, namely, that each pair of pointed pier arches is comprised in a great semicircular arch whose tympanum masks the triforium, while the double bay of clearstory above is lighted by a single lancet, central in position, and therefore placed above the intermediate pillar of the arcade. The only difference between the two buildings is that Boxgrove is of better material and richer and more refined detail.

No doubt one of these buildings was a replica of the other, and as the detail at Portsmouth follows that of the western bays at Boxgrove, which are plainer and later than the eastern (*Builder*, April 7, 1900), it is probable that it is the copy.

It is not a little curious that of these two churches the remote Boxgrove should be so well known and that at Portsmouth so little that no writer on English architecture has, as far as I can ascertain, mentioned it or known of its existence. Even Mr. Francis Bond says that "We have only one example of this system—the choir of Boxgrove Abbey."

A. H.

Cross Traffic.

SIR,—The method of traffic mentioned by O. B. I. T. in your issue of the 18th inst. was brought before the London County Council as long ago as 1897 by Mr. Holroyd Smith, M.L.Mech.E., who then proposed that the gyratory system of regulation should be tried at Ludgate-circus.

The suggestion of your correspondent that Oxford-circus should now be selected as "an ideal spot for an experimental application," is,

no doubt, an original idea, but as a matter of fact the proposal was made by me in my Presidential address of 1907 to the Civil and Mechanical Engineers' Society. At that time I strongly urged the desirability of experiments not only at Oxford-circus, but also at Ludgate-circus and St. George's-circus—all these being equally suitable.

Your readers may be interested to learn that the subject was discussed once more this month at a meeting of the Society of Engineers (Incorporated), and that in consequence of the discussion there is a probability that an experiment will be made at Solihull-circus, Letchworth Garden City, where a large number of vehicles would readily be obtained for the purpose of a practical demonstration.

I should be pleased to receive communications from any of your readers who are interested in the subject and who would be prepared to co-operate in promoting a public demonstration or series of demonstrations in the interests of the public.

W. NOBLE TWELVETREES.

195, Bedford-hill, S.W.

London District Surveyors' Fees.

SIR,—Referring to the note on page 457 under the heading "Westminster City Council," the whole matter has been very badly placed before the public.

When a large building is altered the fee under the Act, 1894, is equal to half the fee for a new building, but in every case the District Surveyor charges an abated fee in proportion to the work done. Thus in the case of a fee legally chargeable, 45*l.*, for a small alteration the surveyor charged 2*l.* The matter started in consequence of an alteration to a town hall in South London, and the Borough Council did not approach the District Surveyor in the proper way, or he would have charged a nominal fee.

Generally, the fee is proportionate, and no better system can be devised.

AN OLD SURVEYOR.

"A Limited Competition."

SIR,—Early in the month of August the Beckenham District Council advertised in the professional journals for architects to send in their names to enable the Council to select a limited number to submit plans for the new schools. Ninety architects have been selected, and it strikes one that the professional assessor is much to blame for taking part in such a waste of time and money.

The gentlemen sending their names naturally expected that six or eight would be selected.

FAIR PLAY.

[** We have referred to the advertisement in question, which appeared in the *Builder*, where we find it stated that "the competition will be limited to architects who have had considerable experience in the planning of public schools." This does not convey the impression of a *limited competition* in the sense in which our correspondent has taken it, but we think that the advertisement might have been more carefully worded.—Ed.]

Labour in Sydney, New South Wales.

SIR,—In July last a paragraph appeared in the Press stating that people in Sydney were starving, owing to their inability to find work. I at once sent this out to my correspondent near Sydney, and have just received his reply, the substance of which I give you below. As the information is reliable (the writer is the manager of a bank) . . . I think you would interest and inform your readers by printing this letter.

W. BECKER SMITH,
Twenty-five years Assistant and Emigration Secretary to the Y.M.C.A.,
Manchester.

The following are extracts from the letter:—

"DEAR SIR,—I have read the paragraph which speaks of people in Sydney being unable to find work. As a matter of fact, master-builders still tell me they cannot get a sufficiency of labour. The demand for boys for indoor labour is remarkable, because each establishment prefers to train its own staff. . . . The class of men you send out find employment without much trouble. Of course, I refer those in the building trade to local builders, and I do not hear subsequently that they failed to get employment. I am in touch with employers of all kinds, and they report

the same scarcity of suitable labour. New farms are coming into existence every day, and call for unlimited labour for clearing, fencing, building, and working. Hence men able to work need have no fear as to getting employment.

R. D. A."

FIFTY YEARS AGO.

From the *Builder* of October 25, 1862.

Evil Efforts against Sanitary Improvements.

RECENTLY an inquiry which has been made by the *Lancet* into the effects of railway travelling on health has caused the expression of a variety of opinions in various journals. Amongst other singular views it has been stated that the pure air of the sea-shore is of little value as regards health; and one writer in an influential magazine states that impurities of air do not sensibly affect health, as is seen by the thousands who daily breathe impure air with impunity. It is said that the air of a crowded railway-carriage, which is so close that it is noxious and unpleasant to the senses, can do no harm; and that, although the air may in this way be tainted, "the rapid circulation of the air always suffices to keep up a due amount of oxygen; and, however oppressive the sensation of 'stiffness' may be when windows of a crowded carriage are closed, the utmost physiological effect is a lowering of the respiration and a consequent lowering of the vital functions, which immediately recover their activity on fresh air being admitted."

. The latest opinion regarding such conditions as are above set forth is contained in an address prepared by Dr. Leonard Hill, M.B., F.R.S., and Dr. Martin Flack, M.A., M.B., and delivered before the Royal Society of Arts, February 7, 1912, and later before the British Association, from which we make the following interesting extracts:—"The good effects which result from efficient ventilation and open-air treatment are generally supposed to be due to the chemical purity of the air. They are really due to the movement, coolness, relative humidity of the air, and to the ceaseless variation of these qualities. . . . We are convinced that there is no positive evidence which demonstrates the poisonous nature of the condensation water obtained from the breath. We go further and say there is at present no trustworthy evidence of the existence of any such poison in the exhaled air. The increased percentage of carbonic acid and diminution of oxygen which has been found to exist in badly-ventilated churches, schools, theatres, barracks is such that it can have no effect upon the incidence of respiratory disease. . . . In a crowded room the air confined between the bodies and the clothes of people is almost warmed up to body temperature and saturated with moisture, so that the cooling of the body by radiation convection and evaporation, becomes almost impossible. . . . The blood is sent to the skin and stagnates there instead of passing in ample volume through the brain and viscera. Hence arise the feeling of discomfort and fatigue. . . . There is yet another aspect of ventilation—bacterial infection. Catarrhal infections are spread by the explosion of droplets of saliva when speaking, coughing, or sneezing. A current sufficient to drive out such droplets cannot be borne by the inhabitants of a room. A moderate ventilation current tends to keep such droplets suspended in the air. In a still room they soon fall to the ground, and clinging to floor and furniture, may be wiped up next morning and removed by the housemaid. We cannot hope to prevent infection in crowded railway carriages, theatres, chapels, schools, etc. The epidemics of common colds that sweep through the community show this only too well." We are thus face to face with the dilemma that a closed window conduces to a diminished functional activity, while an open one adds to the chances of bacterial infection.—Ed.

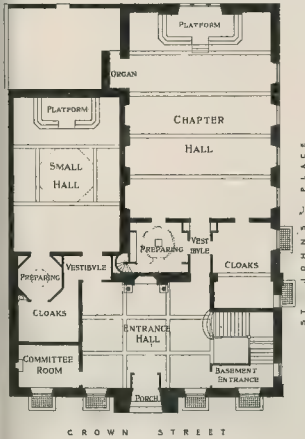


Masonic Temple, Aberdeen : Entrance Hall.
Mr. Harbourn Maclellan, Architect.

ILLUSTRATIONS.

Masonic Temple, Aberdeen.

THIS building was opened in January, 1911, with full Masonic ceremony, the Marquis of Tullibardine being the central figure. The architect was Mr. Harbourn Maclellan, of Aberdeen.

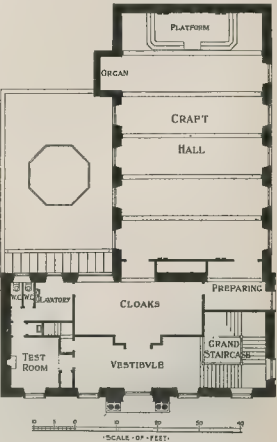


Masonic Temple, Aberdeen : Ground Floor.
Mr. Harbourn Maclellan, Architect.

Our illustrations show the chief features of the Temple.

The mason work was executed entirely in white Kemnay granite, all dressings and carvings being performed by means of pneumatic chisels. The inside panelling, furniture, and carving are nearly all of Austrian wainscot oak slightly fumed and wax-polished. The floors of the entrance-hall, corridors, etc., are of marble tesselæ, black and white marble squares, and cube marble mosaic. The ornamentation and details are based on Masonic symbols, including the large Zodiac floor in the entrance-hall. The heating is by low-pressure hot water with Ideal boiler and air-inlet radiators, and the extraction of foul air is effected by means of a Blackman electric fan and ducts. The plaster-work is finished in Duresco. The electric lighting is specially designed for Masonic ritual, and is controlled by Watkin switches. The following were the contractors—of Aberdeen except where stated otherwise: Mr. Edgar Gauld, mason; Mr. Geo. Jamieson, carpenter; Mr. Geo. Farquhar, slater; Mr. D. Ogilvie, plumber; Messrs. Roger & Baxter, plasterers; Mr. Geo. Bisset, steelwork; Messrs. W. Briggs & Sons, Ltd., Dundee, asphalters; Mr. E. Copland, glazier; Messrs. Chud Hamilton, Ltd., electricians; Messrs. J. Cormack & Sons, Ltd., Glasgow, heating engineers; Messrs. Jas. Bannochie & Sons, marble and tile work; Messrs. J. & A. Ogilvie, oak joinery, carving, and furnishings; Mr. John Whyte, painter. The bronze figures were cast by Mr. A. B. Burton, Thames Ditton; the electric fittings by Messrs. G. E. Coy, Ltd., London. The sundial and cast lead-work were by Messrs. Geo. Wragge, Ltd., Manchester; the locks and mountings by Messrs. R. Langebeare & Co., Birmingham; and the sanitary fittings by Messrs. Shanks

& Co., Ltd., Barrhead. The bronze figures and fibrous plaster were modelled by Mr. W. H. Buchan, Aberdeen. Mr. Derwent Wood, A.R.A., modelled a life-size bust of ex-Lord Provost Wilson, Aberdeen, which was cast in bronze by Messrs. Singer & Sons, Frome, its destiny being the entrance-hall of the building.



Masonic Temple, Aberdeen : First Floor.
Mr. Harbourn Maclellan, Architect.

A Country House near Guildford.

This house occupies a secluded site within easy reach of Guildford, in Surrey. It has a symmetrical elevation to the entrance front, while the south or garden elevation is grouped together by two gables, being in sympathy with the broad Georgian outlines of the north front.

The arrangement of the plan is simple, and needs no further explanation. The materials used for the elevations are rough hand-made red tiles for the roof. The walls are in rough-cast. The quoins and chimneys are built of small hand-made red brick. There is a formal garden, which has also been designed by the architect, Mr. R. F. Johnston, of 1, Brook-street, Hanover-square, W.

"Two Gables," Burnham, Bucks.

The house called "Two Gables," of which elevations and plans are given, has the great advantage of a site beautifully timbered.

The elevational design has been largely governed by the client's desire that the north and south fronts should present a distinct contrast, yet be in perfect sympathy. On the garden or south front there is a quaint little court sheltered between the two main gables. This court, which is paved with old flagstones and has a grass surround, is raised three steps from the garden level, with a small lead figure in the centre. Thin hand-made red bricks are used for the chimneys and lower part of the gables on the south front. The walls generally are treated in rough-cast, and the roofs are covered with rough hand-made red tiles from Reading. The half-timbered gables are of oak left perfectly rough and unstained in any way. The timbers vary in width from 7 in. to 9 in., and are studded with oak pins. A small plan is shown of part of the formal garden. The architect is Mr. R. F. Johnston, of 1, Brook-street, Hanover-square, W.

The Architectural Treatment of the Head of the Serpentine: Kensington Gardens.

This was the subject set in the recent competition for the Architectural Association Silver Medal, which was awarded to Mr. R. M. Pigott.

The restrictions imposed consisted of leaving untouched all adjacent paths, both in level and direction, and retaining the original position for the pump-house on account of the well.

In this design an attempt has been made to emphasise the length of the pools by placing tall yew hedges on either side, these forming avenues about 25 ft. wide and 230 ft. long. The plan has been arranged on axial lines, giving many pleasant vistas, while the connexion between the fountains and the Serpentine is retained somewhat on the lines of the present lay-out, thus allowing the semicircular colonnade to act as a suitable termination to the lake.

The flower-beds are intended to be of the herbaceous type, while all the paths are laid down in flagstones.

MEETINGS.**FRIDAY, OCTOBER 25.**

The Institution of Municipal Engineers.—General meeting, 8 p.m.
The Royal Technical College Architectural Craftsmen's Society, Glasgow.—Mr. W. H. Baxter on "Some Effects of Recent Legislation on the Building Trades."
Royal Sanitary Institute.—Mr. W. E. Fretwell on "Details of Plumbers' Work," 7 p.m.
The Institution of Mechanical Engineers.—General meeting, 8 p.m.

SATURDAY, OCTOBER 26.

The Royal Sanitary Institute.—Provincial sessional meeting, Alton.

MONDAY, OCTOBER 28.

The Architectural Association.—Mr. Lawrence Weaver, F.S.A., on "Small Country Houses of To-day," 8 p.m.
Royal Sanitary Institute.—Mr. Edward Willis, F.S.I., on "Calculations, Measurements, and Plans and Sections," 7 p.m.
University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Romanesque Architecture in North Italy and Sicily," 8 p.m.

TUESDAY, OCTOBER 29.

University of London (British Museum).—Mr. Kaines Smith on "Mayenne, the Hair to Crete."

THURSDAY, OCTOBER 31.

University of London (Victoria and Albert Museum).—Mr. Kaines Smith, M.A., on "The Influence of Architecture on Contemporary Decorative Forms," 3.30 p.m.
University of London (British Museum).—Mr. Banister Fletcher on "Palaces of Assyrian Kings," 4.30 p.m.

FRIDAY, NOVEMBER 1.

Royal Sanitary Institute.—Mr. Edward Willis, F.S.I., on "Sanitary Appliances," 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 490.

The Quadrant, Regent-street.

As stated in our advertisement columns this week, the Committee appointed by the Lords of the Treasury to consider the design for completing the rebuilding of the Quadrant, Regent-street, desire to inspect the designs which were submitted in the recent *Builder* competition. Competitors who prepared designs for that competition are accordingly invited to forward them to Mr. W. Fidler, Secretary to the Committee, 1, Whitehall, London, S.W., not later than Monday, November 4. Each design should be accompanied by the name and address of the sender.

Municipal Buildings, Dublin.

Mr. Albert E. Murray, A.R.H.A., F.R.I.B.A., is the assessor in the competition for the new Municipal Buildings, Dublin.

New Municipal Offices, Goole.

Mr. Ernest E. Fetch, A.R.I.B.A., has been awarded the first and second premiums (30l. and 15l.) for his two designs sent in for the new Municipal Offices, Goole. The assessor was Mr. C. B. Flockton, F.R.I.B.A.

A Unique Opportunity.

We print without comment the following advertisement from a newspaper, omitting the name of place, etc., addressed "To Architects":—"The Committee of the . . . invite tenders from fully-qualified architects for preparing schemes for developing a site

at . . . upon which they intend erecting a library, institute, billiard-room, swimming-bath, etc., at an estimated cost of 5,000l. The architects sending in their tenders are to submit two prices:—1st, for preparing plans, specifications, personal supervision of the work, and all necessary details required in the carrying out of the scheme, and also for the preparation of the bills of quantities; 2nd, for carrying out the whole of the work above mentioned with the exception of the bills of quantities. The Committee reserve the right to accept the tender of an architect for carrying out the whole of the work, exclusive of the preparation of the bills of quantities, and to appoint a separate quantity surveyor to take out the bills of quantities. The Committee do not bind themselves to accept the lowest or any tender. . . ."

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring-gardens, S.W., Lord Chelmsmore, Chairman, presiding.

Lambeth Bridge.—A recommendation was made by the Improvements Committee that application should be made to Parliament, in the session of 1913, for authority to reconstruct Lambeth Bridge as a steel arch bridge 48 ft. wide, at an estimated cost of 240,000l. The Committee in presenting the report accompanying this recommendation, referred to the circumstances under which a similar scheme was rejected by Parliament. The main objections to the scheme in Parliament were that the amenities of the Houses of Parliament would be affected by the architectural design of the bridge, that the bridge was too narrow, and that the proposed gradient (1 in 20) was too steep. The Committee stated with reference to the first objection, that the estimate included 20,000l. for the decoration of the bridge, a sum which they had been advised was sufficient to allow a satisfactory scheme of architecture. Referring to the question of width, it was stated that the bridge was not part of a main traffic route, and it would be useless to construct a bridge wider than 48 ft. unless Horseferry-road, which is only 40 ft. wide, were widened its whole length. Difficulties in decreasing the gradient were also pointed out and this appeared to the Committee satisfactory, having regard to the rapidity with which mechanical traction has superseded horse traction.

The Committee's recommendation was adopted.

St. Paul's Bridge.—The Highways and Improvements Committee presented a joint report recommending that authority be sought in the session of Parliament for 1913 for construction of tramways from Southwark-street over the proposed new St. Paul's Bridge to a point near the most western end of Cheapside, together with a shallow underground subway. After a short discussion the further consideration of this question was postponed till the next meeting of the Council.

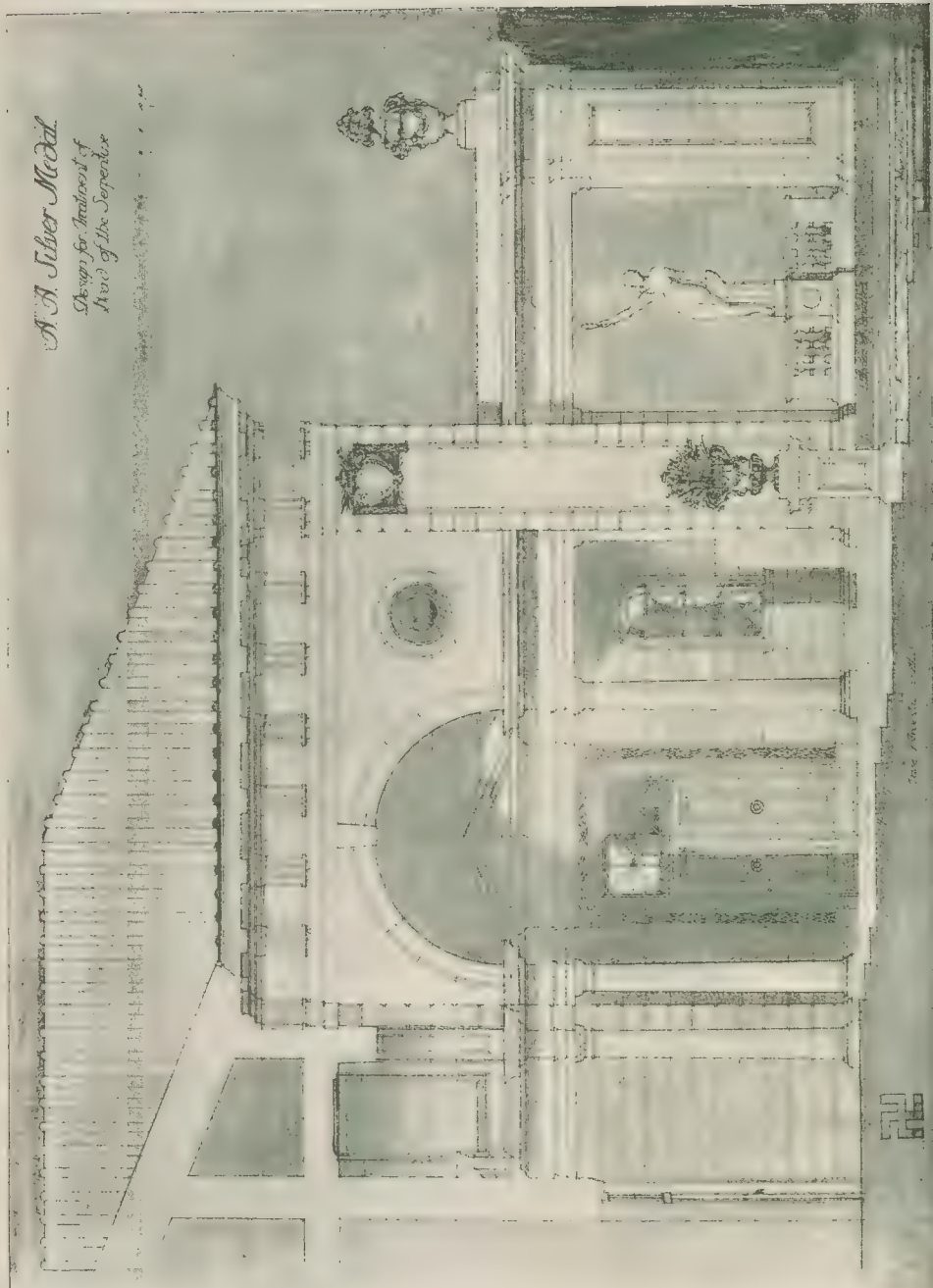


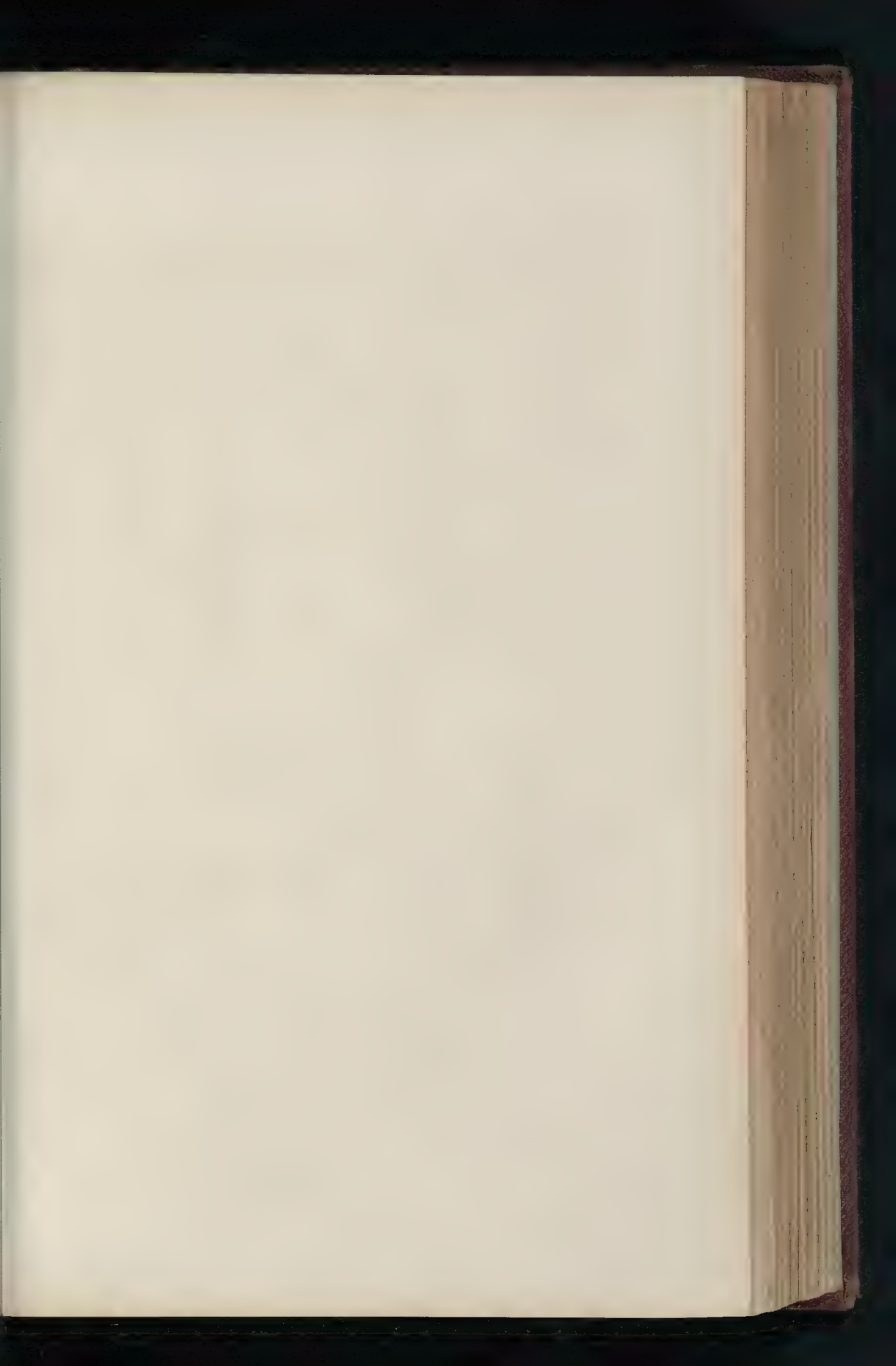
"The Architectural Treatment of the Head of the Serpentine."

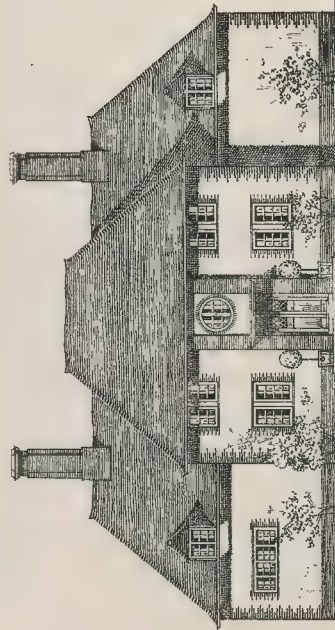
A.A. Silver Medal. Awarded to Mr. R. M. Pigott.

THE BUILDER, OCTOBER 25, 1912

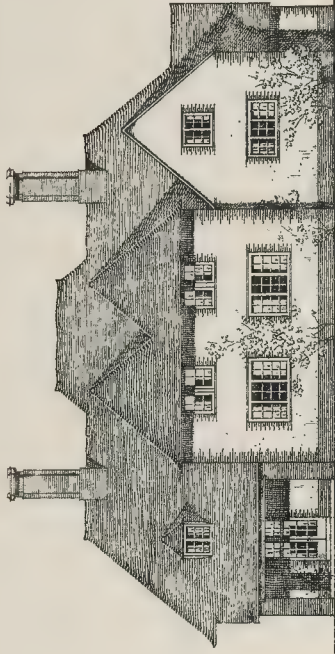
*A. A. Fisher Medal.
Design for Antiseptical
Arch of the Sepulchre*



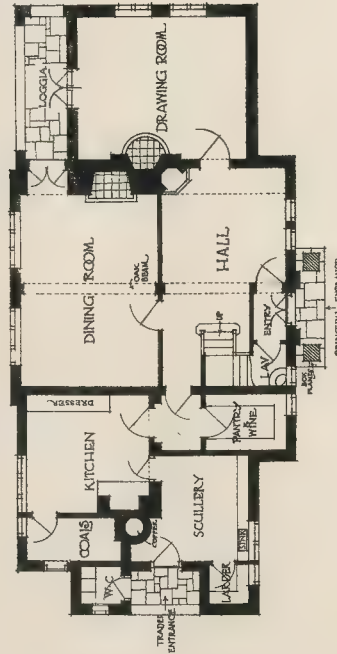




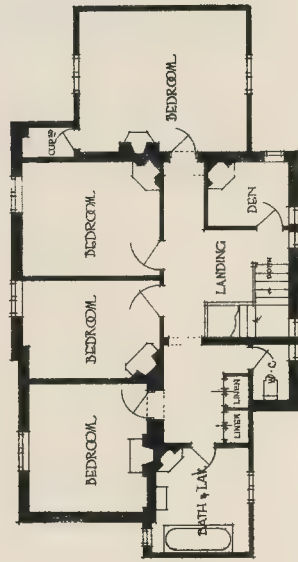
NORTH ELEVATION



SOUTH ELEVATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN

SCALE 1/4" = 1' 0"



Syracuse & Co. Ltd. Printers 20 & 20, Dean St., Soho, W.

MASONIC TEMPLE, ABERDEEN: THE STAIRCASE.

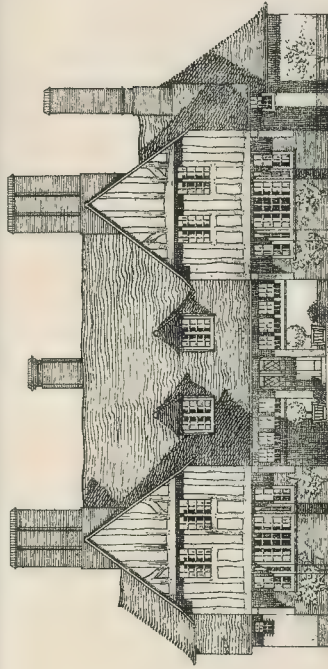
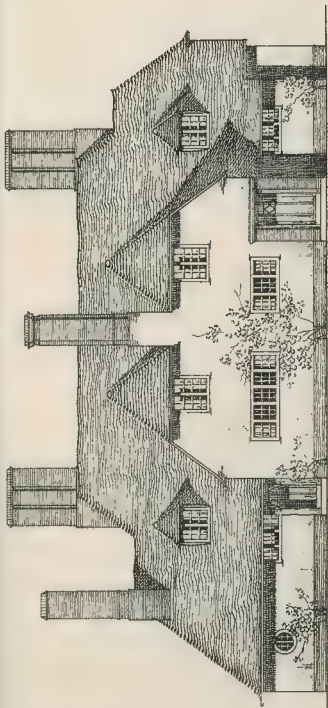
MR. HARBOURNE MACLENNAN, ARCHITECT.



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MASONIC TEMPLE, ABERDEEN: FRONT ELEVATION TO CROWN STREET.

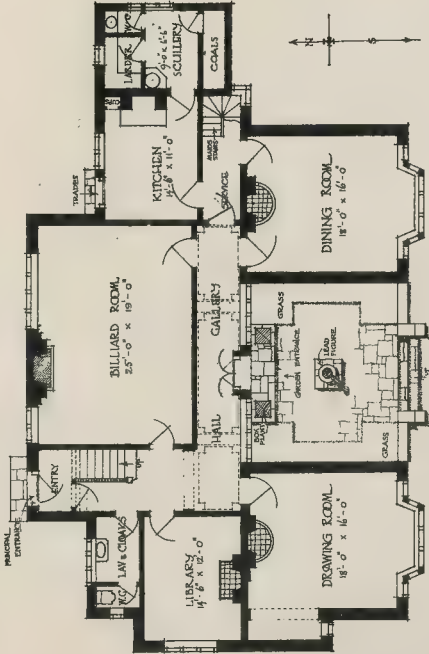
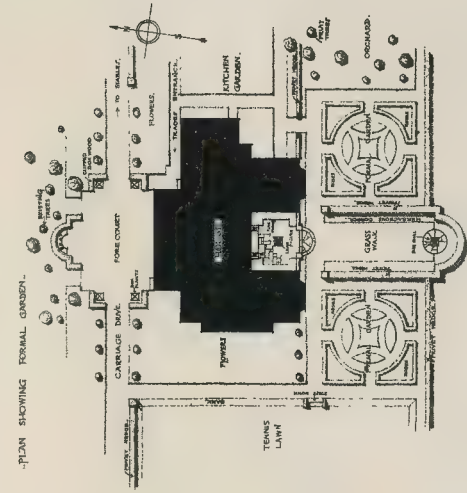
MR. HARBOURNE MACLENNAN, ARCHITECT.



NORTH ELEVATION

SOUTH ELEVATION

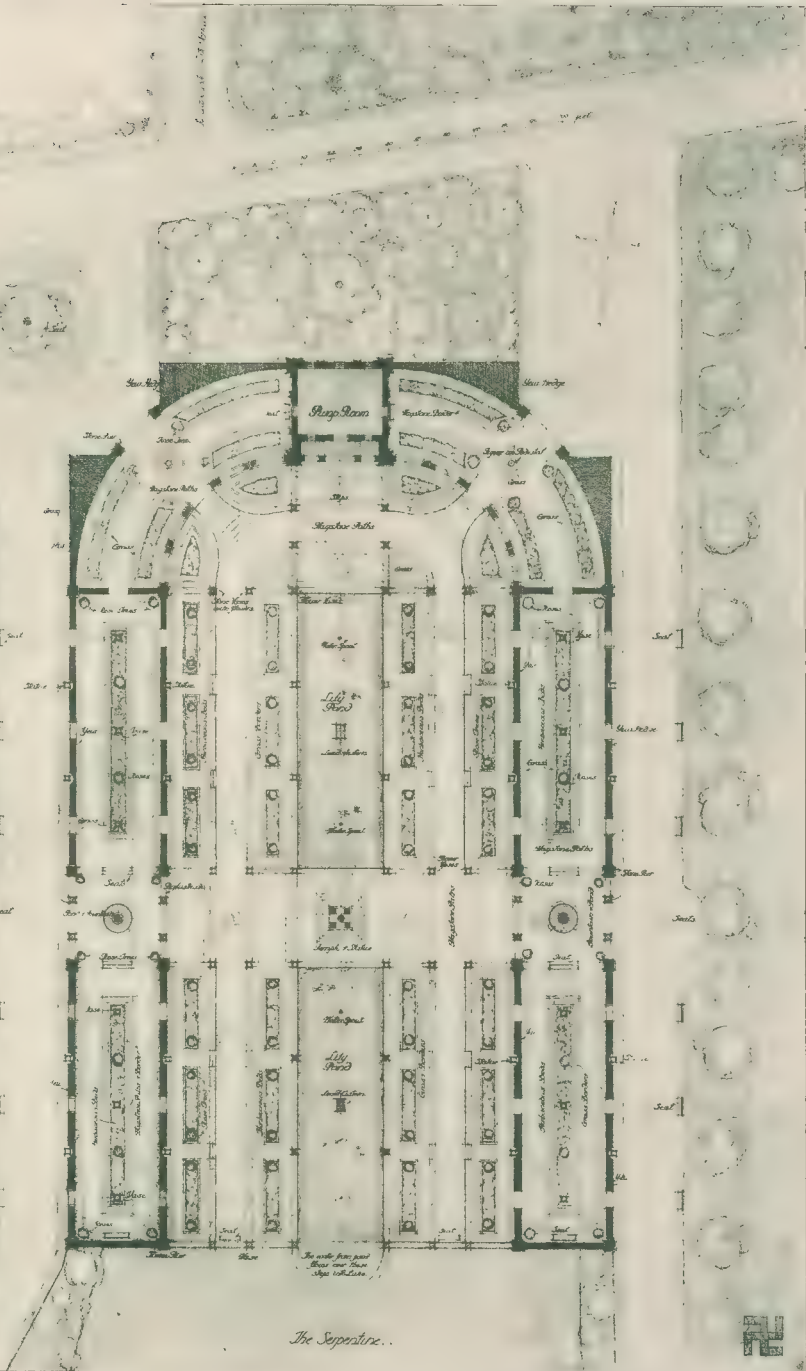
PLAN SHOWING FORMAL GARDEN..



GROUND FLOOR PLAN

PHOTO-LITHO SPRAGUE & CO. LTD. 69 & 70 DIAN STREET, SOHO, W

"TWO GABLES," BURNHAM, BUCKS.—MR. R. F. JOHNSTON, ARCHITECT.



THE ARCHITECTURAL TREATMENT OF THE HEAD OF THE SERPENTINE.

A.A. SILVER MEDAL, AWARDED TO MR. R. M. PIGOTT.

MONTHLY REVIEW of ENGINEERING.



Fig. 1. Derwent Valley Waterworks: General Plan.

DERWENT VALLEY WATERWORKS.

LAST month the great waterworks undertaking known as the Derwent Valley Scheme was formally inaugurated by the official opening of the lines so far completed.

The works have been under construction the period of about twelve years, the cost to date having been three and a half millions in round figures. As the entire undertaking involves a total expenditure of ten millions it will be understood that a very large amount of construction work still remains to be executed.

The project is the outcome of the proposals made in 1896 by the corporations of Derby, Leicester, and Sheffield for the control of the upper waters of the River Derwent and its tributary, the Ashopton. Each of the bodies mentioned was anxious to acquire for itself the rights in question, and, in addition to mutual opposition of these three, all of them were opposed by the corporation of Nottingham and the County Councils of Derbyshire, Leicestershire, and Nottinghamshire. After the matter in dispute had been referred to a Parliamentary Committee the various authorities were advised to submit a joint scheme. This was done, and resulted in the passing of the Derwent Valley Act of 1904, establishing the Derwent Valley Waterworks as the controlling authority.

The total yield of water is estimated at 15 million gallons daily, and supplies will be distributed in equitable proportions to the various authorities concerned, the ultimate supplies being approximately as follows:—

Leicester	9½ million gallons.
Derby	6½ "
Sheffield	6½ "
Nottingham	3½ "
Derby County	5.0 "
Nottingham County (until 1909)	1.0 "

The ultimate scheme includes the construction of five reservoirs for impounding the waters of the rivers Derwent and Ashopton,

about 100 miles of aqueduct for distribution of the water to various constituent authorities, some 15 acres of filter beds at Bamford, and a service reservoir at Ambergate.

Three of the impounding reservoirs will be on the River Derwent, and are described as the Howden, Derwent, and Bamford reservoirs, while the remaining two will be on the River Ashopton, and are described as the Hagglee and Ashopton reservoirs. For the first instalment of the works, however, only the Howden and Derwent reservoirs are required.

In the subjoined table we give particulars of the reservoirs and dams:—

DERWENT VALLEY RESERVOIRS AND DAMS.

Name of Reservoir.	Watershed Area.	Reservoir Area (Full).	Reservoir Capacity.	Water Level Above O.D.	Reservoir Length.	Dimensions of Dam.	
						Height.	Length.
	Acres.	Acres.	Mill. Gals.	Ft.	Miles.	Ft.	Ft.
Howden	9,321	157	1,940	870	1½	118	1,070
Derwent	3,389	153	2,000	776	1½	114	1,110
Hagglee	10,967	178	2,160	808	2	136	980
Ashopton	1,257	141	1,472	675	2	103	840
Bamford	6,482	242	2,495	885	2½	95	1,850

The main aqueduct connects the Howden and Derwent reservoirs with the service reservoir at Ambergate, the course of this conduit having been diverted on the recommendation of the Engineer to the Water Board, Mr. Edward Sandeman, M.Inst.C.E. The alteration, which was sanctioned by Parliament in 1904, had the effect of reducing the length of the aqueduct by 1½ miles. Further, by permitting the mains to be carried over higher ground, the alteration justified the use of thinner pipes than would otherwise have been necessary, the result being the saving of some 6,000 tons of cast-iron.

Fig. 1 is a plan showing the main features of the complete project, by which it will be seen that the impounding reservoirs are grouped on high ground in the Peak district.

The watershed, having an area of 50 sq. miles, lies at an elevation of from 500 ft. to 2,000 ft. above sea level, and the average rainfall is about 46 in. As the watershed is practically uninhabited, the water is of excellent quality as regards purity, and, as usual in the case of moorland collecting grounds, it is free from hardness.

The compensation water to be returned to the rivers in accordance with the decision of

Parliament is equal in amount to one-third of the total available supply, leaving more than 33 million gallons at the ultimate disposal of the Water Board.

After the appointment of Mr. Sandeman as Engineer to the Board in 1900, and the revision of the original project, the first item of work undertaken was a construction railway 7 miles long from the Midland system at Bamford to the site of the Howden reservoir. This line starts about half a mile west of Bamford Station, and runs up the western side of the Derwent Valley, terminating at the Howden dam. It has a maximum gradient of 1 in 40, and a ruling gradient

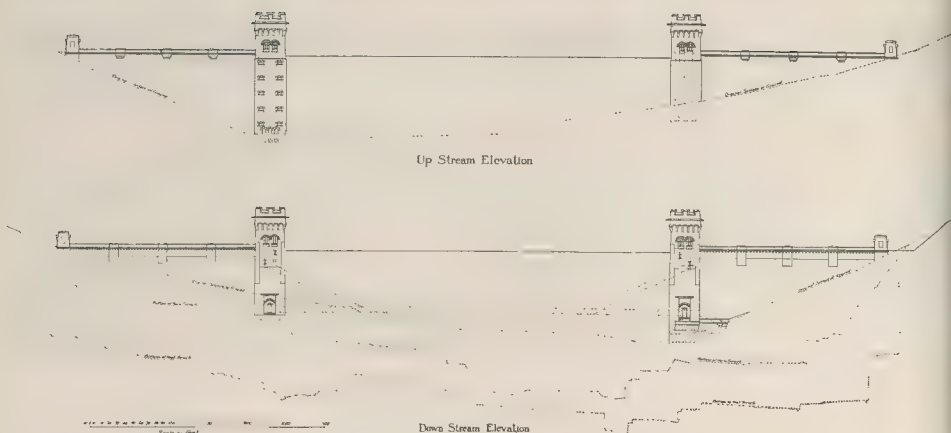


Fig. 2. Derwent Valley Waterworks: Howden Dam.

of 1 in 100. Three valleys are crossed on timber trestle viaducts, the largest being 70 ft. high by 750 ft. long.

The offices for the engineering and clerical staff of the Water Board are established at Bamford, close to the junction between the Midland Railway and the branch line mentioned above.

At Birchinlee, halfway between the Howden and Derwent dams, a village was built at a cost of 32,000*l.* to accommodate the workmen and their families. The buildings are of timber covered with corrugated-iron and lined inside with boarding.

In addition to dwelling-houses the village includes a village hospital, an isolation hospital for infectious diseases, a canteen, a doss-house, a school building, used for religious worship on Sundays, and a public building containing a large recreation hall, reading-room, billiard-room. The hall is provided with a stage, for the purposes of concerts, dramatic performances, and other entertainments. The village also contains public baths, and is provided with water supply and drainage systems. The population in February last was about 960, but was reduced to 765 in August this year.

The principal works included in the first instalment of the system are:—The Howden and Derwent reservoirs; the pipe line from Howden to Derwent, 1½ miles long; the main aqueduct from Howden to Ambergate service reservoir, comprising 3·7 miles of 6-ft. 3-in. tunnels, 7 miles of cut and cover, and 17·4 miles of 45-in. diameter pipe; an aqueduct from Ambergate to Sawley, a distance of 46 miles, this conduit being of 40-in. diameter pipes as far as Coxbench, near Little Eaton, where a branch is taken off by the Derby Corporation, and of 33-in. diameter to the Trent at Sawley; and a 29-in. pipe line, 8 miles long, from Ambergate to Langley Mill for the supply of Nottingham. The instalment also includes short branches for conveying the Sheffield supply to the entrance of a tunnel constructed by the Corporation of that city at Lady Bower, and to take the Derby supply from Coxbench to Little Eaton; and the Ambergate service reservoir, the Little Eaton service reservoir, and the Bamford filter beds.

The Howden and Derwent dams are of masonry, and generally similar in design and construction. We give in Figs. 2, 3, and 4 elevations and photographic views of the Howden dam, and from these illustrations it may be seen at a glance that the work is highly creditable to the engineer, Mr. Sandeman, and his architectural adviser, Mr. W. Flockhart, F.R.I.B.A.

We think we ought to congratulate Mr. Sandeman on realising, as he evidently did, that in a great work of this character it was necessary that proper architectural expression should be given to it, and the result of the collaboration between engineer and architect in this case proves Mr. Sandeman's wisdom in this direction.

Both of the dams were carried out by administration in preference to contract, and are built of millstone grit in large rough blocks, the spaces between which are filled with 1 : 6 concrete, and the upstream and downstream sides are faced with dressed millstone grit.

The stone was obtained from Grindlesford, about 6 miles from the Derwent dam, and was brought to the site by rail. This stone possesses the important advantages of being easily quarried, economically worked, and of hardening on exposure to the weather.

The foundations of both dams are in the Yoredale series of the carboniferous system, consisting of alternate beds of shale and sandstone, the strata being broken and distorted very considerably below the surface of the ground. Consequently it was necessary to sink the foundations to the great depth of 63 ft. below the river bed in the case of the Howden dam, and, as the rock was not watertight, a narrow trench, 6 ft. wide, was excavated on the north side of the foundation to the depth of 125 ft. below the river bed, and filled with concrete so as to form an impervious apron to prevent the percolation of water below the main body of the dam.

Further, as the hillsides were found in 1908 to be anything but watertight, wing trenches have been sunk for a distance of

about 1,000 yds. along each side of the valley filled in with concrete, and connected up to the watertight apron. These wing trenches are 5 ft. wide and range from 70 ft. to 190 ft. deep.

At the Derwent dam a similar foundation apron was formed and carried into the hillsides for a distance of 500 ft. at each end of the dam to prevent water from working its way round.

Construction on the Howden dam was commenced in November, 1901, and on the Derwent dam in July, 1902. The material excavated was removed partly by cranes and partly by the aid of cableways. The latter were erected essentially for the purpose of feeding the cranes with stone and concrete after building work had begun, but it was found convenient to employ them in connection with the work of excavation.

Two cableways were provided at each dam, the longest spans being 1,525 ft. between supports. The cables were suspended over the valley at a height of about 150 ft. above the river and passed over timber towers at either side of the valley. The main cables are of 7-in. circumference and capable of carrying loads up to 6 tons.

The towers shown in our illustrations rise 50 ft. above water level, and are in communication by means of a subway passing



Fig. 3. Derwent Valley Waterworks: Howden Dam and Reservoir.

ough the heart of the dam. In these
are situated the outlet pipes for
ly purposes and for emptying the reser-
when necessary. The valve chambers
situated in the lower portion of the
res. Similar towers are included in the
vent dam.

tween the valve towers of each dam
is a wide spillway, over which surplus
flows in a cascade in times of heavy

short distance below the site of the
re Bamford dam are the filter beds for
treatment of all water except that to be
delivered to the Sheffield Corporation. The
t comprises about $\frac{3}{4}$ acre of rough filters
4 $\frac{1}{2}$ acres of sand filters.

roughing filters contain from 12 in. to
18 in. of gravel, varying in gauge from $\frac{1}{4}$ in.
to $\frac{1}{2}$ in., and resting on perforated plates
of concrete. These filters will be cleaned
by means of compressed air on the Puch-
chal system, the air being introduced into
water below the perforated plates and
then upwards through the filtering material.
A small stream of water will carry away
impurities removed to the drains.

The sand filters contain 2 ft. of sand and
18 in. of gravel resting on hollow bricks,
the filter being provided with gauge and
automatic apparatus for recording the out-

flow passing through the two classes of
filters. The water flows into a clear-water
reservoir with a capacity of 6,000,000
gallons, whence it flows to the covered
service reservoir at Ambergate.

Situated on high ground at Ambergate,
about 1 mile south of the Derwent dam, the
covered service reservoir, with a capacity of
10,000,000 gallons, is established for the pur-
pose of controlling the services to the various
districts, and also for providing a reserve
in case of temporary interruption of the main
supply should occur.

As at present built, the reservoir forms
one of three portions of the complete
work. It measures 640 ft. long by 360 ft.
wide by 23 ft. deep from water level to the
bottom. The quantity of earth excavated
for its construction amounted to 200,000
cubic yards.

The floor and walls are of concrete, with a
topping of asphalt, and the flat roof is of
forced concrete, carried by steel beams
supported on brick columns. To facilitate
cleaning and emptying of the reservoir
division wall 10 ft. high, has been built
in the middle.

From the top water level of Howden reser-
voir the fall to the Ambergate service



Bridge over the River Trent, 220-ft. Span.

reservoir is 230 ft., the siphon pipes across the
intervening valleys rising and falling as much
as 30 ft. in some places.

The instalment comprised in the works

gallons each. In the second instalment
the Hagglee reservoir is included, the
Ashopton and Bamford reservoirs coming in
the third instalment.

LEICESTER CORPORATION DERWENT VALLEY WATER SUPPLY.

UNDER the Derwent Valley Water Act of
1909 the Leicester Corporation have authority
to execute local works in connexion with
the general scheme described in our previous
article.

These works were designed by and con-
structed under the direction of Messrs.
Eversard, Son, & Pick, civil engineers, of
Leicester, at a total cost of about 250,000.

As previously stated, the supply for the
town of Leicester is taken from the main
aqueduct of the Derwent Valley Water Board
at Sawley, which is 2 miles to the west
of Trent Station, the local pipe line crossing
the River Trent and passing south of
Loughborough to Hallgates, a distance of
14 miles.

At Hallgates a covered service reservoir,
with a capacity of 2,000,000 gallons, had
already been constructed as a part of the
existing waterworks system of the town, and
the storage capacity at the same place has
recently been increased by the completion of
a second reservoir of the same size.

The Leicester aqueduct in reality forms
the southern portion of a continuous pipe line,
20 $\frac{1}{2}$ miles long, from the Ambergate reservoir
to the reservoirs at Hallgates, and which
is probably the longest siphon in England.

With the exception of river, stream, and
railway crossings, the Leicester pipe line
consists entirely of cast-iron. The pipes are
in 12-ft. lengths, with a constant exterior
diameter of 35 $\frac{1}{2}$ in., the interior diameter
varying with the thickness of metal, which
is governed by the pressure to be resisted.

The socket joints were all "solid run"
with lead, an inverted ring joint having been
used for this purpose. Flange joints are
made with a gutta-percha ring in the grooves.

Two lines of pipes have been laid through
the valley of the Trent, although one is of
sufficient capacity for conveying the water
to be supplied by the first instalment of the
general undertaking. It was considered
necessary to lay the mains in duplicate owing
to the high pressure on the pipes, to the fact
that the gravels in the Trent Valley are
always saturated with water to within 3 ft.
of the surface, and to the difficulties of access
in times of flood.

After the pipes had been laid they were
tested in sections to a pressure of 50 lb. per
square inch above the static head, and it is
satisfactory to note that no breakages have
taken place in any of the pipes or fittings.

Automatic stop valves are placed at Sawley
and at Hallgates, and reflux valves are pro-
vided at intermediate points. Sluice valves
of 30-in. diameter, with a 6-in. by-pass on the
body of the valves, are fixed at distances
of about one mile apart, dead weights, relief
valves, and double air valves being placed
where required.

The river, stream, and railway crossings

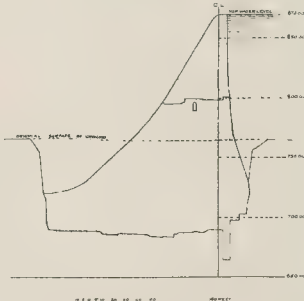


Fig. 5. Derwent Valley Waterworks: Section
of Howden Dam.

briefly described above will be capable of
yielding about 13,000,000 gallons of water
daily, and the output of the second and
third instalments will be about 10,000,000

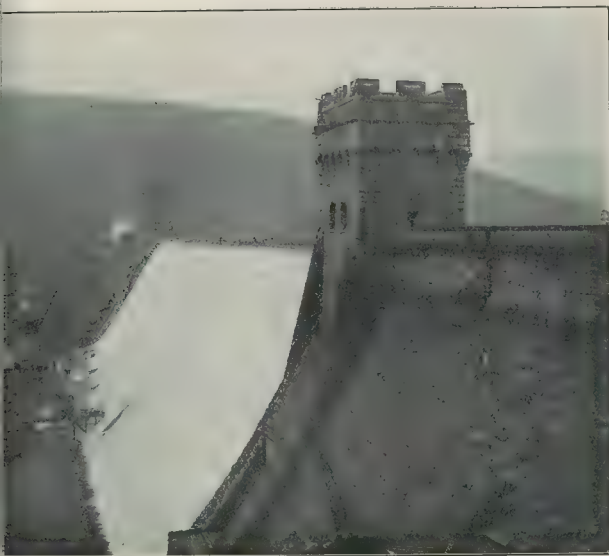


Fig. 4. Derwent Valley Waterworks: Howden Dam.



Hallgates Service Reservoir: View of Valve House.

are made in steel pipes of 30-in. diameter. In the case of the River Trent the pipes are carried upon a bridge of 220-ft. span, and small streams are spanned by the pipes themselves.

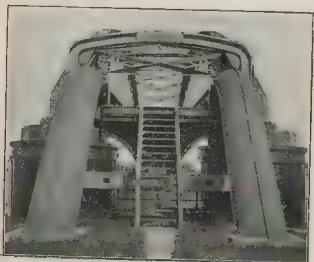
The service reservoir at Hallgates measures 200 ft. long by 106 ft. wide, and the depth of water is 16 ft. The foundations were excavated in the hard Pre-Cambrian rocks of Charnain series. This material furnished excellent aggregate for the concrete of which the walls were mainly constructed. The interior of the reservoir is lined with asphalt protected by brickwork, and the roof is formed by a series of groined arches.

We give a view of the steel bridge for carrying the pipe lines over the River Trent. This bridge, which is of the bow-string type, with vertical suspenders, crosses the river in one span of 220 ft., and allows a clear headway of 17 ft. above the normal water level, so as to allow ample headway for barges when the river is in flood.

The steel girders are carried upon brick and concrete foundation-piers enclosed in cast-iron cylinders, which are carried down to solid red marl, encountered at a depth of 21 ft. on the north side and 22 ft. on the south side below the water line. As a considerable quantity of water was met with in sinking the cylinders and removing the earth from the inside the work was finally completed with the assistance of compressed air. The bridge is designed to carry four pipe lines, two for immediate use and two for future requirements. The towing path is carried round the cylinder on steel cantilevers, the horse track being of cement covered with asphalt.

The contractors for this bridge were the Cleveland Bridge and Engineering Company, Ltd., of Darlington, by whom the work was commenced in the autumn of 1906 and finished in 1907.

The general contractors for laying the pipe lines and building the service reservoir were Messrs. Jowett Bros., of Burscough, and Messrs. R. H. B. Neal, Ltd., of Plymouth.



End View of Trent Bridge, showing 30-in. Mains covered by Bonnets.

THE INTERCEPTING TRAP.

At the annual general meeting of the Institution of Municipal Engineers, on the 11th inst., Mr. H. C. H. Shenton read a paper on "The Local Government Report on the Intercepting Trap," in the course of which he said:—

It is probable that as a result of the evidence brought forward the Local Government Board will alter their Model By-Laws to the extent of permitting, or even of demanding, the omission of intercepting traps in house drains.

The sanitary expert and the engineer in private practice view the matter from a special standpoint. Their knowledge is to a great extent limited to the drainage of the better-class houses, and they have, as a rule, a very limited knowledge of the conditions which exist in the mass of houses of the working classes. Neither have they the drainage of whole towns and districts under their control. They are, therefore, more likely to be surprised at the conclusions of the Report than those men who have for years made a daily study of the conditions which exist in the sewers and drains of a town taken as a whole.

The private engineer who is a sanitary expert may design systems of drains perfectly, and may see to it that these are absolutely well constructed, properly ventilated, and flushed. Moreover, he will very likely be able to see that they are cleaned periodically, and that they are frequently inspected. He may take special steps to avoid the troubles which are mentioned in the Report. He may regard the blocking of an intercepting trap on his system as a thing never likely to occur, and, moreover, he will, without doubt, take such steps as will prevent any possibility of nuisance or danger to health, even if the trap does get clogged.

It is also quite reasonable to imagine that the owner of property who has spent so much money on his drainage system would object to allow the sewers, which are not as clean as his drains, to be ventilated through them, but such cases are the exception and not the rule. The sanitary expert is better acquainted with these cases than with the drainage system of ordinary houses, and arguments in favour of the intercepting trap which are based on the existence of the perfect system designed regardless of cost, have practically no bearing upon the present case.

A considerable section of the Report is devoted to the demonstration of the fact that the importance of sewer ventilation, and even of drain ventilation, is not as great as is generally imagined. Apparently there is no reason to omit the intercepting trap for the better ventilation of sewers.

There is, however, one great and absolute objection to the trap, and that is its liability to become stopped up. The evidence brought forward in the Report that this is so is overwhelming, and herein lies the need for alteration in the general practice.

There is one point with which the Report deals somewhat too lightly, in the author's opinion, and that is the value of the trap as a barrier against rats. The Report tells us that Mr. Patten Barber gave evidence to the effect that he had seen rats chased into the inspection-chamber of a drain, where they escaped into the sewer through the trap, and conversely that Mr. Woods, Sanitary Inspector of Willesden, saw three or four rats come up from a sewer through an intercepting trap.

The author has recently had experience in Kensington of rats coming up through holes in the ground on the sewer side of a house intercepter. The examination proved that the connexion was an old brick barrel of a defective nature, through which the sewer rats came. Although it was evident that the rats came up close to the intercepter, it did not appear that they had entered the house drains. The connexion has now been repaired, and it has been assumed that the trap will exclude the rats from the house drains. If rats come through traps, how is it that they are practically unknown in London houses except where the drains are untrapped? In the author's memory, in the days when intercepting traps were rare, there was another trap which was very much in evidence—viz., the domestic rat trap, which was as common then in our houses as the domestic mouse trap is now. To what is the change attributable?

Again, though the author has frequently seen rats in sewers, he has never, during twenty years' experience on and off of house drains, seen a rat on the house side of the intercepter, though in untrapped drains he has seen them.

The fact that rats have been known to pass through traps under certain conditions does not prove that the trap is, in ordinary circumstances, an ineffective barrier. It may be argued that the presence of rats in a drain, properly trapped at the gullies, is objectionable than a blocked drain, but this supposes that the trapped gullies are effective barriers. If the intercepting trap is an effective barrier, neither is the gully or the closet trap, and there is therefore every reason to expect that where there are many rats in sewer they will come into the houses. I know from experience that this is not so. The inefficiency of the intercepting trap as a barrier against rats, as stated in this Report, is therefore a point upon which further evidence is desirable.

Another question, and perhaps the most important of all, is the manner in which the traps are to be done away with. The Model By-Laws having been altered, and the authority having decided to act upon the what will then be the position? How situated in positions far apart will have to be drained. Are these houses alone to be points at which the sewers are to be ventilated?

It may well be that in a town where there are many houses without intercepting traps, ample ventilation given prevents the likelihood of any nuisance due to the escape of an undrained volume of sewer gas or smell at one point, but when, say, one house drain on a long length of sewer is to be made to ventilate the sewer, may there not be a considerable nuisance at that point? It is common experience that when a new system of sewers is put into operation smells occur at unexpected points. Sewer escapes and is noticeable at some open cesspools and the inhabitants are not slow to complain. This is quite as likely to happen at an open cover near a vent shaft as elsewhere. Theoretical principles do not seem to prevent the ventilator from acting as an outlet, or to prevent the bulk of the smell issuing at some point intended instead of at several ventilators placed for its special accommodation. Is it the same thing very likely to occur if one or two house vent pipes are used for sewer ventilation at houses, and may not the municipal engineer have to deal with complaints imaginary or otherwise, from local residents who are alarmed? The author, having considerable trouble from objections raised to purely imaginary smells from sewer vent shafts, cannot avoid the impression that the must be possibilities of trouble for the municipal engineer in the application of the new method.

Again, would it be possible to remove all the traps in the town? It would be easy to make them inoperative as traps by removing the cleaning eyes, but this would not do away with the chief danger—viz., that of stoppage. However, it would be desirable to remove the cleaning eyes as a start, rather than to make a few house drain vent pipes the only sewer ventilators.

BRIDGE RECONSTRUCTION WORKS IN THE NORWICH DISTRICT.

THE *Eastern Daily Press*, Norwich, in its recent issue gives an account of the strenuous work that has been carried on by the Great Eastern Railway engineers in the area of the memorable flood of August last. On every part of the line for some miles out from Norwich extensive operations have been necessary, pumping, repairing permanent way, strengthening embankments, and repairing or replacing bridges; but nowhere, it is stated, has more energy been demanded than in the reconstruction of the Flordon bridge. The bridge collapsed about four o'clock on August 26. On the following day Mr. H. Wilmer, Engineer for the London district, to whom the duty of reconstructing the bridge was assigned, arrived with a staff from London. They found that the three brick arches of which the bridge consisted had completely disappeared, having fallen into the river below. The two massive brick piers which carried the arches were also levelled to the ground, and there was an open space of about 100 ft. The two lines of rails, however, were suspended, and the distance from these to the water level was 35 ft.; but at that time the water was considerably above its normal level, having, on account of the flood, risen fully 9 ft. The clearing away of the debris was the first thing to be taken in hand, and this work was commenced almost

imately, sixty-two men being brought from Stratford for the purpose. The bulk of the large blocks of brickwork was laid by the use of a 4-ton steam crane, which was kept on the Forncett side. These blocks, which weighed as much as 7½ tons, were deposited alongside the embankment. After this sort of debris had been dealt with, the dropping of the overhanging rails sleepers into the stream was effected by pulling away the bolts on the embankment, allowing the whole to fall into the stream. The remnants of the track were cut into sections before being carted away. The debris on the river having been taken out—this being several days, during which it was mainly raining—the next move was to clear the stream in such a way as to keep it open for the foundations which were to be put in.

This needed some amount of consideration, immediately a clearance of the fallen bricks and masonry had been made. Mr. Wilmer was to proceed with the scheme he had prepared for getting in the substantial foundations which the new bridge was to rest. At the time the water was still several feet above normal level, and therefore the construction of a coffer dam across the stream had to be carried out on somewhat elaborate lines. After the dam had been put up a chute 12 ft. wide was laid down, and in this the water was carried to the area in which the foundations were to be laid. The water from the chute fell into a large cutting several yards in length, and had been excavated to allow of the carrying of the existing channel on either side. Owing to the many blockades in the lower parts of the stream, the water subsided very slowly, therefore to have waited until the water had reached its normal level would have meant interrupting the construction of the dam for weeks, especially as rain fell for ten days after the dam was put up.

The chute was of necessity constructed with great care, because it was absolutely necessary to ensure its being watertight. The conception of the quantity of water that would flow over the chute can be formed when it is known that it poured down continuously at the rate of 15 million gallons every twenty-four hours. Then, owing to the existence of the coffer dam, it was necessary to maintain pumping stations to keep the foundation workings dry. To do this a 6-in. special pump and pulser were employed; in this 10,000 gallons an hour were dealt with. The water difficulty having been satisfactorily solved, the laying-down of the foundations for the piers of the bridge was proceeded with. The piers were carried down below the old foundations, and to a depth of 5 ft. below the river level. Each of the two new piers which now support the bridge rests upon a block of concrete 12 ft. long, 9 yds. wide, and 2 yds. thick; each pier weighs in all over 100 tons. The piers are constructed of London bricks, faced with Portland cement, and the level of the piers is above that of the river in red brick. On the top of the piers blocks of Portland stone, 12 ft. thick and 3 ft. 6 in. wide, have been fixed; of these weighs something like 2 tons. On account of the great difficulty that was, and is being, experienced in getting ironwork, principally to the various strikes that have taken place, it was decided to use timber for the bridge. This decision was completely reconstructed was started upon, and the trusses, which were specially designed in the Engineer's department, were prepared at Stratford. They are constructed and laid down in pairs, but each separate truss carries one of the spans of the bridge. Each truss weighs 5½ tons. Each of the trusses is braced together by intermediate frames, and on the top of every two trusses are 12 ft. by 6 ft. cross-sawn timbers, making the whole width of the bridge. A concrete invert was made through the centre of the bridge for the purpose of carrying. The bridge was severely tested with the heaviest type of motor vehicles on the day previous to opening, and the trials proved most satisfactory.

MAN IRON AT CORSTOPTITUM.

SITUATED at the west of the village of Corstoptum, on the north bank of the Tyne, at a point near a Roman bridge carried Watling-street across the river, Corstoptum was an important military post, established to command the line of communication between York, the headquarters of the Sixth Legion, and the eastern end of the northern province.

Corstoptum was not an ordinary fortress, but rather a town of military character. The two buttressed granaries of exceptional size are distinctly military features, and the massive building to the east of them was also constructed for military purposes. These appear to have been intruded upon the town, thereby converting it into a large depot, a service which it probably continued to fulfil from the time when Antoninus Pius advanced northward until Septimus Severus conducted expeditions against the Caledonians.

During the recent explorations conducted at Corstoptum by the committee established by the Duke of Northumberland, Lord Ridley, and other gentlemen, one of the largest masses of Roman wrought-iron hitherto found was unearthed.

The bloom measured 39 in. long, and its transverse dimensions were 8 in. by 7 in. at the widest part, and 5 in. by 4½ in. at the smallest part. It weighed 3 cwt. 8 lb., but, being thickly coated with rust and containing much oxidised slag, the net weight of metallic iron was only about 3 cwt.

Preliminary inspection and subsequent examination at Middlesbrough showed that the bloom had been built up and welded in sections.

Professor Henry Louis expresses the opinion that the block was made by welding together comparatively small lumps of iron produced by direct reduction in small charcoal fires, adding that there is no reason why the ores used may not have been the local black-band ironstones of the carboniferous series.

The furnace in which the bloom was discovered measured about 5 ft. from the top of the wall to the hearth, and about 6 ft. in diameter. The walls were of rough stone set in common clay.

It seems to be clear that the structure was not a smelting furnace, but simply a forge employed in welding up the bloom, and Professor Louis suggests that the block of iron was intended for use as an anvil, and had been undergoing repairs or being lengthened at the time when it was left.

In an historical account of iron manufacture in the North of England, Sir Isaac Lowthian Bell points out that there is little or no doubt that the smelting or reduction of iron ore was carried on to a considerable extent in this part of the country during the Roman occupation. Vast heaps of iron scoria may be seen on the moors in the parishes of Lanchester and Chester-le-Street and elsewhere in Northumberland and Durham, and it is remarkable that none of these are very far from one or other of the Roman stations scattered over the two counties.

ENGINEERING NOTES.

In a new bridge built to carry **Erecting Heavy Two Hundred and Thirty-Girders with a fifth-street across several railway tracks in the Borough of the Bronx, New York, the roadway is carried by one centre girder weighing 84 tons and two side girders weighing 55 tons, and the footpaths are carried by two outer girders, which weigh 21 tons and 22 tons each.**

The two outer girders on one side of the bridge were erected by a steel guy derrick of 50 tons capacity, with a boom 50 ft. long. The 84-ton girder was delivered on one of the centre railway tracks, and a steel gin pole was erected by the derrick to assist the latter in the erection of the girder.

As this method made it necessary to fix the gin pole at a point where it would have interfered with railway traffic, the method was modified so that the girder was erected entirely by the gin pole by which two side girders were also erected.

Having been delivered at a considerable angle with the alignment of the bridge, the girders had to be swung horizontally through an angle of 90 deg., a requirement making the work of hoisting a delicate operation, which, although it had to be performed in short stages, was accomplished in about two minutes.

The gin pole, 65 ft. long, was seated on a special steel shoe measuring 18 in. square at the top and 30 in. square at the bottom. It was built up of four 6-in. equal angle bars at the corners, with latticed bracing, and was fitted with six 1-in. guy ropes and adjustment tackle. The hoisting tackle comprised a 2-in. steel cable,

about 1,400 ft. long, passed through two five-sheave blocks and two single sheaves at the top and bottom, both ends of the line being led to the drums of a 50-h.p. hoisting engine. The hoisting tackle was connected to a shackle lashed to the girder with two 1-in. ropes 125 ft. long, which were protected from the sharp corners of the steel by strips of timber.

THE BARRENJACK ASSOUAN DAM, THE BARRENJACK DAM.

ALTHOUGH not so large as the Assouan Dam, recently inaugurated in New South Wales, is one of the largest structures of its kind in the world. Picturesquely situated on the Murrumbidgee River, the dam is set between the base of two granite hills that rise to the height of some 2,500 ft., and form the gateway through which the river formerly flowed unrestrained.

At present the crest of the work is about 120 ft. above foundation level, but when the irrigation system for which it has been built has fully developed the structure will be raised to the height of 240 ft. above the foundations. As thus completed the dam will measure 784 ft. long, curved in plan to a radius of 1,200 ft., 240 ft. high, and with a breadth of 170 ft. at the base, and 18 ft. at the crest.

The dam will ultimately hold up the waters of the Murrumbidgee for the length of 45 miles in the long winding valley, creating a lake among the mountains, with an area of some 20 square miles, and providing for the storage of over 33,000,000 cubic ft. of water. It is estimated that, at the average flow of the river, it will take a year to fill the reservoir completely.

The area to be irrigated at once covers 125,000 acres, and will shortly be increased to 350,000 acres, while the entire scheme provides for the irrigation of 1,300,000 acres of land.

Reinforced Concrete Wharf and Jetty at Port Talbot Docks, South Wales.

THE Port Talbot Railway and Docks Company recently invited schemes and tenders for a reinforced concrete wharf and jetty for Port Talbot Docks. After investigation by Mr. W. Cleaver, M.Inst.C.E., Engineer of the Company, of the various competitive schemes, it was decided to accept the tender presented by Messrs. Watt Brothers, of Cardiff, licensees of the Coignet system. The scheme comprises a jetty for coal belt tipping appliance, having a frontage of 65 ft. and a width of 45 ft., the deck being supported by three rows of piles. The wharf has a frontage of 600 ft. length, with a width of 45 ft., and approaches 145 ft. long at each end. The deck in this case is supported by four rows of piles strongly braced together. The permanent depth of water in each case is 32 ft., with decks about 7 ft. above the permanent water level. The work has been calculated to carry three railway lines for heavy locomotives and one crane road. The scheme for the reinforced concrete work has been prepared by Messrs. Edmond Coignet, Ltd., of Westminster.

A COURSE of six Educational Lectures on "Concrete: Its Properties and Manufacture," will be given by Mr. H. Kempton Dyson, Secretary of the Concrete Institute, at 5.30 p.m., on the following Tuesdays:—November 12, 19, 26; December 3, 10, and 17, 1912. The lectures will be given in the Lecture Hall of the Concrete Institute, at Demison House, 299, Vauxhall Bridge-road, Westminster (close to Victoria Station).

The Concrete Institute.
Fire Tests of the British Fire Prevention Committee.

THE British Fire Prevention Committee conducted, on the 16th inst., a further series of fire tests in respect to roofing materials, the coverings under investigation being corrugated sheets of asbestos-cement made in Canada, and produced in such a manner that they can be applied in the same way as corrugated iron sheets whilst having great advantages as to non-conductivity against heat and fire. The roofing material under test was tested at different angles, fire being applied in different forms, such as bonfires, fire brands, etc., and certain of the roofs were also subjected to water from a steam fire-engine when they were in a heated condition. The results of the tests will be issued in about six weeks in an illustrated report, and will be known as Red Book No. 168.

THE BUILDING TRADE.

THE SECRET LAND INQUIRY.

UNDER the title "A Modern Inquisition" on October 4 we commented upon the private inquiry that has been instituted throughout the country relating to questions connected with the land, and suggested that its constitution and authority should be made clear. In answer to a question put to the Chancellor of the Exchequer by Mr. Rawlinson on the 11th inst.—"Whether a Committee has been appointed by him to obtain information for him and the Cabinet regarding the actual conditions of life and labour in Great Britain; whether, if such is the case, he will state the duties of such Committee and the names of its members, and by whom the expenses of such Committee will be defrayed?"—Mr. Lloyd George replied: "The hon. and learned Member rather magnifies the scope of the Committee; its object is to investigate the question of land reform and kindred problems." Then the Chancellor referred the questioner to the answer of the Prime Minister to another question in the House on the same day, but he added that the expenses of the Committee are being defrayed from private sources. The answer of the Prime Minister here referred to was simply a reference to a former answer he gave on July 10, and an assurance that the inquiry was not to extend to Ireland.

The answer given on July 10 to which the public is referred on October 11 was as follows:—"The Committee is a purely unofficial and informal body. It will be presided over by my Right Honourable friend Mr. Arthur Acland; I see no reason why the names of the members should be published at present. Should their report be eventually laid before Parliament full information will, of course, be given. It will rest with the Committee to decide what method of investigation should be pursued." The answers to the questions show a certain reluctance on the part of Ministers to associate themselves with this secret inquiry, and necessitate considerable research for their comprehension, but it is now apparent that this form of inquiry has Government support, and, this being the case, it assumes considerable importance. The land is too often used for vote-catching purposes, but it must be remembered that it is the bread, if not the butter, of a large section of the community. Recent open and official taxation has already embarrassed the building trade, and a depressed trade can ill survive disturbing causes. What cause can be more disturbing than a semi-official and secret inquiry into the rating and taxation of land? It must hamper any future enterprise or speculation. Only one deduction can be drawn from its secret character, and that is that, whilst the Government do not wish to take responsibility for a further policy affecting the land, they are anxious to see what can be made of it *sub rosa*. Whatever Government be in power, we should deprecate any such subterranean and secret inquiries, which are far more damaging than an open and avowed policy.

THE INSURANCE ACT.

WHILST assurances are constantly being given by those who are responsible for the Insurance Act that the Act is daily becoming better understood and its working more assured, it is important to draw attention to one point which each month only assumes greater complication. We refer to the difficulty of ascertaining what workmen are within Part II. of the Act and in respect of whom contributions are payable for unemployment insurance. The decisions of the Umpire are only published when they raise a new principle or a question of general interest, yet the applications now number 1,120, and the decisions are very numerous, and we find it quite impossible to derive any general principles from them. We have referred to this question before, and have shown that this uncertainty in the classes who have to be insured arises from the provision in the Act which has made not the business

the employer carries on the test, but the nature of the work which any workman is engaged upon (see sect. 107, subsect. 2).

The sixth schedule of the Act, which contains a list of insured trades for the purposes of Part II. of the Act, when it was framed and Parliament was assured it represented a limited experiment, was no doubt accepted in its literal meaning, but taken in conjunction with the above subsection the scope of the Act has been vastly extended, and Solomon himself might have been puzzled to determine whether or not a man came within its provisions.

The decisions delivered by the Umpire have to be mastered and collated by employers, who are placed under liability to penalties if they fail to insure a workman who is brought within the ambit of this part of the Act, and we can discern no leading principle.

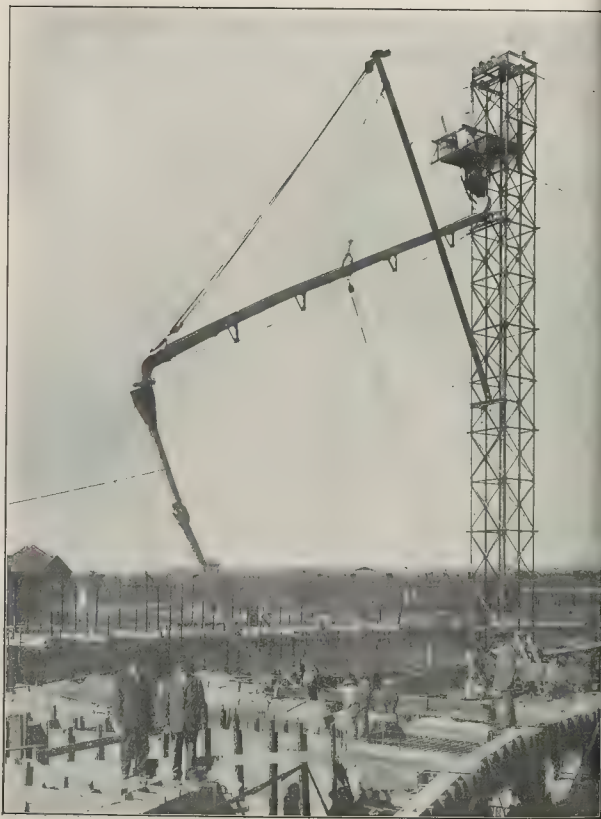
Why, for instance, should "men described as bell-hangers and engaged wholly or mainly in hanging bells in buildings" be within the Act? The definition of "building" is "the construction, alteration, repair, decoration, or demolition of buildings, including the manufacture of any fittings of wood of a kind commonly made in builders' workshops or yards."

Again, why are "smiths, rivetters, and carpenters engaged in making frames for hanging bells and in making pulleys and bell-wheels" within the Act, but the workmen engaged in making the wrought-iron clappers for the bells, according to the decisions, not

included either under the heading "mechanical engineering" or "iron-founding"? A hanging a bell in a building is insurance against unemployment, a man erecting organ in the same building is not. Numerous examples could be given of the uncertainty prevailing as regards who are who are not insured persons, and it would appear to be absolutely essential that steps should immediately be taken to amend the Act so that employers may know from the Umpire—what classes of work are insurable under this part of the Act, which, it must be remembered, was introduced as an experiment to be tentatively applied to certain employments, especially subject to fluctuations in furnishing employment. If the decisions be studied, it will be seen that this latter consideration does apply to half the classes of workmen have been held to be within this part of Act.

CONSTRUCTION TOWER FOR DEPOSITING CONCRETE.

We illustrate on this page an unusual form of construction tower employed for depositing concrete at the Englewood roundhouse at Lake Shore and Michigan Southern Railway at Chicago. The main difficulty encountered by the contractors in the execution of works was due to the fact that the concrete employed had to be deposited over a large area, the roundhouse being 405 ft. in diameter. Moreover, the pit walls were



Construction Tower for Depositing Concrete.

that the distribution of concrete by barrows would have been impracticable, the cost of a series of timber construction was found to be prohibitive, the estimated cost of three such towers being £4400.

The suggestion of the Chain Belt Company of Milwaukee, a steel tower was made, the total cost of which erected in London, was less than 2000. Considerable difficulty had to be exercised in the design of the appliance in order to make it portable to provide for the deposition of concrete at every required point within the radius of delivery spout. This spout is 60 ft. in length, and being provided with an additional spiral pipe 30 ft. long, enabled the concrete to deposit concrete at a maximum distance of 95 ft. away from the base of the

tower is 72 ft. high, being made up of sections composed of steel angle and helical bars. The tower rests on timber with steel liners, which are placed on railway rails. The concrete spout is made of galvanised-iron. It measures 10 in. in diameter, and is open at the top being stiffened with light steel truss, as shown in the photograph. The truss and spout are suspended from a 40-ft. boom, which is rigged from the side of the tower and held in place by steel cables and a cable running to a winch, the cable being secured to one side of the tower at the boom and spout may be raised or lowered or swung in a semicircle, giving a range of work and permitting the spout to be placed anywhere within a radius of 95 ft. The concrete is prepared in a mixer situated about 600 ft. away from the tower, this arrangement having been due to the situation of the storage bins for raw materials. The concrete mixer discharges into a hopper, which is transported to the concrete tower, where the concrete is transferred to an elevator, hoisted to the top of the tower, and automatically delivered into receiving hopper. This hopper has a valve, which is operated by a man standing on a platform at the top, where the concrete is delivered through the spout is situated.

After the concrete has been placed on one of the works the tower is drawn back by the rails by means of the hoisting cable situated midway between the tower and the concrete mixing plant, and it is found that the tower can be moved a distance of 10 ft. in about four hours' time. Twelve men are employed in operating the machine, including those engaged in loading raw materials into the mixer, the necessary mechanics, and the men engaged in spreading concrete.

BUILDING PLANS AND BUILDING PROSPECTS.

A return of building plans submitted for approval in the third quarter of the year compared with the same quarter last year shows that there is an increase of 58,800, or 7 per cent. This increase takes place in connexion with workshops, factories, and other business premises, and is due to Lancashire, Cheshire, the Midlands, and Wales and Monmouthshire. Outer London shows a decrease of 56,071, or 10 per cent., and in dwelling-houses the same in all districts is 97,673, or 7.2 per cent.

In considering the increase shown, as published in the *Board of Trade Labour Statistics*, we find that the number of Councils returning varies slightly. Thus 102 districts are included this quarter, but last year the same quarter 101 districts made returns. It would therefore be interesting to know how the figures are corrected for comparison. If additional districts are included, would it itself disturb the averages. An adjustment, however, appears to be made for the figures now published in the return for the third quarter of 1911 to agree with the figures published in the return for October, 1911, for that quarter.

BURNHAM HOTEL, PERTSHIRE.

A building, which was destroyed by fire in 1908, is to be re-erected on as much the same site as the former building as possible. Plans are being prepared by Messrs. J. & MacLennan, architects, of Edinburgh. It is proposed to restore the fine baronial style with its open timber roof.

THE LONDON ASSOCIATION OF MASTER DECORATORS.

A QUARTERLY general meeting of this Association was held at the Holborn Restaurant on October 14, Mr. J. Anderson, President, in the chair.

Painters' Cards of Employment.

The Chairman said the Committee considered it was a great mistake that painters should apply for employment without any means of proving their qualifications, and they had considered the question and more or less approved of cards of employment which painters could carry, showing at least that they had worked for a firm for a certain time. There was nothing on the card to show the character of the man. It was, however, considered that the Insurance Act would more or less take the place of the cards, but then it was discovered that an insurance card was not quite suitable, as nothing was allowed to be put upon it except the date. The Committee had reconsidered the question, and, having regard to the fact that owing to the multiplicity of insurance cards, masters had quite enough cards to deal with for the present, the Committee recommended that the matter be postponed for the time being. This was agreed to.

Foreman Painters.

The meeting then proceeded to the consideration of suggestions as to conditions of foremen painters' employment, rate of pay, etc.

The Chairman explained that it was felt by some master decorators that there were various methods amongst firms of dealing with foremen. The matter was brought before the Committee by Mr. Campbell and discussed, and was referred to Mr. Campbell and Mr. de Jongh to go into the matter and bring up a definite Report embodying suggestions. Unfortunately, the Report had not yet matured sufficiently to bring it forward that evening, and the Committee therefore suggested that the matter be referred to the next General Committee meeting. Whatever scheme was finally adopted, it was not, of course, intended that the members should be obliged to adopt it if it did not meet with their approval. The matter was referred to the General Committee to consider the subject and report to the next general meeting.

Additional Vice-President.

It was agreed that the Association should have two Vice-Presidents and Mr. Wilkinson was unanimously elected.

Future Meetings.

The President, in giving as a delegate his Report on the Chester Convention of Association of Master House Painters, said the work sent in by the students and apprentices for competition was a distinct improvement on previous years.

Mr. Wilkinson, who also attended as a delegate, confirmed the President as to the value of the papers read and the discussions which followed.

The President explained that the meeting next year was to be held at Leamington, but there would be no exhibition there, possibly owing to lack of accommodation. In the following year the Convention was to be held in Manchester, and he had every reason to believe that three years hence the Convention would like to come to London if it could be by any means arranged. He asked the members of the Association to consider what could be done to hold the Convention in London, as he believed it would be very successful, but it meant a deal of hard work.

BUILDING OPERATIONS AT CO-PARTNERSHIP ESTATES.

On Saturday, October 19, a conference of managers, foremen, and others concerned in the building operations at various co-partnership estates at Liverpool, Stoke-on-Trent, Hampstead, and elsewhere, was held in the Institute of the Brompton Garden Suburb of the Ealing Tenants, Ltd. Mr. Henry Vivian presided, and Mr. G. L. Sutcliffe, F.R.I.B.A., opened a discussion on prime costing. The necessity of care in allocating to each part of a particular job the exact material used was urged as one of the means to avoid the great variations that

occur in the ordinary tendering by building firms. During the afternoon many of the visitors inspected the flats that are being erected for elderly folks on the Ealing Suburb, and a vote of thanks to the directors of the Ealing Tenants, Ltd., was carried on the motion of Mr. F. Litchfield, of the Garden Suburb Builders, Ltd., seconded by Mr. W. Grant, of Woodworkers, Ltd., the newly-established joinery manufacturers in the Garden City at Letchworth.

LONDON MASTER BUILDERS' ASSOCIATION.

THE Council of the London Master Builders' Association met on October 17, the chair being occupied by Mr. James S. Holliday, President.

The Special Committee appointed to confer with the representatives of the various trade organisations submitted its Reports of the several conferences which had been held, which were unanimously adopted.

Reports of the Conciliation Board meetings were received.

Correspondence relating to trade matters was read.

Messrs. T. W. Helsdon & Sons, Lisson Grove, N.W., were elected ordinary members, and the nomination of Mr. H. C. Horswill, Forest Gate, E., as ordinary member was accepted.

GOVERNMENT CONTRACTS.

THE following tenders have been accepted during the past month by the Government Departments named:—*Admiralty, Works Department*: Works services: Addition to Officer Patients' Block, Haslar Hospital—Mr. J. Hunt, Cleveland-road, Gosport; double aeroplane shed, Bachelors Messrs. Humphreys, Ltd., Knightsbridge, S.W.; foundations and works in connexion with storage accommodation for oil fuel on the Humber—Messrs. Price, Wills, & Reeves, 28, Victoria-street, S.W.; new gates for No. 2 Dock, H.M. Dockyard, Portsmouth—Receiver and Manager for Thames Ironworks, Shipbuilding, and Engineering Company, Ltd., Canning Town, E.; shop for repairing turbines and boiler shop adjoining H.M. Dockyard, Devonport—Messrs. J. Lyaght, Ltd., St. Vincent's Ironworks, Bristol. *War Office*: Portland cement (running contract)—Associated Portland Cement Manufacturers (1900), Ltd., Northfleet, Kent; Works services: alterations and additions to married quarters, Stanhope Lines, Aldershot—Messrs. G. Kemp & Co., Elms-road, Aldershot; alterations to Isolation Hospital, South Aldershot—Mr. E. C. Hughes, Albion Works, Wokingham; construction of road from Brookhead to Oxney Camping Ground, Bordon—Messrs. Turner & Kersley, Blackwater, Hants; conversion of chapel school to regimental institute, Sheffield—Mr. A. Robinson, Woodbine Works, Idle, Bradford; conversion of recreation-room, etc., to regimental institute, Hillesley—Messrs. Wigginton & Sons, Portsmouth; erection of annexes to married soldiers' quarters, Devizes—Messrs. W. E. Chivers & Sons, 28, Sheep-street, Devizes; erection of barrack expense store, Weymouth—Messrs. Jesty & Baker, Castletown, Portland; erection of electric power station, Tidworth—Messrs. W. P. Goose & Sons, 124, Milton-road, Gravesend; erection of married soldiers' quarters, Milldam Barracks, Portsmouth—Mr. F. J. Privat, Cottage-grove, Southsea; erection of stables and coachmen's quarters, Tidworth—Messrs. Wort & Way, Castle-street, Salisbury; erection of officers' quarters, Shorncliffe—Mr. T. T. Denne, Walmer, Kent; improvements to soldiers' quarters, East Kent Range, R.A. Barracks, Woolwich—Mr. W. J. Renshaw, Atlas Works, Putney; installation of heating, etc., apparatus, new barrack blocks, Fort Burgoyne, Dover—Messrs. E. Deane & Beal, Ltd., 3, Monument-street, E.C.; installation of heating apparatus, regimental institute, Jersey—Messrs. H. J. Cash & Co., Ltd., Caxton House, S.W.; maintenance and repair of War Department buildings at North Dublin—Messrs. J. & R. Thompson, Ltd., Philippsburgh avenue, Fairview, Dublin; South Dublin—Messrs. McRoberts & Armstrong, Lower Windsor, Belfast; Galway—Mr. R. MacDonald, 17, Dominick-street, Galway; Salisbury Plain (West)—Messrs. E. & A. Springings, Stamshaw, Portsmouth; overhead conductors and supports for electric light installation, Tidworth and Bulford—Messrs. G. E. Taylor & Co., 8, Bush-lane, Cannon-street, E.C.; periodical works services at Brighton and Newhaven—Messrs. Skevington Brothers, Bateman-street, Derby; Bristol,

Carragh Camp, Plymouth, and Devonport—Messrs. A. Bagnall & Sons, Ltd., Shipley, Yorks; Shorndcliffe and Weedon—Mr. T. Carr, 55, New Crown-street, Halifax; provision of increased accommodation, Bury—Mr. R. Holt, 50, Badger-street, Bury; rearrangement of drainage, Royal Army Clothing Department, Pimlico, S.W.—Messrs. W. F. Blay, Ltd., Spital-street, Dartford; reconstruction and repair of roads, Pirbright—Messrs. Turner & Kersley, Blackwater, Hants; remodelling and repair of parades, Woolwich—Messrs. Bristowe & Co., 11, Tothill-street, S.W.; removal of aeroplane sheds from Larkhill and re-erection at South Farborough—Mr. W. Harbrow, South Bermondsey Station, S.E. *India Office, Store Department*: Cement—Associated Portland Cement Manufacturers, Lloyds-avenue, E.C. *Crown Agents for the Colonies*: Bridgewater—Messrs. Head, Wrightson, & Co., Ltd., 5, Victoria-street, S.W.; road bridge—Messrs. J. Westwood & Co., Ltd., Napier-yard, Millwall, E.; steel bridgework—Messrs. J. Butler & Co., Victoria Ironworks, Halifax; cement—Messrs. Wouldham Cement Company, Ltd., 55, Great St. Helena, E.C. *Office of Works*: Building work: adaptation of Croydon Labour Exchange—Messrs. Grebb & Son, 75, Streatham-hill, S.W.; erection of the Hyde Sorting Office, Hendon—Mr. W. Tout, Brent-street, Hendon, N.W.; superstructure of extension of new public offices, Westminster, S.W.—Messrs. Holloway Brothers (London), Ltd., Belvedere-road, Lambeth, S.E.; alterations to Nottingham County Court—Mr. G. A. Pillatt, 52, Sherwood-street, Nottingham; foundations of new offices for Public Trustee—Messrs. T. H. Kingler & Sons, Oxford; adaptation of Stratford Labour Exchange—Mr. A. G. Barton, Deventry Works, Walthamstow, N.E.; erection of head post-office, Weybridge—Mr. F. J. Privett, Haslemere, Surrey; erection of sub-post-office, Whittington Barracks, Lichfield—Messrs. T. Lowe & Sons, Burton-on-Trent; drainage work: readjusting of Buckingham Palace—Messrs. Matthews, Hall, & Co., 88, Wigmore-street, W.; remodelling lavatories, Edinburgh General Registry House—Messrs. G. & R. Cousin, 14, Waverley-market, Edinburgh; readjusting of St. James' Palace—Messrs. Davis, Bennett, & Co., 94, Horseferry-road, Westminster, S.W.; reglazing roofs of Victoria and Albert Museum—Messrs. Higgs & Hill, Ltd., Crown Works, South Lambeth-road, S.E.; heating apparatus, Scala Legation—Messrs. Davis, Bennett, & Co., 94, Horseferry-road, Westminster, S.W.; steel sashes, new Stationery Office—Messrs. Critall Manufacturing Company, Ltd., Manor Works, Baintree; ventilation work at Custom House, E.C.—Messrs. J. Stett & Co., 158, Queen Victoria-street, E.C.; woodpaving, Admiralty Arch—the Improved Wood Pavement Company, 46, Queen Victoria-street, E.C. *General Post Office*: Laying lines of pipes in Great Dover-street, S.E., and Lee High-road, Burnt Ash-hill, S.E.—Messrs. William Griffiths & Co., Ltd., Hamilton House, Bishopsgate, E.C.; laying lines of pipes at Springfield, Glasgow—Messrs. Airds, Ltd., 22, Queen Anne's-gate, S.W.; also Messrs. Bingley, Son, & Folitt, Ltd., Westminster, S.W. *Commissioners of Woods*: Alterations at Beaufort Arms, Tintern—Mr. G. Jones, Monmouth.

ORGANISATION OF BUILDERS' WORKMEN.

A CONFERENCE was held on the 21st inst. at Essex Hall to consider the results of the ballot recently taken by twenty workers' unions in the building trade on the question of amalgamation.

At the end of the Conference, which was private, Mr. Bowerman, M.P., the Secretary, stated, says the *Times*, that the figures showed a large majority in favour of the principle of amalgamation. A further meeting of the consenting unions is to be held to draw up a full scheme of amalgamation. The unions which have decided to join the movement are the Amalgamated Carpenters and Joiners, Manchester Bricklayers, Plumbers, Stonemasons, National Union of Builders' Labourers, United Builders' Labourers, National Union of Bricklayers, Stonemasons, and Paviors, and the London and Provincial Society of Painters and Decorators.

BENTLEY SEWAGE.

The Bentley Urban District Council have accepted a tender, by Messrs. Arnold & Son, of Doncaster, for the construction of new sewerage and sewage disposal works. The price is 12,458*l.*, and includes the making of new works on the Tollbar Estate, enlargement of the present works in Arksey-lane, and the installation of new pumps at Bentley-road.

GENERAL BUILDING NEWS.

COUNCIL SCHOOL, HELWITZ BRIDGE.

This new school at Helwitz Bridge, near Settle, has been erected at a cost of 682*l.* from the designs of Mr. John Stuart, Architect to the West Riding County Council. The school provides accommodation for about sixty pupils and was opened on the 12th inst.

SECONDARY SCHOOL, WHITLEY BAY.

The new County Council Secondary School, Whitley Bay, is being erected from plans prepared by Mr. G. T. Forrest, and it is hoped it will be ready for occupation in about sixteen months' time.

HOSPITAL, BENFELDSIDE.

The foundation-stone of the Murray Commemoration Hospital was laid at Benfelside on the 16th inst. The site of the hospital is in Risdon-road, Benfelside. The building will consist of four separate blocks, connected by an enclosed corridor 6 ft. wide. The ward pavilion or nursing block is two stories high, the ground floor being for males, and the upper floor set apart for females and children. The place is designed so as to be a convalescent home as well as a hospital. The premises have been arranged so as to allow of future extensions, and a new north ward may be added to the pavilion without disturbing the ordinary routine of the institution. The buildings have been designed by Mr. J. J. Eltringham, of Blackhill, and the principal contractor is Mr. J. L. Miller, of North Shields. The heating arrangements have been entrusted to Mr. William Richardson, of Darlington. The total cost of the hospital is 13,500*l.* The buildings will be of brick, with stone facings.

BUSINESS PREMISES, SOUTH SHIELDS.

Messrs. Fowler & Brock, of King-street, South Shields, have recently carried out extensions to their premises at a cost of about 3,500*l.* The scheme necessitated the remodeling and improvement of the internal arrangements of the existing premises, and the rebuilding of two blocks of property. The new premises have been carried out to harmonise with the adjoining building, being faced with Heworth Burn Stone, and Messrs. Sage & Co., London, have designed and carried out the shop fronts, which are of polished mahogany, with base of polished granite, and mountings and fittings of bronze. A feature of the work is the large island window and the two entrances at each side, the effect being to provide an arcade, with marble mosaic pavement. Internally, access to the upper floors is obtained by three staircases. The heating is by low-pressure hot-water system, with numerous radiators, this work having been done by Mr. George Gray, of South Shields, and the building is lighted by electricity. The general contractors for the work was Mr. James Carruthers, and the architect was Mr. Henry Grieves, A.R.I.B.A., both of South Shields.

TRADE NEWS.

The "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to Cairn Ryan School, Wigtownshire.

The Festiniog Urban District Council Assembly Rooms are being ventilated by means of Shorland's patent exhaust roof ventilators and patent hygienic inlet ventilating panels, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

LONDON COUNTY COUNCIL SCHOLARSHIPS.

Application forms for Trade Scholarships must be submitted to the Education Office, Education Offices, Victoria-embankment, W.C., not later than Saturday, October 26. Successful candidates will be required to take up their awards immediately after Easter, 1913. By means of these scholarships boys may secure free education (with maintenance grant) at trade schools, at which they will receive such instruction as will prepare them on leaving school to take up either apprenticeships or employment in skilled trades. No candidate is eligible whose parents (or guardians) do not reside within the area of the administrative County of London. The scholarships are only intended for boys who intend to enter at the end of the course the trades in which they receive training. The London County Council is being recommended to award ten scholarships in painting and decorating at the London County Council School of Building, fifteen scholarships in building at the Northern Polytechnic, and ten scholarships in engineering at the London County Council Hackney Institute, and to transfer the ten existing scholarships in building at the London County Council Hackney Institute to the Northern Polytechnic.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 TO 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Acts were dealt with. The names of the applicants are given in parentheses:—

Lines of Frontage and Projections.

Bethnal Green, North-east.—Erection of iron and glass shelter in front of a building on the southern side of Hackney-road, abutting upon the eastern side of St. Peter's-street (Messrs. F. Matcham & Co. for Messrs. Hyman).—Refused.

Lewisham.—Erection of porches and wooden bay-windows to four houses on the southern side of Ryeland-road, Lewisham (Mr. A. Roddis for Mr. E. W. Webb).—Consent.

Poplar.—Building at St. David's Wharf, the southern side of West Ferry-road, M. wall (Mr. T. A. Watson for the Mangani Bros and Brass Company).—Refused.

St. Pancras, North.—Erection of building upon a site abutting upon Kentish Town-road, Prince of Wales-road, and Grafton-mews, Pancras (Mr. S. G. Castleman).—Consent.

St. Pancras, South.—Erection of a porch front of a building on the northern side of Biddborough-street, St. Pancras (Mr. H. Hale).—Consent.

Strand.—Erection of a balustrade to the area in front of the United Service Club, F. Mall (Messrs. Thompson & Walford for United Service Club).—Consent.

Wandsworth.—Retention of a coal shed No. 122, Peoting-Bee-road, Upper Tooting, abutting upon the north-western side of Montana-road (Messrs. Swain & Selley).—Consent.

Width of Way and Line of Frontage.

Islington, North.—Re-erection of No. 2, Hornsey-road, Islington (Mr. A. S. R. Ley).—Consent.

Width of Way and Construction.

Limehouse.—Erection of sheds of a temporary character at No. 2, Church-row, Limehouse, next to Maize-row (Mr. A. Hall).—Refused.

Lines of Frontage and Construction.

Battersea.—Erection of a wood and iron motor shed at the side of No. 38, Spencer-road, next to North-side, Wandsworth-comm (Mr. T. Wilson).—Refused.

Brixton.—Temporary octagonal building No. 437, Brixton-road, Brixton (Mr. R. L. Sims).—Consent.

Dulwich.—Temporary greenhouse and jutting shed at the rear of No. 29, Allyn-pa Dulwich, abutting upon Allyn-road (Mr. A. Hertz).—Consent.

Islington, East.—Erection of an addition front of Globe Works, Queensland-road, H. way (Messrs. W. Barnes & Son).—Refused.

Norwood.—Temporary iron building on western side of Tulse-hill, Brixton (Mr. Hill).—Refused.

Space at Rear.

Chelsea.—Erection of additions at the rear of No. 52, Draycott-place, Chelsea (Messrs. Ruscoe Brothers & Co. for Captain F. Grogan).—Consent.

Chelsea.—Erection of Sloane Gate-mansion on the eastern side of D'Oyley-street, Chelsea (Messrs. W. & E. Hunt).—Consent.

Kensington, South.—Addition at the rear No. 125, Earl's Court-road, Kensington (Mr. W. Knight).—Consent.

St. George, Hanover-square.—Erection of additional story at No. 67, Curzon-street, M. fair (Messrs. Marion & Co., Ltd.).—Consent.

Westminster.—Erection of a building at north-eastern corner of Smith-square, Westminster (Messrs. W. Cobby & Co. and Messrs. H. Field & Simmons).—Consent.

Heights of Buildings.

Westminster.—Erection of the New Midsex Guildhall exceeding in height the width of the street leading from the Sanctuary to Little George-street, Westminster (Messrs. G. Skirwith & Gordon for the Middlesex County Council).—Consent.

Construction.

City of London.—Water-tanks on the roof of a building upon the site of Nos. 22 to Farringdon-street, City (Mr. H. O. Ellis).—Consent.

Alteration of Buildings.

Kensington, North.—Additions at the rear No. 53, St. Ervan's-road, Kensington (Mr. Hunt).—Consent.

Paddington, South.—Alterations at No. Westbourne-grove, Paddington (Messrs. Whiteley, Ltd.).—Consent.

George, Hanover-square.—Erection of a wing on the northern side of Hanover-square, Westminster, abutting upon the eastern of Harwood-place (Messrs. Colclutt & Co.).—Consent.

Cubical Extent.
London, South.—Erection of a goods lift for Messrs. Stephens for Harrod's Stores, &c.—Consent.

Uniting of Buildings.
London.—Formation of openings at the end of first-floor levels between Nos. 40 and 52, Robart-street, Brixton (Messrs. H. G. & Sons, Ltd., for the trustees of the Mr. W. Slade).—Consent.

Uniting of Buildings.—Formation of a further wing in the party wall at the ground-floor between Nos. 41, Lethbury and 38, Throgmorton-street, City (Mr. A. Blomfield).—Consent.

Thames.—Doors of special construction in of iron doors to an opening at Thompson's Laundry, Margrave-road, Hamnith (Fireproof Doors, Ltd.).—Consent.

Thames.—Openings in the party wall between Nos. 225 and 224, and Nos. 223 and 225, Thames Court-road (Mr. A. H. Heron for National Cash Register Company, Ltd.).—Consent.

Thames.—Uniting of Nos. 15 and 16, and travillie-place, St. Marylebone (Messrs. Kennedy, & Co., Ltd.).—Consent.

George.—Omission of double iron doors between Nos. 14 and 16, High-street, Wapping (Mr. M. Marsland for the London and Edinburgh Shipping Company).—Consent.

London.—Uniting of Nos. 15, 16, and 17, High-street, Long-acre (Mr. W. Petch).—Consent.

London.—Uniting of No. 50, Shaftesbury-road, with No. 20, Rupert-street (Mr. T. B. May for the London City and Midland Railway).—Consent.

Recommendations marked + are contrary to the views of the Metropolitan Borough Councils concerned.

BUILDING BY-LAWS.

Wednesday's Parliamentary Papers Sir H. Boscawen asked the President of the Local Government Board whether he could give any response he has had, if any, to the circular issued last month to District Councils regarding building by-laws; whether District Councils were taking steps to amend their by-laws; and whether he possessed powers to compel local authorities to amend their by-laws in cases where they were found to be in conflict with the provisions of the Metropolitan Building By-laws Act, 1909.

Burns replied that he had not yet received any response to the circular, but that a large number of local authorities had made application for copies of the by-laws, and that he was not doubt considering the question of adopting by-laws suitable to their district. He referred the Hon. Member to the Housing and Town Planning Act, 1909.

REJECTED NEW BUILDINGS IN THE PROVINCES.*

Exeter.—Hospital (100,000L.). Messrs. E. Kelley & Brothers, builders, 130, Rice-street, Exeter.

London.—Forty-nine houses for the Ashford Coal Company, Ltd., Milburn House, Ashford-on-Tyne.

London.—Garages, Marlborough-place, for Mr. E. Evans & Son, carriage builders, Carlisle-street, Banbury.

London.—Proposals for conveniences and baths for Messrs. J. P. Reynolds, architect, Waterloo-street; Surveyor, Council Offices, Bangor.

London.—Workshops at Nelson Foundry, Waterloo-street; Messrs. G. Moxon & Son, 11, chambers, 26, Church-street, Barnsley. Work in Furness.—Extension to tramway for the British Electric Traction Company, Ltd.

London.—Offices and additions at Turkey Works for Messrs. Kearns, Allen, & Co., iron merchants.

London.—Picture theatre, King's Heath (No. 1); Mr. P. Reynolds, architect, Waterloo-street; Surveyor, Council Offices, Bangor.

Bedworth.—Baptist church, Coventry-road (2,500L.). Mr. T. R. J. Meakin, architect, Warwick-street, Coventry; Mr. L. Bunney, builder, Bedworth.

Bishop's Itchington.—Houses for Messrs. Greaves, Bull, & Lakin, cement manufacturers, Harbury, Leamington Spa.

Bishop's Itchington.—Swimming-baths, South Mill (about 1,000L.). Mr. R. S. Scott, Surveyor, Council Offices, Bishop's Itchington.

Blackpool.—School; Rev. J. Bradbury, Pastor, Chapel-street, Primitive Methodist Church.

Bradford.— Wesleyan Sunday-school, Undercliffe (2,400L.), for the Trustees.

Brighton.—Drill hall, etc.; Captain Hawker, North-street, Quadrant, Brighton.

Bury.—Nurses' home (745L.); Mr. J. Isherwood, Clerk, Guardians' Offices, Bury.

Christon.—Four houses at epileptic colony, East Muckcroft, for the Glasgow Parish Council.

Crick.—School; Mr. J. L. Holland, County Education Offices, Northampton.

Daventry.—School (2,946L.); Messrs. Adams & Son, builders, Oxford-street, Daventry.

Doncaster.—Offices; Mr. R. Waterhouse, architect, Staple Inn-buildings, Holborn, W.C.

Dublin.—Housing scheme; Mr. C. J. McCarthy, Architect, City Hall, Dublin.

Dundee.—Extensions to Stobswell Works, Dundee-street, for the Bult Spinning Company, Ltd.; alterations to premises, Perth-road, for Messrs. A. & R. Lickley.

Edinburgh.—Conversion of 44-48, Nicholson-street, into picture palace (750 places) for Mr. Ralph Pringle.

Edinburgh.—Picture palace; Mr. G. W. Booth, architect, 42, Regent-street, Haslingden.

Esh Winning.—Branch premises for the Annual Field Co-operative Society.

Gerrard's Cross.—All Saints' Church (3,500L.); Mr. Temple Moore, architect, Well Walk, Hampstead, N.W.

Harton.—Forty-two houses; Mr. J. H. Morton, architect, 50, King-street, South Shields.

Harwich.—Fire-station; Mr. H. Ditcham, Engineer, Town Hall, Harwich.

Heam.—Additions to slaughterhouse (350L.); Mr. G. I. Murray, Surveyor, Council Offices, Hexham.

Horbury.—Parochial hall, Vicar-lane, for the Vicar, St. Peter's Church.

Ipswich.—Enlargement of infirmary (5,500L.); Mr. J. A. Scheuermann, architect, 9, Northgate, Ipswich.

Kenilworth.—Cemetery buildings (1,280L.); Messrs. E. Smith & Sons, builders, Rosemary-hill, Kenilworth.

Kilcolman.—Additions to St. Colman's Church; Mr. B. K. F. Sheehy, architect, George-street, Limerick.

Kirkcaldy.—Extensions to factory for Messrs. M. Nairn & Co., Ltd., linoleum manufacturers, Nether-street, Kirkcaldy.

Lincoln.—Alterations to old barracks for the Lincoln Territorial Force Association. Proposed improvements at Peter-in-Eastgate Church (1,800L.); Rev. W. A. Purey-Cust, St. Margaret's Vicarage, Lincoln.

Llandrindod Wells.—School (5,040L.); Messrs. D. & W. Meredith, builders, Montpellier Park, Llandrindod Wells.

Llanelli.—One hundred and twenty-four houses; Mr. George Watkeys, Surveyor, Council Offices, Llanelli.

Llanwrin.—School; Mr. G. A. Hutchings, County Architect, Welshpool.

Newtown.—School; Mr. H. C. Marks, Surveyor, Town Hall, Carlisle.

Ormskirk.—Battery and sub-station (about 3,000L.); Messrs. J. Robinson & Son, builders, Ormskirk.

Orrell.—Holgate Congregational Church; Messrs. J. B. & W. Thornley, College-chamber, Library-street, Wigan.

Oswaldtwistle.—Proposed library; Mr. R. N. Hunter, Surveyor, Council Offices, Oswaldtwistle.

Paisley.—Additions and alterations to works, Gordon-street, for Messrs. James Paton, Ltd., wholesale stationers, 110, Causewayside-street, Paisley.

Penrith.—School; Mr. C. C. Hodgson, County Education Offices, Carlisle.

Plymouth.—School (14,000L.); Mr. J. H. Ellis, Clerk, Town Hall, Plymouth; architect to be appointed by competition.

Polesworth.—School; Mr. A. S. Dixon, architect, Broad-street, Birmingham.

Raunds.—School; Messrs. Blackwell & Ridley, architects, High-street, Kettering.

Redruth.—Additions to workhouse (672L.); Mr. T. C. Peter, Clerk, Guardians' Offices, Redruth.

Scarborough.—Bungalows, shelters, and improvements in North Bay and south side of promenade (5,580L.); Mr. Henry W. Smith, Engineer, Town Hall, Scarborough.

Selly.—Roman Catholic School; Very Rev. Canon Worthy, St. Mary's, Selly.

Sheffield.—Improvements to the Jessop Hospital for the Board of Management. Plans have been passed as follows:—Six houses, Chesterfield-road, for Miss A. Hunt; additions to premises, Montfort and Lopham streets, for Messrs. W. Stones, Ltd.; additions to premises, Archer-road, for Messrs. W. S. Laycock, Ltd.; alterations to premises, Cambridge-street and Backfields, for the proprietors of the Sheffield Hippodrome; additions to premises, Penistone-road, for Messrs. D. Doncaster & Sons, Ltd.; additions to premises, Watson's-walk, for Messrs. T. B. & W. Cockayne, Ltd.; seventeen houses, Greenhill and Harbord roads, for Mr. J. Levor; additions and alterations to Matilda Tavern, Matilda-street, for Messrs. S. H. Ward & Co., Ltd.

Skibbereen.—Seventeen houses (154L. each); Mr. William Casey, builder, North-street, Skibbereen.

South Elmsall.—Forty-four houses off Broad-lane for the Carlton Main Colliery Company, Barnsley.

Sparkbrook.—Tramway depot (21,747L.); Mr. T. Johnson, builder, Willis-street, Birmingham.

Stafford.—Engineering Institute; Mr. K. L. Hutchings, Education Offices, Stafford.

Stratford-on-Avon.—Meter house, etc.; Messrs. G. Whately & Sons, 27, Rother-street, Stratford.

Sunderland.—St. John's Church Institute; Messrs. Caws, Steel, & Caws, architects, 22, Fawcett-street, Sunderland.

Tanfield.—Offices, Tanfield Lea, for Messrs. J. Joicey & Co., Ltd., colliery owners, Cathedral-buildings, Dean-street, Newcastle.

Uppingham.—Extensions to bank for Messrs. Barclay & Co., Ltd., bankers, 54, Lombard-street, E.C.

Walsall.—The following plans have been passed:—Electric theatre, Stafford-street and Green-lane, for Mr. T. Jackson; additions to laundry, Lower Rushall-street, for Messrs. T. Gamson & Sons, Ltd.; warehouse, Green-lane, Leamore, for the Talbot-Stead Tube Company, Ltd.; additions to offices, Sawmills, Bloxwich, for Messrs. E. W. Turner & Co.; rebuilding garage, Green-lane, for Messrs. J. Birch & Sons; alterations and additions to Temperance Hall, Freer-street, for the Trustees.

Warrington.—Proposed alterations to police buildings; Mr. T. Longdin, Surveyor, Town Hall, Warrington.

West Sussex.—Three schools; Mr. H. R. Roberts, Architect, Education Offices, Horsham.

Worcester.—Proposed swimming-baths; Mr. A. G. Parker, Architect, Town Hall, Worcester.

FOREIGN AND COLONIAL.

Industrial Awakening of Turkey.

The following information is from the Report by Mr. B. A. Altintop, of the British Consulate-General at Smyrna, on the trade of that district in 1911-12, which will shortly be issued. Quite a number of mills and factories have been erected in the Smyrna district during the last few years. The most important of these are for spinning and weaving (cotton and wool), and for extracting oil from cotton seed and tannin from valonia. The industrial awakening is further evidenced by the establishment of a large number of machine workshops, by the steadily increased imports of machinery, and the gradual substitution of mechanics appliances for hand labour. A new brewery is in course of construction in Smyrna, and the staple industry of the district (carpet manufacturing) is visibly extending. Dissatisfaction with the present, and uncertainty as to the future, extreme caution and reserve in all dealings, tightness of money, restricted credit, and scarcity of labour, may be said to be the characteristic features of the present situation. The great hopes raised as to the country's economic and other developments a few years ago have not been realised. No steps have been taken to develop the agricultural and mineral resources of the country, and no appreciable improvement has been made in municipal administration or public security. Signs of improving conditions, however, are visible. Great activity is noticeable in the building trade of Smyrna. The town has been undergoing a veritable transformation during the last three or four years. Substantial bank buildings, business premises and warehouses, theatres, factories, educational establishments, and private houses, both in the town and suburbs, have been built, and others are now under construction. The increase in the importation of building material, such as cement, timber, tiles, iron, sanitary appliances, etc., is an additional evidence of activity in this respect.

* Also our list of Competitions, Contracts, and another page.

VACUUM CLEANER INSTALLATIONS.

The hygienic system of removing dust from carpets, furniture, and the interior of buildings generally practically dates from the year 1900, when the British Vacuum Cleaner Company introduced apparatus constructed under the Booth patents. The success achieved by these appliances has naturally brought about the evolution of various rival devices devoted to the same end.

In discussing the subject our aim is merely to summarise for the convenience of readers the general types of vacuum cleaner apparatus available in the present day without making any comparisons of invidious nature.

Vacuum cleaners of the mechanical type, from the handy little machine which can be carried about a private house to the elaborate plant for installation in large public and other buildings, may be divided into two classes:—(1) Machines where suction is established by means of bellows, and (2) machines where rotary or piston pumps are employed for creating the requisite vacuum.

A third class of vacuum cleaner is represented by apparatus of the ejector type, where the working vacuum is produced by a current of water, steam, or compressed air, the fundamental principle involved being analogous to that underlying the design of the injector largely employed for boiler-feeding purposes.

While portable machines of the bellows and pump types, made suitably for being carried or wheeled about a building, are extremely useful and convenient, whether operated by hand or by electricity derived from existing light or power circuits, there is no doubt that for large public, mercantile, and industrial buildings the most satisfactory form of machine is one laid down as part of a complete installation, including a system of suction mains connecting the vacuum plant with all parts of the building, and having wall fittings at various points for the attachment of hose pipes, each terminated by the mouthpiece by which dust is sucked up and conveyed to the collector forming part of the mechanical plant.

Fig. 1 illustrates a compact cleaner set capable of maintaining the necessary working vacuum for the effective simultaneous operation of two cleaning implements. The apparatus comprises a 2-h.p. electric motor, with switch, rheostat, and cut-outs, a rotary pump driven by belt from the motor, and a dust-collector connected with the pump by flexible hose. The collector is provided with internal baffler filtering medium, and the requisite fittings and mountings. The main suction pipe is connected to the collector, from which dust is removed for disposal at such intervals as may be necessary. The set illustrated measures 6 ft. 6 in. long by 2 ft. wide by 3 ft. 6 in. high; these overall dimensions also applying to a form of the set where a petrol motor is provided in place of the electric motor shown.

Larger sets of the stationary type, with 5-h.p. electric or petrol motor, are usually supplied with the essential units arranged so as to be fixed independently, the floor space occupied being about 3 ft. 6 in. wide by from 8 ft. 6 in. to 12 ft. or more according to circumstances. Cleaner sets of this type are supplied with either rotary or piston pump, as may be preferred.

Apparatus of the types described above have been widely used with uniformly satisfactory

results in the Houses of Parliament, the Royal Courts of Justice, the British Museum, the King Edward VII. Sanatorium, various Government offices, and numerous important buildings throughout the country.

The advocates of vacuum cleaning on the ejector principle claim that apparatus of the class now to be discussed dispenses with the use of relatively bulky motors, pumps, and dust filters, with their attendant noise, vibration, and risk of breakdown, by substituting a small and compact fitting, occupying no floor space whatever and requiring no attention of any kind.

As examples we select two types of ejector apparatus, one operated by steam and the other by water.

The first is that known in London as the Improved Vacuum Cleaner, and in Manchester as the Atlas Vacuum Cleaner. The ejector, supplied with steam from an existing or specially provided boiler, is fixed on any convenient wall, and on opening the steam-valve a large volume of air is drawn through the main suction pipe, steam and dust-laden air being conducted to a separator, where the dust is collected by centrifugal force and discharged at the bottom of the separator in the form of sludge, while the steam and air escape through an exhaust pipe at the top. The makers claim that the apparatus can be used for cleaning two rooms simultaneously, and point out that when one room has been cleaned the hose can be disconnected without interfering with the conduct of work in the other. This form of ejector plant has been installed at the Royal Automobile Club, Queen Anne's Mansions, the Carlton, Ritz, Piccadilly, and Hyde Park Hotels, and other buildings in London and the provinces.

The second ejector system is that introduced two or three years ago by Messrs. A. & P. Steven, and termed the Hydrovakum. The apparatus consists simply of a short piece of iron pipe inside which is an ejector nozzle connected with an interior perforated pipe. It is made in two types, one for low-pressure and the other for high-pressure water. The nature of a typical installation is shown in Fig. 2, where D is the ejector apparatus, W is the water supply pipe controlled by the valve V. The suction-pipe S is provided with couplings C, to which are attached flexible cleaner hose-pipes F when the apparatus is at work. Dust mixed with water is discharged through the trap T direct into the nearest drain.

This apparatus is capable of maintaining the vacuum of about 28 in., when exhausting from two lines of cleaning hose simultaneously. One great advantage it possesses is the automatic disposal of dust into the drain, and another is the entire absence of any auxiliary plant in the form of steam boilers and machinery. The makers have recently adapted their apparatus for use as a combined fire protection and vacuum cleaning system, the operation of which is as follows:—

In case of fire an electric button is pressed, with the result that the direction of water flow is reversed, and the suction

pipes are filled with water under pressure and available for discharge through the cleaner pipes, which thus act the part of a hose. The electric button is protected by thin sheet of mica to prevent it from being tampered with by playful or mischievous persons.

The Hydrovakum system of cleaning is quite suitable for buildings of large size, as may be judged by the fact that it is in use throughout the Midland Railway Hotel, Manchester, and has been adopted for installation at the premises of the Calico Printers' Association the same city.

ELECTROLYTIC DISINFECTANT.

In the annual Report for 1911 to the Metropolitan Borough of Poplar the Medical Officer Mr. F. W. Alexander, gives details of the cost of manufacturing, and the mode of using, electrolytic disinfecting fluid. This fluid, which contains magnesium hypochlorite, has already been made by the Borough for the past two years, and the Medical Officer is fully convinced that there is no more suitable means of producing a cheap, clean, and effective chlorine solution. The disinfectant continues to be added to water in the swimming-baths in the same proportion as hitherto, viz., one part of chlorine to 2 million parts of water. During the year just past 7,560 gallons of the fluid were supplied to the Poplar, Bow, and Island Baths; and addition of this fluid prevents the formation of slime in the water, and also prevents the occurrence of offensive smells when the baths are being cleaned. The average strength of the fluid made is 5 grammes of available chlorine per litre.

The total output of this hypochlorite solution during the year 1911 was 53,063 gallons, which the total cost of materials was 107l. 14s. Included therein is the principal item 56l. 16s. 7d. for 9,093 Board of Trade units of electricity at 1½d. per unit, which was generated in the Poplar Borough station, and bottled in casks, and labels, 19l. 6s. 1d. Since the installation of the plant 200,000 gallons of the fluid have been made for the sum of 380l., of which 212l. was paid for electricity, leaving 168l. for raw materials, including water used in the manufacture. Respecting the 212l. of electricity, the Report points out that advantage accrues therefrom to the Borough because 35%, equal to 16 per cent., is clear profit.

It is quite possible that a saving could be made upon the raw material, but, as the plant worked absolutely by unskilled men, a further

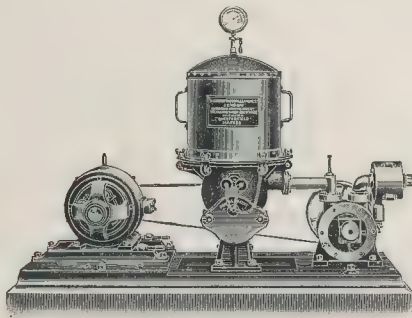


Fig. 1. Electrically-driven Rotary Pump Vacuum Cleaner Set.

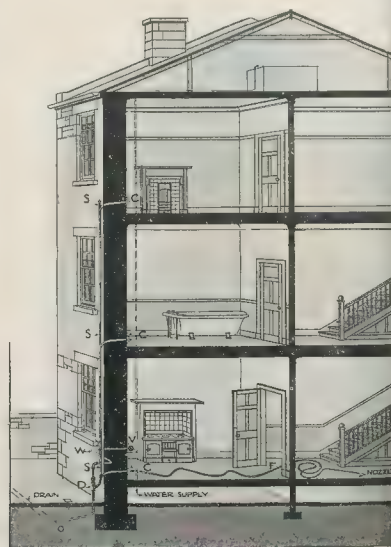


Fig. 2. Hydrovakum Installation.

must be adopted. The labour has been considerably lessened by a small electric motor driving the fluid while making it chemically stable; and quite recently the same motor has been arranged to keep the fluid in the large supply tank constantly stirred, so as to maintain electrolyte at a constant specific gravity. The process last mentioned was formerly done by hand. The nature of the operation may be seen from the following summary of the English patent 27,463, of December 12, 1907, issued to F. W. Alexander and his coadjutors. Magnesium hydroxide, oxide, or carbonate, or preparations containing these substances, are added during the process of manufacturing stable bleaching liquors, in order to render stable hypochlorite solutions, and more especially magnesium hypochlorite solutions, stable. The solution is vigorously stirred during the process by means of an ebonite rod, or one or more flaps of pure rubber, or alternatively the liquid may be beaten or shaken, or else allowed to percolate through the magnesium compounds.

As an illustration of the degree of constancy the solution it may be mentioned that a sample which, on March 17, 1906, contained 13 grammes of available chlorine per litre, as found on October 29, 1908, still to contain 85 grammes, or nearly 80 per cent. of its original strength. According to a report by him, 1 oz. of the fluid to 150 oz. of water will kill the cholera germ in two and a half minutes, and will also kill the typhoid bacillus. Constancy of the effectiveness of chlorine disinfection is afforded by the large scale treatment water supplies to towns in many parts of the world, two of which are given below.

In November, 1910 (writes Mr. W. M. Wards, in the *Transactions of the Canadian Society of Civil Engineers*, 1911), an increase of typhoid fever occurred in the town of Athabasca, on the Saskatchewan River, which, along with the Medical Officer, investigated. The cause was a contaminated water supply, and to remedy this a permanent plant was erected to effect sterilisation of the water by chlorine.

The plant consists of a powdering and sieving tank, a rising current conical mixing-tank, three forced-concrete storage tanks, two small roller feed-pumps, and the process treats the water with commercial bleaching-powder, in amounts of 5 lb. to 15 lb. per million gallons of water. The active agents in the powder are calcium chloride and calcium hypochlorite, the latter of which has been found to oxidise organic matter proportionally to the length of the dosing solution and its extent of dilution on admixture with the raw water. The calcium compounds increase but very slightly the total hardness of the water. Besides these changes, which are hardly discernible to the present methods of analysis, there is the destruction of any pathogenic bacteria which may be present. This was proved by the diminution in the number of typhoid cases in the town after the water began to be treated in this way. The bacterial results were quite florid and satisfactory, any germs that survived the treatment having been found to be non-injurious ones.

The efficiency of chlorine treatment is also affirmed by Mr. H. Bruns, who, in the *Journal of Gasbeleuchtung*, 1912, gives particulars of operations conducted upon the Ruhr water supply. In consequence of an outbreak of typhoid fever, bleaching-powder was added in normal proportions, the daily flow of about 1,000 cubic metres of water receiving 1.5 to 0.6 grammes per cubic metre, equal to 0.5-0.6 grammes of available chlorine. The action of chlorine was not allowed to continue beyond thirty minutes, when the excess was neutralised by adding sodium thiosulphate corresponding to the weight of bleaching-powder used. The test for bacterium coli in the water after treatment usually showed their absence in 100 cubic centimetres, and thermophilic bacteria are reduced to one-fifth.

The treatment was during fifteen weeks, the typhoid epidemic rapidly abating after the inauguration; whilst the cost did not exceed 0.10 pence of a pfeiffer per cubic metre of water.

NEW OFFICES, CARDIFF.

Mr. H. Budgen, F.R.I.B.A., is the architect for the proposed new block of offices which is to be erected in Mount Stuart-square. These offices will have a clear floor space front to back of more than 100 ft.

MANCHESTER SEWAGE DISPOSAL.

In the Report of the Rivers Committee of the Manchester Corporation for the year ending March 31 last it is stated that during the year 11,667 tons of house refuse were delivered at the Withington bunkers and destroyed, in addition to 365 tons of garbage from the green, making a total of 12,032 tons of refuse destroyed. The volume of sewage delivered at the Withington works during the year was 1,673,345,100 gallons, or an average of 4,597,100 gallons per day.

The volume of sewage delivered at the Davyhulme works from March 30, 1911, to March 27, 1912, inclusive, was 12,382,950,000 gallons. A portion of this quantity, amounting to 129,227,000 gallons, was diluted beyond the five to one limit, up to which the works are designed to treat. The average daily flow of sewage was 34,019,000 gallons, that of the previous year having been 36,182,000 gallons, showing a decrease at the rate of nearly 6 per cent.

The Report states that there are definite indications that the amount of putrescent matter in the Ship Canal water is being gradually reduced. The average effluent during the year shows a higher percentage of purification of the raw sewage than has hitherto been obtained, and it is anticipated that further improvement as the beds now under construction on the Barton area are brought into operation will be effected.

METROPOLITAN WATER BOARD.

Last Friday, at the first monthly sitting of the Metropolitan Water Board after the recess, the following matters were dealt with:—

New Works in Kent.—The Law and Parliamentary Committee was instructed to prepare and submit to the Board a draft Bill to be introduced in the next session of Parliament to confer on the Board powers for (inter alia) the (i.) construction of a reservoir at Shooter's-hill of a capacity of about 1,000,000 gallons; (ii.) construction of a pumping-station at Shooter's-hill and the laying of a main from the Woolwich Common reservoir to the pumping-station, and from thence to the Shooter's-hill water-tower; (iii.) laying of a main from the existing 18-in. main in the Well Hall-road to the proposed new reservoir at Shooter's-hill; (iv.) construction of a reservoir of a capacity of 250,000 gallons on the Board's land at Betsoms-hill, and the laying of a 10-in. main from Westerham-hill pumping-station to the new reservoir and thence to Knockholt reservoir; and (v.) construction of a reservoir on the Board's land at Westerham-hill (capacity 250,000 gallons).

Other Works.—The following amongst other works were authorised to be carried out:—Laying mains at Kempton Park, 1,650 ft.; mains in Stoke Newington, 1,290 ft. and 2,350 ft.; repairing water bridge on Island Barn reservoir, 1,250 ft.; repair of houses at High Beech, 145 ft.; and repairs at Ponder's End Mill, 268 ft.

LAW REPORTS.

KING'S BENCH DIVISION, DIVISIONAL COURT.
(Before the LORD CHIEF JUSTICE, Mr. Justice CHANNELL, and Mr. Justice AVORY.)

The Building Construction Company v. Hammerstein.

On Friday, October 13, the Court heard the appeal of Mr. Oscar Hammerstein, of the Opera House, Kingsway, from a decision of an arbitrator in a case in which the Building Construction Company, Ltd., were the claimants for a sum of 20,461 ft. for work done, it was alleged, on behalf of Mr. Hammerstein in the building of his new opera house. The matter came within the scope of the Arbitration Act, 1889, and the arbitrator was Mr. Leonard Stokes, then President of the Royal Institute of British Architects.

Mr. Holman Gregory, K.C., with Mr. Beyfus, were for the appellants, and Mr. Hutchinson, K.C., was for the respondents.

Mr. Beyfus, in opening the case, said the point in the case was whether the arbitrator had jurisdiction to deal with certain claims made by the respondents, and a certain amount turned upon what was meant by the "carcase" of the building. The arbitrator had not only decided that he had jurisdiction, but at first refused to state a case. Mr. Beyfus then read the special case stated by the arbitrator, and it appeared from the agree-

ment between the parties that Mr. Hammerstein was desirous of having constructed the "carcase" of a new opera house on a site at Kingsway, and had asked Mr. Bertie Crewe, architect, of 75, Shaftesbury-avenue, W., to prepare plans and specifications. The contractors agreed to execute the work according to the specification and details included in the bills of quantities to be prepared by Mr. H. E. Pollard, of Lower James-street, Golden-square, W.C. Clause 1 of the agreement said "that in consideration of the sums paid to the contractors they would execute the work according to the drawings," etc., while one of the conditions set forth in the schedule, dealing with the extras, stipulated that the contractor could, when authorised by the architect, vary the work by way of omission or extra to the specifications, while there were other clauses dealing with payment to the contractors, which was by certain instalments at the rate of 85 per cent. of the value of work executed on the building. The case further stated that at the date of the contract no drawings or specification or bills of quantities were in existence, and the arbitrator found as a result of the evidence he heard that while the term "carcase" recited in the contract was somewhat vague and indefinite in regard to the precise matters included therein, the schedule of prices, specification, etc., related, to some extent, to matters which were not included in or covered by the term "carcase."

It appeared that at an interview on October 10, 1910, when the contract was signed, and at which Mr. Hammerstein was present, a conversation took place, the substance of which was as follows:—"As regards the execution of any works in connexion with the completion of the opera house by firms other than the contractors, with the exception of such works as electric lighting, decoration, and stage fittings, which Mr. Hammerstein wished to carry out himself, it was arranged that Mr. Crewe should select such firms as he considered most suitable for the purpose, and in order that Mr. Hammerstein should have one main contractor to deal with the contractors were to sub-contract to the firms selected, in consideration for which they were to receive 10 per cent. upon the net amount of such contracts." A large number of such contracts were afterwards entered into with the sanction of Mr. Crewe and the question was whether these sub-contracts related to matters which came under the definition of the word "carcase." The question was a difficult one, but the evidence given before him (the arbitrator) could be summarised as follows:—Some of the matters dealt with by sub-contractors were included within the meaning of the word "carcase," others were not so included, while others again were doubtful. None of the sub-contractors related to works reserved by the architect for Mr. Hammerstein, such as decoration, electric lighting, and stage fittings. As the work proceeded, payments were made on the architect's certificates, but no attempt was made to differentiate between "carcase" and other works, while many works not included in the meaning of "carcase" were contained in the certificates and many had, in fact, been paid for by Mr. Hammerstein. At the same time there was no evidence that Mr. Hammerstein ever saw any of the certificates or was aware that money paid by him included works other than carcase works. Notice of arbitration was given by Mr. Hammerstein on December 20, 1911, when he contended that he had paid the Building Construction Company a sum exceeding that due to them for the works executed, and he denied that the contractors were entitled to an immediate certificate for the payment of the sum of 10,000 ft. in respect of the work, and to the subsequent payment of other sums. Shortly afterwards the contractors delivered a statement of claim, in which they asked for, subject to the final adjustments as to retention money, etc., the whole of the balance of the money due in respect of the opera house, including the whole of the balance due under and by virtue of the sub-contracts. When the arbitration was proceeding, and the arbitrator had heard the contractors' case, it was submitted for the first time on behalf of Mr. Hammerstein that the arbitrator's jurisdiction was limited to disputes or differences in respect to the building of the "carcase" of the opera house, and that, inasmuch as there were included in the claim matters which were outside carcase work, those matters should be eliminated from his consideration. He held that the true inference from the documents and the conduct of the parties was that they intended that the conditions of the contract were to govern all the relations between them in respect of the building, irrespective of carcase work or otherwise.

LONDON COUNCILS.

The question, therefore, for the opinion of the Court was whether that finding was correct, and whether the arbitrator had any jurisdiction to deal in any way by award with any disputes which had arisen between the parties in respect of claims for work done beyond the erection of the carcase.

Mr. Beyfus explained that Mr. Hammerstein had paid the contractors £9,000, and he contended that that sum was sufficient to meet all claims.

After hearing Mr. Hutchinson the Court dismissed the appeal.

The Lord Chief Justice remarked that Mr. Hammerstein objected to the jurisdiction of the arbitrator to deal with claims for work which he said did not come within the meaning of the word "carcase," and that objection was taken four or five days after the arbitration was commenced. There was no doubt that the certificates, in fact, did include a great many items which were outside the carcase, and on the question whether the amount of the claims was right he did not express any opinion; that was for the arbitrator. In his opinion, there was no real binding contract until the drawings and specifications had been produced by the architect, and he came to the conclusion that the arbitrator had jurisdiction to deal with at least the items which were claims for work which was shown on the drawings and specifications. As to some particular claims of work not included in the specification, and as to which Mr. Hammerstein raised an objection, he would express no opinion.

Justices Channell and Avory concurred, and the appeal was dismissed with costs.

HIGH COURT OF JUSTICE, CHANCERY DIVISION. (Before Mr. Justice PARKER.)

Claim by Contractors: Messrs. J. Aird & Co. v. the Tanjong Pagar Dock Board.

THIS action came on for hearing on Tuesday, the 22nd inst.

Mr. Upjohn, K.C., Mr. Macassey, K.C., and Mr. Schwan appeared for the plaintiffs; and Sir Robert Finlay, K.C., Mr. George Cave, K.C., Mr. Romer, K.C., Sir Hugh Fort, Mr. Mathews, and Mr. Hull for the defendants.

Mr. Upjohn, in opening the case, said his clients were the well-known firm of contractors and the defendants were a Board which had been formed in the Colony of Singapore for the purpose of carrying on certain docks and other works. The litigation arose out of a contract made as long ago as February, 1903, for the construction of a wet dock and other works at Singapore. There were three main issues in the case, and these were as follows:—Firstly, the plaintiffs alleged that the contract was induced by misrepresentations of the defendant Board, and that the contract was made in such circumstances that the Board was responsible as for a fraud. If he (Counsel) succeeded upon that issue, away went the contract. If he did not so succeed, the second issue would arise, and the question which arose there was the inquiring and determining whether the contract works were physically impossible of performance. The third issue was the determination of whether the defendants, by their conduct on at least two occasions, repudiated the contract and gave the plaintiffs the opportunity of determining it, of which they availed themselves. Plaintiff case was that the defendants were guilty of such conduct as would amount to repudiation of the contract, and the plaintiffs acted on that footing. Those were the three main issues; but there was also the question of damages. The plaintiffs' claim in the action amounted to about 500,000. The defendants had not counterclaimed in the action, but they had served a notice on the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiffs' firm and a party to the contract, making a claim against his estate of about 1,000,000. His Lordship, however, would not be troubled with the question of damages at the trial, it having been arranged that the determination of the damages, if directed, should stand over for subsequent inquiry. The contract was a very long and complicated one, and abounded in very technical terms in engineering.

It appeared from the statement of the learned Counsel that the plaintiffs received in London from the Crown Agents for the Colonies, acting on behalf of the defendant Board, an invitation to tender for the works to be carried out for the Board at Tanjong Pagar, such invitation being contained in a letter dated July 1, 1907, enclosing a printed book, which contained the conditions of tender, the specimen, alternative forms of

tender, notes for tenderers, and schedule of prices containing detailed items of the works proposed to be executed. The plaintiffs' tender for the works proposed to be executed was accepted on or about October 15, 1907, such works being the construction of a lagoon wet dock, having an area of about 2½ acres, length from east to west of about 2,500 ft., and from south to the north of from 400 ft. to 700 ft., and entered from the open sea by an entrance at the south-west corner; the construction of the main wharf at Tanjong Pagar, and the diversion of a certain road, drainage work, and swamp reclamation. Messrs. Coode, Son, & Matthews and Mr. John Rumney Nicholson were to act as joint engineers under the contract. Plaintiffs' case was that the defendants or other agents had made misrepresentations as to the character of the ground in which the walls of the lagoon wet dock were to be constructed by means of sinking trial pits and boreholes; as to the pressure of the mud experienced in sinking certain trial pits and other matters, plaintiffs said that they did not ascertain the truth of the misrepresentations until they had made considerable progress in the execution of the contract works, and that immediately upon such discovery the plaintiffs avoided the contract and alleged it was no longer binding upon them.

Mr. Upjohn, in the course of his opening address, dealt at great length with the contract specifications and other documents in the case, and referred to the evidence the plaintiffs intended to call.

The learned Counsel upon the construction of the contract said that the first question to be determined was what method of timbering was prescribed. The second was whether there was any provision in the contract requiring the contractors, instead of constructing in trenches, to construct in pockets, or whether this method was not in truth prohibited by the contract. That was the great question raised between the contractors and the engineers in December, 1909. The engineers said, "We require you to do the work, but we do not consider it an extra." He submitted that this work was not within the contract, but that the contract was inconsistent with it. Finding that the ground was of such a nature that the toes of the piles were driven inwards, the work undertaken on the specifications was abandoned.

Counsel then proceeded to deal with the allegations of misrepresentations in the particulars and statements of claim. He said that in the specifications two trial pits were shown—the first 250 ft. east of the entrance to the docks and the other in the narrow part of the entrance to the dock. Both these trial pits were represented as square and as having been sunk through the soft material and down to the hard or shale. In the ordinary practice square trial pits were sunk by means of timbering with runners and settings, and this was what was represented on the drawings. The conditions of tender and prices and specifications contained a representation that the information obtained by the Board and its agents showed that it was practicable to construct the dock walls of concrete with timber trenches in the ordinary way. This, said Counsel, was done for the purpose of inducing the plaintiffs to tender at a much less price than they otherwise would have done, and to commence the work under the ordinary method of runners and settings. As a matter of fact, said Counsel, the trial pits shown were not sunk to the hard bottom shale as represented. Plaintiffs did not find out the truth of these statements until they had actually gone on with the work and just before the commencement of the action. He said that the evidence would show that these facts were within the knowledge of the Board and its agents.

Continuing, the learned Counsel said he would ask His Lordship to say that the Board and their engineers were trying to make the contractors do 2,000,000. worth of work on 1,000,000. contract.

The learned Counsel was still addressing the Court when we went to press.

CORONER'S COURT, SHEFFIELD.

The details of a new coroner's court and mortuary in Sheffield were brought to the notice of Mr. Edgar Dudley, who held a Local Government Board inquiry at Sheffield on the 15th inst. into the application of the Corporation to borrow 5,000. for the purpose. The land is situated in Nursery-street, Wicker-lane, and Nursery-lane. It is proposed that on the new site a central court should be provided for the holding of coroner's inquests. The City Architect (Mr. Edwards) explained the various details of improvement in the plans.

Acton.—At the last meeting of the Urban District Council the following recommendation of the Town Planning Committee was considered:—"That application be made to the Local Government Board for authority to prepare a town-planning scheme under the Housing and Town Planning, etc., Act, 1909," in reference to certain land in Acton, Ealing, Willesden, and Greenford. The following amendment was moved by Councillor Kent:—"That, inasmuch as the Council were assured that the total expenditure connected with the adoption of a town-planning scheme would not exceed 75. (of which 54. has already been expended in preliminaries), but now learn that under such scheme the Council must make binding contracts for the widening of existing railway bridges, the construction of additional ones, the provision of new roads, the stopping-up or diverting of existing roads or ways, the relaying of the high-tension cable of the Metropolitan Electric Supply Company, all of which must involve the ratepayers in expenditure greatly in excess of the balance of the 75. above referred to, but the amount of which the Surveyor is unable to estimate, this Council declines to proceed further with a scheme which must add to the existing large loan debt, and thereby increase the heavy burden now borne by the ratepayers." Councillor Hamilton seconded the amendment. He considered a town-planning scheme unnecessary for Acton, as all the property developed since the new by-laws of 1904 came into force had been developed suitably. Ealing had as much to develop as Acton, and yet it had no town-planning scheme. In reply to a question, Councillor Glen said there was no intention to now commit the Council to any other expenditure beyond the 75. already sanctioned, which, he was told, would amply cover the cost of preparing the maps, etc. Miss Smee: Supposing we apply to the Local Government Board to prepare a scheme, and they give us permission, shall we then be in a position to drop it when it turns out to be expensive or extravagant? Councillor Glen: If the Local Government Board sanctions the scheme and the Council afterwards does not want to go on with it, or any portion of it, then it need not do so, unless it has entered into some contract with a landowner to do something, in which case the ordinary rule of contract applies. Councillor Glen then replied to the amendment. He repeated that if the remaining half of Acton was to be developed on lines satisfactory to Acton, the town-planning scheme was necessary. Development in that part of Acton (north) would probably be extremely rapid. At least two railway-stations were to be put there, and the advent of stations necessarily meant more houses. The Council wished to seize the opportunity now of preventing these houses from being put up anywhere. Under its by-laws the Council had no power to waive certain necessary requirements in regard to particular work. Under the Act power was given to waive the by-laws when they were not found to meet the particular needs of the moment. The estates now being laid out contained three kinds of roads—main arteries, about 60 ft. and 70 ft. wide; secondary roads, which required to be made up to bear a considerable amount of traffic; and residential roads, which required very little depth of construction and very little width. If the Council did not adopt the Committee's Report, the time would come when bridges would have to be widened and roads made at enormous expense to the ratepayers. If the needs of a district required a bridge to be widened, it was the duty of the Council, scheme or no scheme, to widen it. Without the Act the Council might have to widen at enormous cost, without getting a penny for betterment, but under the Act the Council could widen without compulsory powers, and get money paid to it in respect of the betterment of the adjoining property. Councillor Kent expressed the view that Councillor Glen had not read to them Clause 61, subsect. 2, which said that if the Local Government Board were satisfied, on any representation after a local inquiry, that the responsible authority had failed to enforce the observance of the scheme or any provision thereon, or execute any works the authority was required to do, the Board might order that authority to execute the work under the scheme, such order might be enforced by mandamus. So that once they got the thing sanctioned they had to go with it or with the Local Government Board would do so. Mr. Glen had said:—"The Council will make binding contracts with the owners to do certain things," and once these were made they would have to be carried through, or the Local Government Board would force them to do so. A

vision was then taken, with the result that voted for the amendment and fourteen against. Councillor Schulze-Young then moved the following addendum to the Committee's recommendation:—"That no application be made to the Local Government Board prepare a town-planning scheme, except on condition that the Council is not committed to any further expense beyond the 75*l.* already provided, than it would be if the scheme were in existence, but that the Council retains its rights of freedom in the matter." The Chairman: Whether you have a town-planning scheme or not, it is obvious that the bridge at the top of Twyford-avenue will have to be widened. Under the town-planning scheme it would not cost you so much. After their discussion the amendment was defeated on the Chairman's casting vote. Several other motions and amendments were put and rejected. In the result, the Committee's recommendation, including Councillor Schulze-Young's suggestion, that the Council shall have freedom of action in regard to expenditure beyond the 75*l.* (or thereabouts) already allowed, was carried by ten votes to six.

Plans.—Plans, etc., have been approved for making-up the second portion of East Sheen-avenue. The Surveyor has been instructed to prepare the necessary plans, etc., for making Gilpin-avenue, Mortlake, as a new street. At the last meeting of the Council it was decided that the County Council should not agree to the scheme of the Surrey County Council for the treatment of percolation so far as regards the district under the Council's jurisdiction, but to submit a scheme to the Local Government Board. The County Council providing for an isolation block to be erected in the hospital grounds with the necessary nurses' and administrative accommodation, six shelters for venereal cases, and a dispensary. The cost of these buildings is put at 8,000*l.*, 5,000*l.* of which is for the hospital, 120*l.* for shelters, and 180*l.* for the dispensary. Plans have been sent for Mr. George Hunt for four shops and a warehouse, Upper Richmond-road, and E. B. Rowell, for alterations to ten shops White Hart-lane.

General Purposes Committee.—The last meeting of the Council, recommended the adoption of draft instructions to architects for the submission of plans for works and public conveniences, together with required accommodation. Councillor Pearson proposed, as an amendment, that the instructions should be referred back to the Committee for further consideration. He took this course because he considered the plans which had been submitted, and which it was proposed to put before the Council, were both ambitious and extravagant. The sum of 5,000*l.* was mentioned as a limit to be given to the architects. This he considered was more than the Council is justified in calling upon the ratepayers to spend. In his opinion, 3,000*l.* would be a more reasonable limit. He said that he did not bind himself to a sum of 5,000*l.* was arranged to meet the architects to submit the draft instructions to them, and to insist that they should erect offices in the most economical manner possible. The amendment was defeated, and the Committee's recommendation agreed to. Later on, Councillor Pearson proposed:—"That all estimates to cost 5*l.* and over be thrown up to tender upon specifications to be drawn up by the Surveyor or any other person appointed for the purpose." He said that if costing 5*l.* and upwards was thrown open to tender they would get far better value for their money than if carried out by the Surveyor. Councillor Mainland said if the motion was carried they would place themselves in the hands of a ring of builders. Why should they give builders out of ratepayers' money, and then when the work could be done equally well themselves, and better? Councillor Pearson said his intention was to invite tenders from people in the district, not outside. He was absolutely certain that work would be done better and cheaper if thrown open to tender than done by their own men daywork. In the result the motion was defeated. The Surveyor has been instructed to prepare a plan and estimate for improving the road at the bottom Church-hill.

Wokingham.—The Surveyor has submitted estimates for making-up Monahan-avenue, Bedford, at 11*s.* 4*d.* per foot, and Links, Seely, Eastbourne, and Frinton roads, Chesham, at 11*s.* a foot. The tender of the Improved Wood Pavement Company, Ltd., has been accepted at 5,542*l.*, for certain wood-paving works at Mitcham; as has also the tender of Mr. E. H. sen., Katharine-street, Wokingham, at 2,945*l.*, for making-up Florence, Church-street, and St. Mary's roads, Sand-

out to the roadways and footways in eight thoroughfares at a total estimated cost of 1,151*l.* Plans have been passed for Messrs. Greig & Detmar for the erection of a building on the site of Nos. 80-92 High-street.

Basing.—The tender of Mr. M. N. Rose has been accepted, at 486*l.*, for making-up Temple-road with Brooke's adamantine paving. At a recent meeting of the Council a scheme for providing additional accommodation at the Town Hall, at an estimated cost of 500*l.*, fell through.

Enfield.—The tender of Mr. E. J. Betts, Enfield-highway, has been accepted by the Urban District Council, at 395*l.*, for making-up part of Farr-road.

Greenwich.—The Housing Committee have decided to make representations to the Local Government Board to the effect that, in their opinion, the London County Council should provide suitable accommodation for the persons displaced by the acquisition by the County Council of property in the neighbourhood of Randall-place and Billingsgate-street, required for school accommodation. Repair works are to be carried out in four roads at an estimated cost of 380*l.* A plan lodged by Captain Warburton on behalf of the Admiralty has been approved for the erection of fifty-three shops in a new street off Trafalgar and Old Woolwich roads.

Hammer-smith.—The offer of Messrs. W. F. Newcott & Co., Budge-row, Cannon-street, E.C., on behalf of certain clients, has been provisionally accepted by the Borough Council to take a plot of land in the Broadway of 1,069 sq. ft., or thereabouts, on a building lease, subject to the lessees being prepared to spend about 2,500*l.* on a suitable building.

Hendon.—For carrying out improvement works in Lawrence-street and Daws-lane the tenders of Mr. F. G. Brummell, Dudden Hill-lane, Willesden, N.W., has been accepted at 3,347. 13*s.* 6*d.* and 1,168*l.* 14*s.* 8*d.* respectively, as has also the tender of Messrs. W. Gibson & Co., at 2,300*l.*, for the erection of King Edward Hospital.

Islington.—In connexion with the renewal and relaying of wood-paving in several thoroughfares in the Borough the Borough Council have accepted the tender of Messrs. William Griffiths & Co., Ltd., 35-39, Hamilton House, Bishopsgate, E.C., at 653*l.* 4*s.*, for supplying 56,000 jarrah wood blocks required therefor. The sewer in Lyon-street is to be demolished and one constructed of 9-in. stoneware pipe incased in Portland cement concrete and laid to an improved gradient is to be substituted therefor at an estimated cost of 130*l.*

Kensington.—The tender of Messrs. J. Mowlem & Co., Ltd., Westminster, S.W., has been accepted, at 1,410*l.*, for making-up the extension of Highlever-road and a new street. Negotiations are proceeding with Messrs. Derry & Toms, who have under consideration a scheme for rebuilding the front of their premises in Kensington High-street, for effecting a widening of a portion of that road. The quotation of the Improved Wood Pavement Company, Ltd., to relaid the wood-paving of Queen's Gate-place-mews for a distance of some 35 yds. has been accepted at 9*s.* 8*d.* per super. yard.

Lambeth.—The tender of the Improved Wood Pavement Company, Ltd., has been accepted for supplying and laying cross-bedded deal paving blocks on concrete foundations, to be prepared by direct labour, in a portion of Clapham-road, at 7*s.* 6*d.* per super. yard. A plan, lodged by Mr. J. Wilson, has been approved for the drainage of six houses proposed to be erected on the north side of Glennie-road; and have also plans, lodged by Mr. H. B. Mitchell, for the formation of a new street, 40 ft. wide, leading out of Acre-lane.

Lewisham.—The Borough Council have decided to call the attention of the London County Council to the Report of the Departmental Committee on the use of intercepting traps in house drains recently issued, in which the trap is emphatically condemned, requesting them to take the necessary steps to repeal the by-law (6) made by them under the provisions of sect. 202 of the Metropolis Management Act, 1855. This by-law is as follows:—"Every person who shall erect a new building shall provide in every main drain or other drain of such building which may immediately communicate with any sewer a suitable and efficient intercepting trap at a point as distant as may be practicable from such building, and as near as may be practicable to the point at which such drain may be connected with the sewer. He shall, except in cases where the means of access to it are provided in compliance with the preceding by-law, shall give adequate means of access to such trap, provide a separate manhole or other separate means of access to such trap for the purpose of cleansing it." The following plans have been passed:—Messrs. Norfolk & Prior,

four houses, Newquay-road; Messrs. J. W. Heath & Son, five houses, Brockley-grove; Mr. T. G. Arnold, dairy, near 50 and 52, Rushey-green; Messrs. T. O. King & Son, factory, Staplehurst-road; Messrs. G. Baines & Son, church, Torrington-road; Mr. H. H. Dartnall, five houses and shops, High-street. Mr. E. Stewart has lodged plans with the London County Council for houses in Muirkirk road. Tenders are to be invited for paving and forming Perry-rise and Allen-road, in the latter case so soon as 75 per cent. of the estimated cost is received from the frontagers. Artificial stone in lieu of tarpaving is to be laid in portions of two roads at an estimated cost of 168*l.* The tender of Mr. J. T. Gloag has been accepted, at 499*l.*, for kerbing, channelling, and making up the roadway of part of Manor-lane; as has also the tender of Mr. W. Pearce for paving the footways with artificial stone at 5*s.* 7*d.* per yard super. The General Purposes Committee have decided to take the necessary steps for the establishment in the Borough of a tuberculosis dispensary. The cost is estimated at 1,000*l.* The following plans have been passed:—Mr. Percy Roche, ten houses, George-lane and Roxley-road; Mr. A. J. Roddis, six houses, Rushford-road; Messrs. J. W. Heath & Son, eight houses, Chudeleigh-road.

Malden and Coombe.—At the last meeting of the Urban District Council the Surveyor submitted a plan for the widening of a portion (about 450 ft. in length) of Kingston-road, which could be carried out by a widening of the railway bridge from 20 ft. to 50 ft. span, and presented estimate of the cost of roadworks, reconstruction of forecourts, etc. He was instructed to prepare a more comprehensive scheme covering a distance of about 750 ft., so as to lower the level of the roadway on either side of the bridge, thereby reducing the gradient to one in forty-eight.

Marylebone.—The Borough Council have granted an application of Messrs. Bonner & Gibbs, 11, Spring-gardens, S.W., to reconstruct the existing vaults and construct new vaults and sub-basements, and fix pavement lights in Castle-street East, Winsley-street, and Adam and Eve-court; and to form two subways in the last-mentioned thoroughfare, subject to protective conditions.

Romford.—The Guardians have approved a plan and estimate of an isolation hospital, and the work is to be carried out by direct labour at a cost of 434*l.*

St. Pancras.—The Public Health Committee of the Council have received a communication from the Local Government Board referring to Paragraph 9 of the First Schedule of the Housing, Town Planning, etc., Act, 1909, and forwarding copies of an Order which the Board, with the concurrence of the Lord Chancellor, have issued, making rules for the purpose of fixing the scale of costs to be applicable on an arbitration under the schedule. Rule 6 in the Order, the Committee states, which is based upon similar wording to that in the schedule of the Act, deals with the question of representation by counsel or expert witnesses, and is as follows:—"Nothing in these rules shall authorise an arbitrator to hear counsel or expert witnesses except in such cases as the Local Government Board direct, and if counsel or expert witnesses are heard by an arbitrator without such direction no costs shall be allowed in respect thereof." Both counsel and expert witnesses, the Committee continue, are excluded from an inquiry into the taking of land as well as from an arbitration as to the value of the land, unless the Board otherwise direct. The Committee consider that the growing practice of legislating by Acts of Parliament drawn in general terms which leave the duty of settling important points of administration to Government Departments by means of orders, rules, and regulations is a custom strongly to be deprecated, as, although the making of an order may be authorised by statute, no opportunity is afforded, in the absence of discussion in Parliament, for criticism or amendment of what are frequently found to be vital points of detail, and they have accordingly decided to forward a strong protest to the Government on the matter.

Stoke Newington.—Repairs are to be carried out to the carriageway of Blackstock-road at a cost not to exceed 100*l.* The tender of Messrs. William Griffiths & Co., Ltd., has been accepted for renewing the present wood-paving in Lordship Park. The estimated cost of the work is put at 4,400*l.*

Westminster.—The Improvements Committee report that in connexion with the recent purchase by the Royal Geographical Society of Lowther Lodge and the proposed rebuilding of the premises they have had under consideration the desirability of acquiring a strip of the garden to provide for a rounding-off at the corner of Exhibition and Kensington roads. As the result of negotiations it

(Continued on page 491.)

Tuford.—Repair works are to be carried

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number; Competitions, iv. Contracts, iv. vi. viii. x.; Public Appointment, xvii.; Auction Sales, xxii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* * It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

OCTOBER 28.—**Blackwood, Mon.**—LIBRARY, ETC.—Cost, 5,000. Particulars from Mr. Lewis Lewis, 8, Aldon-terrace, Blackwood, Mon.

OCTOBER 29.—**Glasgow.**—DESIGNS FOR EXTENSION OF MUNICIPAL BUILDINGS.—The Glasgow Corporation invite architects to submit preliminary sketch designs in competition for the extension of the Municipal buildings. Five will be selected to submit complete drawings in final competition. See advertisement in issue of July 12. Dr. Burnet, assessor. Deposit of 11. 1s.

OCTOBER 31.—**Huddersfield.**—TOWN PLANNING.—The Housing and Town Planning Committee of the Huddersfield Corporation invite designs for the laying-out of certain areas within the county borough and part of an adjacent suburb. Premiums 100gs., 50gs., and 25gs. Deposit of 21. 2s. See advertisement in issue of August 2 for further particulars.

OCTOBER 31.—**Llandudno.**—LANDSCAPE GARDENING.—The Llandudno U.D.C. invite designs for laying-out land adjoining the Happy Valley, about 20 acres in extent. See advertisement in issue of September 6 for further particulars.

NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa. Particulars from the Public Works Department, Ottawa (see p. 174, August 9).

* NOVEMBER 4.—**London.**—REGENT'S QUADRANT.—The Committee appointed by the Lords of the Treasury to consider the design for completing the above wish to inspect the designs submitted in the Builder Competition, and the authors of those designs are asked to forward them to J. Whitehall, London, S.W., by November 4. See advertisement (page iv.) in this issue for further particulars.

NOVEMBER 25.—**Newcastle-on-Tyne.**—SCHOOLS.—Limited to local architects. Particulars from the Education Office, Northumberland-road, Newcastle-on-Tyne.

NOVEMBER 29.—**Langside, Glasgow.**—BLANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson, A.R.S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

DECEMBER 1.—**Soñia.**—DESIGNS FOR A ROYAL PALACE AND LAW COVERTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9, and p. 350, September 27).

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS.—Particulars from the City Surveyor, 88, Fisher-street, Carlisle.

JANUARY 1, 1913.—**Dublin.**—MUNICIPAL BUILDINGS.—Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin. Deposit, 21. 2s.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913.—**Winnipeg.**—CITY HALL.—Particulars from Mr. A. Waugh, City Hall, Winnipeg.

* NO DATE.—**Dursley.**—WORKMEN'S DWELLINGS.—The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in this issue for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 26.—**Blackpool.**—CONVERSION.—For conversion of single-story workshop into a two-story stores. Specification and quantities from Mr. J. S. Brodie, Borough Engineer and Surveyor, Town Hall, Blackpool.

OCTOBER 26.—**Cheltenham.**—BUILDINGS.—For domestic science buildings at Gloucester-road and Naunton Park schools. Architects, Messrs. Chatters & Smithson, 17, Regent-street.

OCTOBER 28.—**Marrogate.**—ALTERATIONS.—Alterations to the end wings of the Victoria Baths. Plans seen, and particulars from Mr. C. E. Rivers, A.M.Inst.C.E., Borough Engineer.

OCTOBER 28.—**Hollybrook.**—COTTAGE.—Erection of a cottage at Hollybrook, near Skibbereen, Co. Cork. Plans and specification with Mr. James F. M'Mullen, M.R.I.A.S., architect, 30, South-mall, Cork.

OCTOBER 29.—**Senghenydd.**—BAKERY.—Erection of a new bakery at Senghenydd for the Senghenydd and Aber Valley Co-operative Society, Ltd. Plans and specifications with Manager.

OCTOBER 29.—**Shipley.**—EXTENSION.—For the reinstatement and extension of dock mill, Shipley. Names to Messrs. J. G. Thompson & Son, fire-locks, 3, Parkinson's-chambers, Havergate, Bradford.

OCTOBER 29.—**Tynemouth.**—RETAINER.—Construction of a timber retainer on the sea banks at Tynemouth. Drawing and specification seen, and forms of tender from Mr. John F. Smillie, Borough Surveyor, Tynemouth.

OCTOBER 31.—**Barnsley.**—SHOPS, ETC.—Erection of wholesale shops on Midland-street, Barnsley, and providing and fixing of iron fences, hurdles, gates, and other works of paving, draining, etc. Drawings and specifications seen, and quantities from Mr. J. Henry Taylor, M.Inst.C.E., Borough Surveyor, Manor House, Barnsley.

OCTOBER 31.—**Denholme Gate.**—STORES.—Erection of new stores at Denholme Gate. Messrs. John Haggas & Sons, architects, North-street, Keighley.

OCTOBER 31.—**Ramsgate.**—ROOM.—For the erection of a room for fire-alarm fittings and other works. Plan and specification seen, and particulars from Mr. J. G. Taylor, Borough Engineer, Borough Engineer's Office, Albion House, Ramsgate.

NOVEMBER 1.—**Brittas.**—ROOM, ETC.—For the erection of a new day-room and a heating system at the sanatorium, Crookslin, Brittas, Co. Dublin. Plans and specification by Mr. F. F. McNamara, C.E., architect, 132, Great Brunswick-street. Quantities, with forms of tender, on deposit of 11. 1s.

NOVEMBER 1.—**Gledith.**—HOUSE.—For erection of a detached house in Gramere-road, Gledith. Drawings seen, and quantities from Messrs. J. B. Abbey & Son, architects and surveyors, 34A, New-street, Huddersfield.

NOVEMBER 1.—**Mallow.**—COTTAGES.—For the building of thirty-nine single cottages. Plans and specifications at the office of the Council. Deposit of 5l. per cottage.

NOVEMBER 1.—**Queentown.**—HOUSES.—Erection of fifty artisans' and labourers' houses in two blocks of sixteen and two of eight each. Carriganog, and in four blocks of five each at Ballyvolcan. Plans, specification, and general conditions by Mr. Joseph A. McCarthy, R.E., time-surveyor. Form of tender and quantities from the Town Clerk. Deposit of 21.

NOVEMBER 2.—**Maidenhead.**—ADDITIONS.—For additions to the engine-house buildings at electric-light station in Braywick-road. Plans seen, and specification and quantities from Mr. P. Johns, Borough Surveyor, Guildhall, Maidenhead.

NOVEMBER 4.—**Aberdeen.**—ALTERATIONS.—For the alteration of the wharf at Albert Quay, and relative works, on the south side of Albert Quay. Drawings with Mr. R. Gordon Nicol, Engineer, Aberdeen. Specification, conditions, and quantities on deposit of 21. 2s.

NOVEMBER 4.—**Bath.**—WALL, ETC.—For the erection of masonry retaining wall, stone balustrade, etc., in the Orange Grove, Bath. Plans, specifications, forms of tender, quantities, and information at the City Surveyor's Office, Guildhall, Bath. Deposit of 21. 2s.

NOVEMBER 4.—**Bolton.**—EXTENSION.—For the Cottage Homes extensions and for the conversion of the Townley's House into a Receiving Home. Plans and quantities from Mr. John Ward, architect, 24, Mawley-street, Bolton. Deposit of 5l.

NOVEMBER 4.—**Dublin.**—ADDITIONS, ETC.—The alteration of and additions to the East Ward Block at King George V. Hospital, Dublin, in the Irish Command. Plans, specification, and conditions of contract at the office of the Director of Barrack Construction Office, King George V. Hospital, Dublin. Quantities on deposit of 10s.

NOVEMBER 4.—**Trefechan.**—DWELLINGS.—Erection of workmen's dwellings at Trefechan. Plans, specifications, and form of tenders at the Corporation Offices, Smithfield-road, Mr. Rees Jones, Borough Surveyor.

NOVEMBER 4.—**Ware.**—DEMOLITION.—The Ware Gas Company invites tenders for the demolition of main-line premises, 11, St. Andrew's, Ware. Specification of the work at the company's offices, King's-street, Ware.

NOVEMBER 5.—**Tredegar.**—OFFICES.—Erection of additional offices at the Workhouse, Tredegar. Plans and specification seen, and quantities with the architect, Messrs. James & Morris, F.F.R.I.B.A., Charles-street-chambers, Cardiff, deposit of 14. 1s.

NOVEMBER 6.—**Albury.**—COTTAGES.—For building six cottages at Albury, Hert's. Plans and specifications seen and particulars from Mr. E. Watts, Surveyor, London-road, Bishop's Stortford.

NOVEMBER 6.—**Gravesend.**—ADDITIONS.—For the erection of an additional building to the vestry wards at the Workhouse. Plan and specifications with the architect, Mr. E. Bennett, A.R.I.B.A., No. 191, Paternock-terrace, Gravesend.

NOVEMBER 8.—**Knockree.**—BUILDINGS.—For the erection of National School buildings at Knockree, Boyle, Co. Roscommon. Plans and specification at Boyle Royal Irish Constabulary Barrack, Mr. Williams, Secretary, Office of Public Works, Dublin.

NOVEMBER 8.—**Limerick.**—EXTENSION.—For the extension of the premises of the Kilfin Co-operative Agricultural and Dairy Society, Ltd., Kilfin, Co. Limerick. Plans and specification with Mr. J. Fox, Manager and Secretary.

NOVEMBER 11.—**Cleethorpes.**—BANDSTAND, ETC.—For erection of a bandstand at the end of the Kingsway and two shelters in the bastions of the parade. Plans seen, and specifications and forms of tender from Mr. C. H. Waltham, A.M.Inst.C.E., Engineer and Surveyor, Council House, Cleethorpes.

* NOVEMBER 14.—**Westoning.**—SCHOOL.—Mr. Bedfordshire C.C. invite tenders for a new elementary school. See advertisement in this issue for further particulars.

NOVEMBER 18.—**Huntingdon.**—COTTAGE HOMES.—Erection of proposed Cottage Homes at Huntingdon. Names to the Clerk to the Guardians.

* NOVEMBER 19.—**Portsmouth.**—OFFICES & CONVENIENCES.—The Portsmouth B.C. invite tenders for housewarming office, meter, and labourers' room, and gentlemen's conveniences, Flat-house, Wharf. See advertisement in this issue for further particulars.

* NOVEMBER 21.—**Upper Clapton.**—LIBRARY.—The Hackney B.C. invite tenders for brick library building in Northwood-road, Upper Clapton. See advertisement in this issue for further particulars.

NOVEMBER 22.—**Norwich.**—SHELTER.—For erection of a shelter at the city cemetery in place of recently destroyed one. Plans, specification, and quantities seen, and forms of tender from Mr. A. E. Collins, M.Inst.C.E., Council Office, Guildhall, Norwich.

NO DATE.—**Cardiff.**—ROOM.—Erection of a billiard-room, etc., at Radyr Chalk, near Cardiff. One guinea deposit for quantities to Messrs. Ior Jones & Percy Thomas, architects, 15, Mary-street, Cardiff.

NO DATE.—**Crigglestone.**—HOUSES.—Erection of two houses at Great Cliffe, Crigglestone. Messrs. Massie & Holdsworth, architects, 10, Hall-chambers, King-street.

NO DATE.—**Cusendall.**—PREMISES.—For completion of premises at Cusendall for J. Patrick McAlister. Plans, specifications, and particulars with Mr. James A. Hanna, architect, Ocean-buildings, Belfast.

NO DATE.—**Deaf Hill.**—HALL, ETC.—Erection of a church hall and institute at Deaf Hill, (Deaf Station). Messrs. Clark & Moser, F.F.R.I.B.A., architects, Footmash, Darlington.

NO DATE.—**Hebden.**—ADDITIONS.—Alterations and additions to a detached residence at Hebden for Mr. Thomas Kitching. Mr. James Harriall, architect, Skipton.

NO DATE.—**Thurmescoe.**—PICTURE PALACE.—Erection of a picture palace in Lidrett-lane, Thurmescoe. Mr. Ernest W. Dyson, Lie R.I.B.A., architect, 16, Regent-street, Barnley.

NO DATE.—**Torquay.**—BUNGALOW.—For bungalow residence at Lymington. Mr. F. G. Mott, A.M.Inst.M.E., architect and surveyor, 9, Elm-street, Torquay.

ENGINEERING, IRON, AND STEEL

OCTOBER 26.—**Hetton-le-Hole.**—LIGHTING.—For electric-light installation in Wesleyan church, Hetton-le-Hole. Mr. H. Drummond, Brook Villa, Hetton-le-Hole.

OCTOBER 28.—**Motherwell.**—BRIDGES.—Erection of two underbridges at Motherwell. Drawings at the office of the Company's Engineer, Buchanan-street Station, Glasgow. Specification and schedule on deposit of 21. 2s.

ENGINEERING, etc.—continued.

a date given at the commencement of each graph is the latest date when the tender, or names of those willing to submit tenders, be sent in.

OCTOBER 31. — **Sheffield.** — **BRIDGE.** — For the raising of the south-west approach of Hillcroft Bridge, Sheffield. Particulars and forms of tender with conditions of contract, from Mr. Chas. Vike, M.Inst.C.E., City Engineer and Surveyor, Town Hall, Sheffield, on deposit of 11. 1s. 6d. 2. — **Pontypridd.** — **RESERVOIR.** — Condition of a service reservoir of 675,000 gallons capacity. Full particulars from the Engineer, Talford-road, Pontypridd.

NOVEMBER 8. — **Alton.** — **HEATING.** — The Southern C.C. invite tenders for low-pressure hot-water apparatus at Council school. See advertisement in this issue for further particulars.

NOVEMBER 9. — **Middleton.** — **WELL, ETC.** — For erecting a well and erecting a pump in the town of Liggold. Mr. John Stanton, Clerk to Council, Board-room, Middleton Workhouse. NOVEMBER 16. — **York.** — **RAILWAYS.** — Construction of about 11 miles of light railways. Conditions, plans, specifications, and quantities, on deposit of 11. from Mr. H. Craven, Town Clerk, City Hall, York.

NOVEMBER 16. — **Kingskerswell.** — **WATER SCHEME.** — A water scheme for Croft Building Estate. F. G. Moore, A.M.Inst.M.E., surveyor, 9, St. Peter's, Torquay.

FURNITURE, PAINTING, MATERIALS, etc.

NOVEMBER 26. — **Calverley.** — **PAINTING.** — For the decoration of the interior of the Hospital. Specifications from Mr. Wm. Roberts Wilson, Clerk to the Board.

OCTOBER 30. — **Nottingham.** — **PAINTING, ETC.** — For internal cleaning and painting at various sub-post offices. Specifications and forms of tender from the City Architect, Mr. F. B. Lewis, Guildhall, on deposit of 11. 1s.

* NOVEMBER 4. — **New South Wales.** — **PORTLAND CEMENT.** — The Government of New South Wales invite tenders for supply of Portland cement for the year 1913. See advertisement in this issue for further particulars.

NOVEMBER 5. — **London.** — **PAINTING, ETC.** — For painting and decorating at the Leytonstone Public Library, Granleigh-road, Leytonstone, and the Central Library, High-road, Leyton. Specification, with forms of tender, from Mr. Ernest H. Essex, A.M.Inst.C.E., Engineer and Surveyor to the Council, Town Hall, Leyton.

* NOVEMBER 16. — **Lichfield.** — **MATERIALS AND REPAIRS.** — Tenders are invited for repairs and materials from December 26 next to March, 1914, at Lichfield. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

OCTOBER 25. — **Skipton.** — **SEWAGE.** — Extension of the sewer at Garden-terrace, Flood-rod, Woodland-street, and School-lane. Plans and specifications with Mr. A. Rodwell, Surveyor, Skipton.

OCTOBER 28. — **Chelmsford.** — **GRANITE.** — For supply of 250 tons of rough granite. Forms of tender from Mr. A. S. Duffield, Clerk, 96, High-street, Chelmsford.

OCTOBER 28. — **Dartford.** — **FLINTS.** — For 150 cubic yds. of chalk flints. Mr. W. Kay, Clerk to the Council, Council Offices, Dartford.

OCTOBER 28. — **Prestwich.** — **WORKS.** — For works of private street improvements. Conditions of contract, with plan, specification, and quantities at the office of the Surveyor. Deposit of 21. 2s.

OCTOBER 30. — **Llantrisant.** — **SEWAGE.** — For jointing about 610 lin. yds. of 8-in. and 6-in. diameter stoneware pipe sewer at Tontes, Llantrisant. Plans and specification seen, and quantities, on deposit of 11. from Mr. Thomas Saunders, Surveyor's Office, Pontypridd.

OCTOBER 31. — **Kirkcaldy.** — **IMPROVEMENT.** — For street improvement at the car terminus, Roselyns-street, Gallowtown. Plan seen, and specifications and quantities at the Burgh Surveyor's Office.

NOVEMBER 2. — **Hampton Wick.** — **GRANITE.** — For supply of about 200 yds. of granite. Mr. H. Fawcett, Clerk, Council Offices, High-street, Hampton Wick.

NOVEMBER 4. — **Maldon.** — **MAIN.** — For laying 370 yds. of 6-in. water main. Specification seen, and form of tender from Mr. T. E. Swales, M.Inst.C.E., Borough Engineer.

NOVEMBER 5. — **Wealdstone.** — **GRANITE.** — For supply of 800 tons of granite, broken to 2-in. gauge, and 120 tons of granite chippings. Samples to Mr. H. Walker, C.E., Surveyor, Wealdstone.

NOVEMBER 6. — **London.** — **ROADS.** — For private street works at Devon-road, Barking. Plans seen, and specification, quantities, and form of tender from Mr. C. F. Dawson, Surveyor to the Council, Public Offices, Barking.

NOVEMBER 9. — **Hastings.** — **STONE.** — For supply of 1,200 yds. of best unbroken blue stone. Forms of tender from the District Surveyor, Mr. D. Paine, Stonelyne Farm, Fairlight, Hastings.

NOVEMBER 9. — **Willington.** — **STREET.** — For leveling, paving, metalling, channelling, and making good Albion-street and entrance from High-street. Specification and quantities from Mr. J. H. Gardner, Surveyor, Willington, Durham.

NOVEMBER 19. — **Belfast.** — **SEWAGE.** — For the construction of an outlet sewer. Drawings, specification, and tender forms at the office of the City Surveyor. Deposit of 21. 2s.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
TRUCKER or HANDICRAFT (WOODWORK)	London County Council	1001. per annum	Nov. 2

Auction Sales.

Nature and Place of Sale	By whom Offered.	Date of Sale.
ALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall Winchester House, E.C.	Churchill & Sim	Oct. 30
BLINDING SITE, WESTMINSTER BRIDGE ROAD At the Mart	Brodie, Tibbs, & Co.	Oct. 30
BEHOLD BUILDING ESTATE, WALLINGTON—At the Mart	Debenham, Tewson, Richardson, & Co.	Nov. 19
BEHOLD BUILDING SITE, NOTTING HILL GATE—At the Mart	Borne & Co.	Dec. 10
BEHOLD ESTATE, LEWISHAM—At the Mart	Daniel Smith, Son, & Company	No date.

PATENTS.

APPLICATIONS PUBLISHED.*

- 21,336 of 1911.—Hugo Harold Wurfesheimdt: Fountain or reservoir brushes.
 21,426 of 1911.—Leduc, Heitz, & Co.: Process for the preparation and application of varnish having a base of cellulose esters.
 21,606 of 1911.—Carl August Teske: Joints for tubular structures.
 22,960 of 1911.—Edward Vernon Bailey: Means for securing door or other knobs or handles, cupboard turns, or the like, to their spindles.
 23,241 of 1911.—Arnold England: Building-blocks or slabs of concrete or similar material.
 24,795 of 1911.—Carl Ekberg: Combined floor planer and scraper.
 25,150 of 1911.—Walter Charles Bonedict: Paving blocks.
 26,203 of 1911.—Peter Robertson Pollock: Window guards for window-cleaners' use.
 27,096 of 1911.—Frederick Hartnoll Edwards: Means and method of finishing and attaching textile fabrics to floors, walls, and like surfaces.
 260 of 1912.—Harry Linton Allensby and Edwin Rudolph Quelch Gibson: Adjustable stock for hand-brickmaking.
 201 of 1912.—John Valentine Kaye and Thomas Henry Llewellyn: Door-holding devices.
 3,144 of 1912.—Henry James Mosey: Electric lifts of the alternating type and the like.
 5,106 of 1912.—Albert Spichtin and Raphael Knoebel: Method of uniting adhesively glass, porcelain, stoneware, and the like, with similar materials, or with articles made of metal.

* All these applications are in the stage in which opposition to the grant of Patent upon them can be made.

LONDON COUNCILS—continued from page 489.

ears that the Society would be prepared to pay 2,550l. for the land required. The Committee have decided to purchase such property, the Engineer has been instructed to carry out the necessary paving, etc., works in connection with the improvement, estimated to cost 350l. The Committee also report having considered the subject of their recommendation at the last Council meeting, that, in view of the opposition to the scheme of raising the level of Piccadilly by the Junior Engineers' Club, no further action should be taken in the matter at present. They are now of opinion that the rebuilding of the Sutton site Property to the existing elevation would greatly prejudice any future scheme which might be adopted for raising the level of Piccadilly at this point, and they have decided to urge the London County Council to sanction the erection of the building to the existing height of 80 ft. above the proposed level. Macadam repairs are to be carried out in Princes Gardens and Cambridge street at an approximate cost of 235l. Various other repairs are also to be carried out to footways in Chester-street at an estimated cost of 60l.

OBITUARY.

Mr. W. F. Unsworth, F.R.I.B.A.

Mr. T. E. Colclutt, Past-President, R.I.B.A., attributes to the current issue of the *Journal* the Institute some biographical details of the life of the late Mr. William Frederick Unsworth, who died suddenly from heart failure at his residence at Steep, near Petersfield, on the 6th inst., at the age of sixty-one. William Frederick Unsworth was born in 1822, and proceeded to the Fellowship in 1891.

after a year's travel in France was for two years in the office of the late George Edmund Street, and for a year with the late William Burges. He started practice in London in the year 1875, and scored his first success in the competition for the Shakespeare Memorial Theatre and Library at Stratford-on-Avon, which he was commissioned to carry out. The design of this building shows a strong feeling towards French Gothic, and it may be allowed that this feeling was in great measure due to the influences which still dominated one who had worked in the office of William Burges. But Unsworth's sympathies, judging from his later work, were more in accord with the best traditions of English Medievalism, and it was this spirit that influenced him in his later productions. Unsworth brought to the execution of his work an enthusiasm that occasionally was almost feverish in its intensity, and a knowledge of style that gave distinction to all his buildings, whether domestic or ecclesiastical. His detail was especially interesting and charming. Among his architectural works I should like to mention as well worth a visit a small brick-fronted warehouse, built in 1883, which is quite hidden away in Star-yard, at the back of Chancery-lane. Other notable works are his restoration of St. Mary's Church, Horsall, Surrey; Christ Church, Woking, and subsequent enlargement; church at Woodham, Surrey; chapel of the King's School, Warwick; Rossall School Chapel; Zion House, Strabane; houses at Harrogate and Burnham; additions to Selsdon Park, Sandstead, etc. He was formerly in partnership with Mr. Dodgman, in Old Queen-street, Westminster; then practised alone in Old Palace-yard, Westminster, and latterly, in conjunction with his son and Mr. Inigo Triggs, at Petersfield. He was elected an Associate of the Institute in 1892, and proceeded to the Fellowship in 1891.

8,517 of 1912.—William John Swain: Reinforcements for concrete structures.
9,900 of 1912.—Wilson Henry Sturge: Devices for adjustably suspending electric and other lamps, electrolights, gas pendants, and the like.

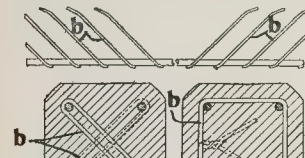
10,394 of 1912.—Edward Wingfield Brackenbury: Concrete mixers and the like.
10,932 of 1912.—Joseph Schilling and Michael Gierlich: Device for opening and closing fanlights and the like.

13,506 of 1912.—Carl August Gustafsson and Oscar Arvid Hede: Stayed wooden poles.
16,258 of 1912.—Richard Aloysius O'Driscoll: Means for heating water.

SELECTED PATENTS.

12,523 of 1911.—British Reinforced Concrete Engineering Company, Ltd., and Gilbert Stanley Heathcote: Reinforced concrete constructions.

This relates to welded reinforcing frames which can be made in standard lengths or sizes, which comprise a bar or bars and parallel, equidistant, transverse, or shear members, which are welded to the main bars and lie in a common plane when brought to the site, but may be bent up as desired. They may be straight and perpendicular to the main



12,523 of 1911.

bars, or be bent herring-bone fashion; in a modification of the latter form applicable to beams, the shear members being bent up out of the original plane. For columns, the members *b* embrace one or two main bars, or may lie between two main bars. Adjacent ends of the members *b* may be welded or twisted together, the members *b* being parallel with the faces of the column. The main bars may be welded end to end when placed in position.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

October 2.—By CECIL LES MARRIOTT.
Llangarren, Hereford.—Trevelyan Farm, 16 a. 2 r. 11 p. f. £2,000
Lyonsall, Hereford.—Penrhos and Yaldon Farms, 15 a. 3 r. 33 p. f. 3,350
Tastura, 11 a. 0 r. 30 p. f. 425
Brynararren, Radnor.—Wern Farm, 116 a. 0 r. 9 p. f. 1,940

October 3.—By WALLIS & KING.
Southampton.—37, Above Bar (s.), f. b. 3,000
October 4.—By MORRIS, MAXWELL, & POOL.
Llanllugan, Montgomery.—Eight farms, 1,423 a. 1 r. 18 p. f. 6,080

October 9.—By KNIGHT, FRANK, & RUTLEY.
St. John's Wood.—8, Hamilton-ter., u.t. 10 yrs., g.r. 10 l. 590
Shepperton, Middlesex.—Wair Cottage and 24 a., f. 3,100

By KEMSLEY.
Vange, Essex.—Shop and house, 11 a., f. 340
Romford, Essex.—Oak Cottage and Oakdene, f. w. 31 l. 4. 280

October 10.—By HENRY HENDRICKS & Co.
Edgahaston, Warwick.—32, George-rd., u.t. 7 yrs., g.r. 6 l., y.r. 55 l. 120
217 to 227 (odd), Speedwell-rd., u.t. 84 yrs., g.r. 15 l., w.r. 27 l. 250
Handsworth, Warwick.—31, 33, and 35, Turville-rd., f. w. 89 l. 128. 750
Hookley, Warwick.—Temple-pl., u.t. 55 yrs., g.r. 25 l. 10s., w.r. 130 l. 13s. 130

October 11.—By KNIGHT, FRANK, & RUTLEY.
Monkleigh, Devon.—Annery estate, 422 a., f. (including timber) 16,000

By E. S. BEARD & DANIEL.
Brightlinges, Essex.—6, Queen-st. and plot of land, f. 230
Park rd., Gresham Villa, f. 390
New-st., Freemasons' Tavern, f. 1,050
47 to 53 (odd), Sidney-st., f. 400

October 14.—By JONES, LANE, & Co.
Whitechapel, 117 to 135 (odd), Leman-st., and 11 to 14, Hooper-st., f. y.r. 778 l. 12s. 9,000

By WALLIS & CO.
Belgrave—70, Chester-sq., u.t. 11 yrs., g.r. 25 l., p. 1,500

By T. B. WESTCOTT & SONS.
St. Pancras.—Churchway, corner plot of land, f. 250

By ROBERT NEWMAN.
Heaton, Middlesex.—Main rd., enclosure 24 a., f. 2,650
Main, 31, Nicholas Cottage, f. w.r. 28 l. 275
Heaton-grass, cottage and 3 a., f. 1,000
Kendalls Cottage, f. w.r. 13 l. 185
Two enclosures, 21 a., f. 1,780
October 15.—By KNIGHT, FRANK, & RUTLEY.
Old Kent-rd., Amery-pl., f. g.r. 28 l. 17s., reversion in 39 yrs. 1,550
Kensington—31, Lansdowne-rd., f. y.r. 90 l. 1,420
29, Lansdowne-rd., f. g.r. 18 l. 3s., reversion in 27 yrs. 680
Bayswater—23 and 27, Pembridge-rd. (s.), f. y. 1,250
33, 35, 37, and 41, Pembridge-rd. (s.), f. y. 2,000

By MARKS & BARLEY.
Ratchiff, Middlesex.—Holls Marine Brewery, with 28 tied houses, f. and l. 60,000
Camberwell.—Camberwell New-rd., Athenium Tavern, lease for 30 yrs., at 650 l. (reducible to 180 l.), y.r. 350 l.

By EDWARD WOOD.
Forest Gate.—110, 112, and 114, Hales-rd., u.t. 33 yrs., g.r. 7 l. 10s., w.r. 72 l. 16s. 450
Pimlico.—39, Alderney-st., u.t. 19 yrs., g.r. 8 l. 8s., w.r. 85 l. 16s. 200
Croydon.—2 and 4, Parkview-rd., u.t. 94 yrs., g.r. 1 l. 10s., w.r. 83 l. 16s. 350

October 16.—By FOSTER & CRANFIELD.
Wallington, Surrey.—8, Stanley-parade (s.), f. y.r. 40 l. 400

By HUNTER & HUNTER.
Fulham.—2, Star-rd., and sublease, f. y.r. 85 l. 1,925
Surbiton.—34, 35, 36, and 40, St. Andrew's-sq., f. 910

By DOUGLAS, YOUNG, & CO.
Blackheath.—Halslow and Ormiston roads, f. g.r. 10 l. 6s., reversion in 74 and 73 yrs. 2,214

By E. HUGH HENRY.
Clapham.—Cleveland-rd., f. g.r. 15 l. 0s., reversion in 12 yrs. 1,040
King's av., f. g.r. 20 l., reversion in 22 yrs. 500
Lyham-rd., f. g.r. 70 l. 19s., reversion in 12 yrs. 2,820
Lyham-rd., f. g.r. 6 l., reversion in 22 yrs. 190

By EDWIN EVANS & SONS.
Belvedere, Kent.—Brith-rd., f. g.r. 36 l. 15s., reversion in 91 yrs. 785
Brixton.—Rushcroft-rd., Mayfield House (date), u.t. 76 yrs., g.r. 36 l., gross rentals 29 l. 8s. 525
Kennington.—39, Cunningham-rd. and Cornwall Works, f. and c., gross rentals 638 l. 6s. 3,000
Clapton.—111, Chataworth-st., u.t. 67 yrs., g.r. 9 l., y. 40 l. 260
North Woolwich.—8, High-st. (s.), f. y.r. 40 l. 30 and 32, High-st., f. w.r. 63 l. 400
35 to 38 (odd), Charnmont-st., f. w.r. 190 l. 350

October 17.—By H. J. BLISS & SONS.
Minories.—13, Church-st. (s.), f. y.r. 39 l. 500
Leytonstone.—58 and 60, Victoria-rd., f. y. and w.r. 46 l. 16s. 370
By JOHN G. DEAR & SONS.
Battersea.—5, Vardens-rd., f. y.r. 38 l. 405

By MARTIN & CARMAN.
West Norwood.—135, Hamilton-rd., u.t. 939 yrs., g.r. 25 l., w.r. 23 l. 180

By NEWSON & SHEPPARD.
Dalston.—37, 38, and 39, Shrubland-rd., u.t. 35 l. 330
y.r. g.r. 8 l. 10s., y. and w.r. 69 l. 330
Islington.—12, Dagmar-ter., u.t. 33 l. 330
6 l. 6s., w.r. 52 l. 125
Hoxton.—56, Gopsall-st., u.t. 19 l. 330, g.r. 4 l. 400
w.r. 42 l. 18s. 100
Kingsland.—39, Dunstons-st., u.t. 64 yrs., g.r. 3 l. 330
w.r. 33 l. 16s. 45
Islington.—Bride-st., f. g.r. 4 l., reversion in 8 yrs. 185

By SIMMONS & SONS.
Peckham.—1 to 10, Sartor-rd., f. y.r. 267 l. 16s. 1,960
Walworth.—34, 36, 38, and 40, Runham-st., u.t. 46 yrs., g.r. 11 l., w.r. 16 l. 500
31 to 39 (odd), Chapter-rd., u.t. 36 yrs., g.r. 20 l., w.r. 183 l. 15s. 500
Fulham.—33 and 39, Bishops-rd., u.t. 78 yrs., g.r. 12 l. 12s., w.r. 83 l. 280
Wimbledon.—41, 47, and 49, St. George's-rd., u.t. 54 yrs., g.r. 18 l., y. and e.r. 107 l. 650

By ROBERT NEWMAN.
Ickenham, Middlesex.—Freshhouse house 225

October 18.—By ELLIOTT, TOMES, & CO.
Hammersmith.—8 and 10, Studland-st., u.t. 55 yrs., g.r. 10 l., w.r. 114 l. 5s. 575

By ROSS & FRANK.
Highgate.—38 and 40, Gresham-rd., f. y.r. 84 l. 1,000
Finsbury Park.—21, Gillespie-rd., u.t. 64 yrs., g.r. 6 l. 6s., e.r. 30 l. 160

By WILKINS & CO.
Finchley.—45, Park Hall-rd., u.t. 70 yrs., g.r. 6 l. 6s., e.r. 34 l. 275

By ROBERT NEWMAN.
Contractors used in these lists.—F.R. for freehold ground-rent; L.R. for leasehold ground-rent; I.G.R. for improved ground-rent; G.R. for ground-rent; R. for rent; F. for freehold; C. for copyhold; L. for leasehold; P. for possession; E.R. for estimated rental; W.R. for weekly rental; Q.R. for quarterly rental; Y.R. for yearly rental; U.R. for unexpired term; P.A. for per annum; Y.S. for years; L. for lane; S. for street; R. for road; S.G. for square; P.L. for piece; T. for terrace; C.R. for croft; A.R. for avenue; G.D.S. for gardens; Y.D. for yard; G.R. for ground; P.H. for public-house; O. for office; A. for shops; C. for court.

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PRICES CURRENT OF MATERIAL

* * * Our aim in this list is to give, as far as possible, average prices of materials, not necessarily the lowest. Quality and quantity should affect prices, and which should be remembered by those who make use of this information.

BRICKS, &c.			
Per 1000 Alongside, in River.			
Best Stocks.....	1 13 0	Best Blue Pressed	1 11
Picked 8's for Facings	2 11	Staffordshire.....	3 11
Per 1000, Delivered at Railway Depot.			
£ s. d.			
Flettons.....	1 13 0	Best Blue Pressed	1 11
Best Fireham	8 13 0	Do. Staffordshire.....	3 11
Best Red Pressed	5 0 0	Best Staffordbridge	4
Brabon Facing	5 0 0	Fire Bricks.....	1 11
GLAZED BRICKS—			
Best White.....	1 13 0	Double Headers 14 l.	1 11
Ivory and Salt	1 13 0	One Side and two	1 11
Glazed Strich's 12 7 6		Ends.....	18 11
Headers.....	11 17 6	Two Ends.....	19 11
Quoins, Buttresses	15 17 6	one End.....	19 11
and 4 in. Flats.....	15 17 6	Splays & Squints 17 6	
D'ble Stretchers 17 6			
Second Quality 21 l. 10s. per 1000 less than best.			

Thames and Pit Sand..... 6 s. d.
Ivory and Salt..... 6 s. d.
Best Portland Cement..... 36 0 per ton, s.
Best Ground Blue Lime 19 0 " "

NOTE.—The cement or lime is exclusive of ordinary charge for cartage.

Grey Stone Lime..... 13s. 6d. per yard delivered
Stourbridge Fireclay in sacks 27s. 0d. per ton at river

STONE.

Per Ft. Cube.
BATH STONE—delivered on road wagons, 1 s.
Faddington Depot..... 1 s.
Do. do. delivered on road wagons, Nine Elms Depot..... 1 s.

PORTLAND STONE (20 ft. average)—
Brown Whitbed, delivered on road wagons, Faddington Depot, Nine Elms Depot, or Fimble Wharf..... 2 s.
White Basobed, delivered on road wagons Faddington Depot, Nine Elms Depot, or Fimble Wharf..... 2 s.

Per Ft. Cube, delivered at Railway Depot.
Anacaster in blocks..... 1 10
Bees in blocks..... 1 6
Greenish in blocks..... 1 10
Dartley Dale in blocks..... 2 4
Bees in blocks..... 2 4
Bees in blocks..... 2 4

YORK STONE—Robin Hood Quality.
Per Ft. Cube, Delivered at Railway Depot. s.
Scappled random blocks..... 1 s.

Per Ft. Super., Delivered at Railway Depot.
6 in. sawn two sides landings to sizes (under 40 ft. super.)..... 2 s.
6 in. rubbed two sides ditto ditto..... 2 s.
6 in. sawn two sides slabs (random sizes)..... 0 s.
2 in. to 24 in. sawn one side slabs (random sizes)..... 0 s.
14 in. to 2 in. ditto ditto..... 0 s.

HARD YORK—
Per Ft. Cube, Delivered at Railway Depot.
Scappled random blocks..... 1 s.

Per Ft. Super., Delivered at Railway Depot.
6 in. sawn two sides landings to sizes (under 40 ft. super.)..... 2 s.
6 in. rubbed two sides ditto ditto..... 2 s.
6 in. sawn two sides slabs (random sizes)..... 0 s.
2 in. self-faced random flags..... 0 s.

SLATES.
Per 1000 of 1200 at Railway Depot.

In. In. £ s. d. In. In. £ s. d.
20x10 best blue 20x10 best blue 18 17
Bangor 18 2 6 unfading green 15 17
20x12 ditto 18 17 6 20x12 ditto 18 17
20x10 1st quality 18 17 6 20x10 1st quality 18 17
ditto 18 0 16x8 ditto 10 15
20x12 ditto 18 15 0 20x10 permanent 11 13
16x8 ditto 7 5 0 16x8 ditto 10 12
22x10 best blue 18 12 6 16x8 ditto 6 12
16x8 ditto 6 12 6

TILES.
At Railway Depot.

Best plain red roof s. d.
ing (per 1000) 42 0
Hip and Valley (per doz.) 3 7
Best Broadley (per 1000) 50 0
Do. Ornamental (per 1000) 52 6
Hip and Valley (per doz.) 4 0
Best Broadley (per 1000) 57 6
Do. Ornamental (per 1000) 60 0
Hip (per doz.) 4 0
Valley (per doz.) 3 0

Best "Hartshill" brand, plain sand-faced (per 1000) 45 0
Do. pressed (per 1000) 40 0
Do. Ornamental (per 1000) 47 0
Hip (per doz.) 4 0
Valley (per doz.) 3 0

Best Broadley (per 1000) 50 0
Do. Ornamental (per 1000) 52 6
Hip and Valley (per doz.) 4 0
Best Broadley (per 1000) 57 6
Do. Ornamental (per 1000) 60 0
Hip (per doz.) 4 0
Valley (per doz.) 3 0

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Do. Ornamental (per 1000) 60 0
Hip (per doz.) 4 0
Valley (per doz.) 3 0

WOOD (Continued).

	£ s. d.	£ s. d.
Danzig and Stettin Oak Logs—		
Large, per ft. cube.....	0 8 0	0 3 9
Small " " " " " "	0 2 6	0 2 6
Wainscot Oak Logs, per ft. cube	0 6 6	0 8 0
Dry Wainscot Oak, per inch	0 10	0 1 0
" " " " " " " "	0 0 8½	" " "
Dry Mahogany—Honduras, Ta-		
basco, per ft. super, as inch	0 10	0 1 1
Selected Firery, " " " "	" " "	" " "
as inch " " " " " "	0 1 6	0 2 6
Dry Walnut, American, per ft.		
super, as inch " " " "	0 10	0 1 0
Tank, per load " " " "	18 0 0	22 0 0
American do " " " "	" " "	" " "
per ft. cube " " " "	0 5 0	0 6 0

Prepared Flooring, etc.—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	.. 0 17 0
1 in. by 7 in. yellow, planed and matched	0 18 0	.. 0 20 0
1 in. by 7 in. yellow, planed and matched	0 16 0	.. 0 18 0
1 in. by 7 in. white, planed and shot	0 12 0	.. 0 14 6
1 in. by 7 in. white, planed and matched	0 18 6	.. 0 15 0
1 in. by 7 in. white, planed and matched	0 15 0	.. 0 18 6
3 in. by 7 in. yellow, matched	0 11 0	.. 0 13 6
3 in. by 7 in. yellow, matched and shot or V-jointed	0 14 0	.. 0 18 6
1 in. by 7 in. "	0 10 0	.. 0 11 6
1 in. by 7 in. white "	0 9 0	.. 0 11 6
1 in. by 7 in. "	0 10 0	.. 0 12 6

1 in. by 7 in. 6 d. to 8 d. per square less than 7 in.

JOISTS, GIRDERS, &c.			
	In London, or delivered		
	Railway Vans, per ton		
Rolled Steel Joists, ordinary	£ s. d.	£ s. d.	
sections	8 10 0	9 10	
Compound			
sections	10 0 0	11 0 0	
Steel Compound Stanchions	11 10 0	12 10 0	
Angles, Tees, and Channels, ordinary			
sections	10 0 0	11 0 0	
Flat Plates	10 0 0	11 0 0	
Cast Iron Columns & Stanchions			
including ordinary patterns ..	8 0 0	8 10	

METALS

Iron—	Per ton, in London	£ s. d.
Common Bars	9 0 0	9 10
Staffordshire Crown Bars, good merchant quality	9 5 0	9 15
Staffordshire "Marked Bars" ..	11 0 0	—
Mild Steel Bars	9 5 0	9 15
Hoop Iron, basis price	10 0 0	—
" " Galvanised	17 10 0	—

(*And upwards, according to size and gauge.)

METALS (Continued).

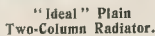
Lanc (Continued).—		Per ton, in London.	
		s. d.	s. d.
Sheet Iron Black—			
Ordinary sizes to 20 g.	.....	15	0
24 g.	.....	11	5
26 g.	.....	12	15
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes, 5 ft. by 3 ft.	.....	15	10
3 ft. to 20 g.	.....	16	0
Ordinary sizes to 22 g. and 24 g.	.....	16	0
26 g.	.....	17	0
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	.....	16	0
22 g. and 24 g.	.....	19	0
26 g.	.....	20	0
Galvanised Corrugated Sheets—			
Ordinary sizes, 8 ft. to 8 ft. 30 g.	.....	15	0
22 g.	15	0
26 g.	16	15
Best Soft Steel Sheets, 5 ft. by 2 ft.			
to 3 ft. to 20 g. and thicker.....	12	10
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Vielle Montagne	33	15	0	—
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Thin "	"	0	1	2
Copper nails	"	0	1	0
Copper wire	"	0	1	0
BRASS—				
Strong Sheet	"	0	1	0
Thin "	"	0	1	1
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VOL. CIII.—No. 5639.

NOVEMBER 1, 1912.

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MESSRS. H. PERCY ADAMS & C. H. HOLDEN, ARCHITECTS.

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IS THERE A "NEW SPIRIT" IN ARCHITECTURE?

WE hesitated somewhat before asking ourselves the question which we have put at the head of this article. It carries with it something of the flavour of what is called in journalism the Yellow Press, an element of sensationalism with which we have no sympathy. Some years ago Mr. Havelock Ellis wrote a series of essays under the title of "The New Spirit," in which he spoke of writers, as far as we remember, such as Tolstoy and Ibsen, whose works have passed readily into the ranks of the classic. All phases of art of the last fifty years—philosophy, poetry, romantic literature, music, painting, and the decorative arts—there have been manifestations of what is called a "new spirit," usually confined in its highest and most comprehensible phase by some distinguished man of genius, such as those we have already named and others, such as Wagner, Manet, Rodin, Nietzsche, and William Morris. Architecture has largely escaped these movements of intellectual perturbation. Within the same period has possessed, no doubt, men of as

distinguished talent as have any of the other arts, but they have been less moved by the desires and aspirations of their time than the precursors whom we have named. Architecture has been more content, as it were, to revolve within its own orbit. For, although if we cannot quite point to movements within its sphere of the same importance and extent as have operated elsewhere—movements which have reflected the restless and investigating *Zeitgeist*—architecture has nevertheless not been unresponsive to a certain intellectual restlessness within its own doors. In the middle or so of last century, for instance, we had the historic battle of the styles, a conflict which now seems a little absurd, although precisely the same battle continues to-day, and will no doubt continue until the end of time, only the scene of action has changed. We have recently had the opportunity of making a rapid survey of the architecture of various countries. There remains in our memory, outstanding and formidable, an aspect of architecture which we did not set out to see, at which we scarcely indeed gave more

than a passing glance, but which succeeded in making by the repetition of its effect a sort of cumulative impression which we find impossible to escape. We ask ourselves, "Is architecture coming at last under the influence of the *Zeitgeist*?" It would probably have been more frank to ask, "Is a new style becoming manifest in architecture?" The question of a new style in architecture has occupied the thoughts of more than one generation of architects. It has been discussed in public before our learned societies; it has more often provided a matter of private preoccupation. But no solution has so far been discovered that could secure any sort of unanimous assent. The question of a new style, in fact, has usually resolved itself into some such issue as prevails in certain quarters at the present moment, such as whether we should follow the lines of the French Renaissance or late Georgian. To talk of creating a new style seemed like beating the air. Since the time of the Italian Renaissance—that is, since the art of architecture, emerging out of the period of the Middle Ages, became a self-conscious and



Buckingham Palace : The East Front towards the Mall as existing.

individualised art, instead of an art which represented the general consciousness of the community—it has become more and more a child of tradition and precedent, and therefore less responsive to the world movements which have affected and influenced the expression of the other arts. Apart from this, the conditions governing the practice of the art of architecture are of an extremely restricted and dominant character. The architect is, in fact, the only artist to whom it is forbidden to build castles in the air—that is to say, he cannot construct off-hand the edifices of his imagination as the poet or dramatist, the musician or painter can. All the elements of creative composition—rhythm, colour, proportion, symbolic intention, what you will—have to be arranged and wrought together, often under conditions which he cannot choose for himself, and in any case with a view to a material and practical application to which the other arts are strangers. That is not, however, to say the sister arts do not also possess definite limitations of expression, 'it is only to say that they are different in character and degree. The greater the limitations the greater the art, and in practice they have provided no barrier to the architect of true creative genius, whose works endure through the ages as an ornament to his own country and a centre of pilgrimage for the inhabitants of others. It is, however, probably true that this aspect of architecture has been largely responsible for its apparent irresponsiveness to tendencies and influences, often transitory, to phases of thought which from time to time swept over the world, and which have affected the other arts. The architect, working more or less in a sphere of artistic isolation, has been more content to follow in the lines laid down by one or other aspect of the tradition of his art: here at any rate he was on sure ground. In this connexion another point, which is a little paradoxical, suggests itself. We shall put it as briefly as possible, and it is this: That while works of architecture have not only provided the chief ornaments of their country and are among the most valuable documents of historical record which remain to us from the past, they have until recently found small recognition on the part of the historian (apart from the archaeologist and virtuoso), and formed little or no part in the general teaching of the schools, not even, until recent times, in the art schools. If this has been so, small wonder that the general estimation in regard to architecture has been of an extremely

limited and superficial character, that the gradations which distinguish the builder (we are using the term in its trade and no uncomplimentary sense) from the architect are lost on the man in the street. It is indeed a strange thing that, although architecture in the hierarchy of the arts occupies the most venerable and established position, it should have remained so long outside the appreciation and apprehension of the general mass of mankind. In Great Britain this has been peculiarly the case; the position of the architect has been usurped by the often more trivial and obvious appeal of the painter or the penman. But time this state of things has largely changed. On the Continent certainly, and to some extent in Great Britain, the young architect has found his training among his brother artists, the painter and the sculptor. And this sort of training which necessarily involves interchange of ideas has perhaps assisted each type of artist in a better understanding of each other's aim. There is nothing like a spirit of camaraderie among artists of various *métiers* for opening and refreshing the mind; frank discussion between artists in the making, and even between those of later life, the thrust and parry of ideas, helps to make the imagination more pliable, gives an impetus to creative power. That the public also are beginning to take a more intelligent interest in architecture is reflected in the Press. So that altogether the architect can no longer, even if he would, return to his position of intellectual detachment and isolation. There are also other forces at work; those we have indicated are largely on the surface. There are the requirements of modern planning, the exigencies of a commercial, scientific, and luxurious age, which have no counterpart in history; there is the introduction of new materials, new methods of construction, which cannot perhaps be consistently applied to any preceding style in architecture. And in saying this we are not speaking of the spirit or the aesthetic considerations which guided the formation of the great schools of the past, and which will no doubt always form the grammar and basis for the finest creative efforts; we are speaking merely of the adaptation or imitation of features, of the letter rather than the spirit, contained in the teaching of the older work.

It must not be thought from what we have just said that we are in sympathy with the kind of work which has occasioned our remarks. We are no iconoclasts; we are no strangers to the desire to preserve, if possible, a

scholarly tradition in architecture. If no force of scholarly predilection stop the tide of a universal tendency it once begins to flow. It is, in any case, no good blinking facts. If we desire to change the current of the tide we must first of all realise its direction. In Milan, in Brussels, in Vienna, in Budapest, and to some extent in Paris, but more especially in Austria and Germany, we discovered the same indications of a revolutionary movement expressed with an "insolence of animation" that no one can wholly disregard. The tendency is revolutionary because it aims at upsetting the standards of tradition, if not altogether its canon. It says in effect we must start afresh; we have to deal not with the problem of the past, but with the changed conditions of modern life. Much of the work is experimental, a groping in the dark; much of it is also, in our view, extremely repellent. It is no longer a matter of whirling lines, splashed with forms like the figures of musical notation which we associate with the phase of art known as *l'art nouveau*—a phase which seems happily to have passed away. It is much more serious than that. It would be absurd, for instance, to compare its exponents to the *fauves* of the Independent school in Paris. No doubt it found its origin in Austria and Germany, and that among its earliest protagonists were men of the type of Alfred Messiaen and Otto Wagner—that is, architects of great scholarship and great creative gifts who departed from the school of tradition probably for reasons which we have imperfectly attempted to summarise. It would be premature to say that we are on the eve of the birth of a new style; but there is certainly a great and universal movement in the air which may or may not be the operation of the time spirit, but which cannot be ignored.

BUCKINGHAM PALACE.

THE centralisation of power which in France enabled the monarch to carry out colossal groups of State buildings like those of Fontainebleau, the Louvre, and Versailles ultimately produced the conditions which brought about the Revolution. In this country the only approach to schemes of like magnitude was Inigo Jones's projected Royal Palace, although there are many smaller royal residences of the Tudor period which are delightful in their architectural expression. What the Stuarts might have carried out in the way of monumental architecture had they retained

air power is difficult to conjecture, but for later monarchs have been content with residences of little grandeur or architectural distinction.

And of the royal residences none, with the exception of Balmoral, have as architectural pretensions than Buckingham Palace. The present buildings occupy the site of the Mulberry gardens, a place of fashionable resort during the reigns of Charles I. and II. The ground was originally planted with mulberry-trees by order of James I., who hoped to introduce a silk industry, but the speculation proved a failure. Evelyn and Pepys both refer to the gardens, the former as "the best place about the town for persons of quality," the latter as "a silly place with a wilderness somewhat pretty."

The public recreation grounds were subsequently done away with and a house built on the southern portion of the grounds by Lord Goring, and subsequently occupied by Speaker Lenthall during the Rebellion. The next owner was Lord Arlington, a member of the royal Ministry, who rebuilt the house after its total destruction by fire in 1674, and renamed it Arlington House. This, as shown in old illustrations, was a brick house with slightly projecting wings and a large domed lantern. The house was demolished in 1703, and the site purchased by John Sheffield, Duke of Buckingham, who built a more ambitious residence. This, as shown in old prints, was a square brick house, with projecting wings, in which were

located the laundries, kitchens, and servants' quarters. It was described as "a graceful palace very commodiously situated at the westerly end of St. James' Park, having at one end a prospect of the Mall and other walks, and of a delightful and spacious canal; a seat not to be contemned by the greatest monarch."

Sheffield's only son dying in 1735, the line became extinct, and after the death of his widow, Catherine Darnley, who is referred to by Horace Walpole as "Princess Buckingham," the house was bought by George III. in the second year of his reign for 21,000*l.*, since which time it has been almost continuously used as a royal residence. In 1775 the property was settled on Queen Charlotte in exchange for Somerset House, and was known in West-end society as the "Queen's House." Here it was that the King surprised the great Dr. Johnson, who was allowed the use of the library, and who afterwards said to the King's librarian, "Sir, they may talk of the King as they will, but he is the finest gentleman I have ever seen."

In 1825 the present building was commenced by order of George IV., from the designs of John Nash, but William IV. not liking the situation, the new buildings were not occupied till after Queen Victoria's accession. The original intention had only been to repair and enlarge the buildings then standing, the whole site, heights, and dimensions being adhered to, as it was

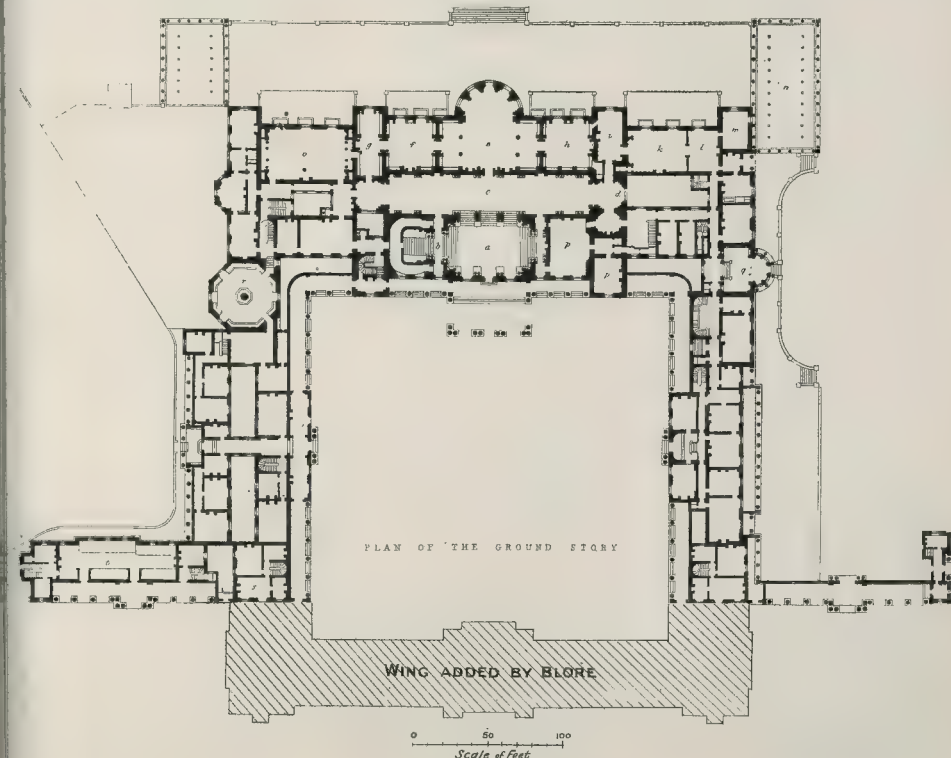
considered that Parliament would not grant the funds for a new building.

This partially accounts for the shortcomings of Nash's design, a design unsparingly condemned by Leeds in his work on public buildings of London, for the "utter absence of dignity occasioned by the original idea and the pettiness which marks every individual feature." Leeds further quaintly adds that Nash "appears to have sat down at his drawing-board without any preparation or study further perhaps than his studies for Regent-street."

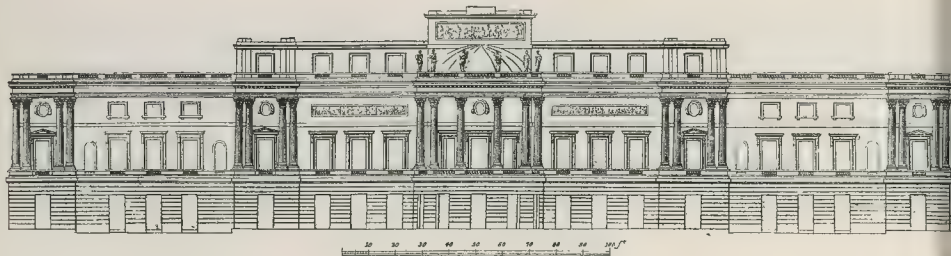
Nash's buildings are carried out in Bath stone, and, like much of the work of the late Georgian period, are uninspired but simple, refined, and not displeasing, as can be gathered from the west or garden front, which we illustrate.

It is interesting to note that the Marble Arch originally stood in front of the central entrance, being removed to its present position in 1851.

The existing east front occupies the fourth side of Nash's quadrangle, and was added by Blore in the early years of the late Queen's reign at a cost of 150,000*l.*, and represents the nadir of the architectural cycle. It is carried out in Caen stone, a material which quickly decays, and the successive coats of paint with which it has been covered have given it the appearance of stucco, and still further emphasised the unsatisfactory nature of its design. This, which we illustrate on page 496, is now to be replaced by the new front designed by Sir Aston Webb, R.A.



Buckingham Palace: Plan of Ground Floor.



Buckingham Palace: West or Garden Front.

If we consider the general type and simplicity of Nash's design we think it appears obvious that any treatment except the very simplest and quietest would be out of place, and we feel that Sir Aston Webb has been wise in avoiding the temptation to create a *tour de force* by a design of great architectural pretensions to which the remainder of the Palace would be an anti-climax.

The difficult nature of the problem may be understood when it is considered that the height and levels of existing floors had to be adhered to as well as the present window and door openings, a condition which naturally affected the lines of the design. As we have previously stated, the remodelling of the façade is but a unit of the scheme for the improvement of the Mall and has been carefully considered in relation to the Queen's Memorial, to which it forms a background. In a letter to the *Times* Mr. Statham criticises the vertical note of the central feature as contrasting somewhat unfortunately with the lines of the Memorial, but we understand that the attic over the pediment masks two large ventilating shafts which are carried up at either side, as shown on the drawing, so that it is in fact but an ingenious way of masking a difficulty, and it must also be remembered that the building is a Royal Palace and not a background to a memorial only.

The new front will be carried out in Portland stone, one of the only stones which can be safely used in the London atmosphere.

Much as we may regret the fact that the royal residence in the capital of the Empire should be a building whose merits are of a negative character at the best, we do not agree with those who think that all could be put right by adding a magnificent front to the existing buildings. The choice seems to us to really lie between building a new palace on ample and dignified lines and, failing this, to take some such course as Sir Aston Webb has followed.

We may dream dreams and see visions, but unfortunately we cannot translate them into stone without cost, and we are not prepared to commit ourselves to the opinion that in the present state of the national finances it would be wise to undertake the erection of an entirely new palace.

We as architects sometimes fail to recognise that we hold but one position in the body politic, and that there are many other points of view to be considered. In doing so we prove ourselves unpractical advisers, and lessen our influence with the public.

NOTES.

A Committee of Public Art.

THE present time seems opportune—perhaps it is always opportune—for again calling public attention to the proposition for a consultative and advisory committee for the metropolis as one method of ensuring, so far as it is possible, the obtaining of the best artistic and expert criticism and suggestion on all schemes for great public and representative buildings and town planning. Our reason for doing so has no direct reference to any scheme at present on the boards, whether for great building, street, bridge, or city. It is rather that we are fain to believe that there are signs in the public Press and elsewhere of a revival of public consciousness and interest in such matters—the result possibly of the new town-planning movement. In the interest of our art, and of the public good, such incipient tendencies need to be encouraged and fostered in every way. The proposition in no way throws a stigma upon any public official, assessor of competitions, or on any architect fortunate enough to be entrusted with the carrying out of great public works. A representative committee constituted of the best architects, with sculptors and painters, town-planners, engineers, and landscape gardeners, or others as the necessity of each reference might require, would have weight, influence, and authority of a kind not possible in any public official or department, or any single artist, however eminent. A call to public service in such a body would become a coveted distinction. Its concern might be only with designs and schemes of first-class magnitude and importance, national and metropolitan; but, once established, its influence would probably extend downwards, and aid in the solution of the difficult problem of aesthetic as well as practical control over the development of our towns. We have no wish to dogmatise upon its constitution and methods. We wish only to reiterate once again that something must and can be done to take away our reproach among nations—that we who have been a leader among them in all matters of self-government and administration, local and central, and in the development of industry and commerce, have yet been content, under a futile pretence of superior practicality, to lag behind in a proper civic pride in the adornment of our cities with buildings really worthy of the greatness of our institutions and the historical traditions which have grown up round this country.

The Safety of London Buildings.

In the *Morning Post* the 22nd ult. there is an interesting article on the effect of Tube railways in relation to the foundations of buildings and a representative of the paper interviewed Mr. John Belcher, R.E., Mr. Macartney, and Mr. Carde on the subject. An eminent engineer is quoted as saying that, as the Tube railways in the London blue clay at a great depth below the sandy surface, the idea of any possible subsidence was "gammon." Mr. Belcher, on the other hand, contends that "the great increase of tunnels and subways is causing a great deal of disturbance to the older buildings of the metropolis, not to speak of modern structures." He says he has had to do with many buildings in the City of London the foundations of which were often a foot above the soil on which they were originally placed, and which were "hanging suspended as it were" between, and supported by adjoining buildings. He adds that he has never liked St. Paul's Bridge scheme, which, though "well away from the island site of St. Paul's, was nearer than he could conceive to be desirable." Mr. Macartney picturesquely and appositely likens St. Paul's to "a battleship lying in dock." "The building is floating in water that is held in solution by salt. It is all right as long as you do not allow the water to leak away, but if you allow the building may come down and break its back." We think it well that the public should have the opinion of eminent architects as well as engineers, who, as they are, may yet hardly recognise the value we possess in our historical buildings—a value which may not be sufficiently understood by those who are mainly concerned in providing additional means for modern comfort and convenience.

The Preservation of Ancient Monuments.

THE *Times* in its issue of the 24th ult. gives some account of the evidence laid before a Joint Committee of the two Houses of Parliament on three Bills which have been introduced into the House of Lords dealing with the Preservation of Ancient Monuments. The Duke of Rutland, in criticising the proposed enactments, pointed out that "while the order only appeared to mean that the owner must refrain from alterations, or additions, or removal, the owner might have to wait long before he got permission to carry out even urgent repairs." Also that the owner "could not sell unless the Commission of Works refused to buy at a price fixed by the State."

the Board of Inland Revenue." He adds this a "dangerous and arbitrary power," in which contention he is disposed to agree with him, and certainly agrees with his argument that it is impossible for the Board of Inland Revenue to say what the value of an ancient monument is. The Duke of Devonshire asked by Lord Sheffield whether the authorities should not be entrusted with the care of old manor-houses, tithe barns, and portions of abbeys now used as farm buildings, replied that he was suspicious of local experts." Mr. Kersey Turner gave evidence as to damage done to ancient work in the ruins of recent years by so-called restorations. The golden mean between neglect and indifference in these matters is, we think, most difficult to arrive at, while it is the "consummation devoutly to be wished."

AN important Conference has been held at Berlin at which various questions connected with international exhibitions have been discussed. We are glad to hear that, although the report agreed to has not been made public, it is understood that the Convention recommends the limitation of exhibitions held under the auspices of governments, and gives a maximum time which should elapse between them. We think that such a limitation will be a relief to many firms which cannot afford to be unrepresented at exhibitions, and are yet indisposed to meet the continual heavy charges which they involve. It is stated that recent years international exhibitions have been held almost every twelve months, with the result that a permanent display has been laid on trading firms, and at the same time the public have become wearied by their frequent occurrence.

STRENUOUS efforts have been made in Parliament to ascertain the composition and scope of the secret inquiry instituted by the Chancellor of the Exchequer as regards the land, but the sole result has been a series of replies in form and wholly evasive. That has transpired is that, although Mr. Lloyd George is responsible for the formation of some Committee, he is not aware of the numbers, names of the persons employed, or considers it desirable to keep private the sources from which it is being financed, but he states public money is not being expended. Whether the report is to be published and the methods employed to collect evidence the Chancellor declares to be matters within the discretion of the Committee. A secret inquiry countenanced by Ministers, for which they seek to evade responsibility, is such a novel departure from traditions prevailing in this country that it may safely be said it will be condemned by public opinion, and, attention having been drawn to its existence, it might be treated with silent contempt, but it is not for two considerations. The first of these is that a knowledge of its existence tends to hamper dealings in the granting of leases, and business generally, and therefore further devalues this class of property; and the

second is that if and when the information collected by unauthorised and very likely unqualified persons in a secret manner is published it may involve owners of land in considerable expense to rebut evidence collected behind their backs and at random. If public attention be once aroused to this form of espionage it is hardly possible that it should continue or ever be repeated.

The Situation at Norwich.

We are glad to see that the President of the Local Government Board is fully alive to the possibilities of the situation caused by the floods at Norwich. We note that he considers it a good opportunity for the Town Council to take the matter of housing in hand, and promises the assistance of his department. We hope, however, that the influence of the Local Government Board will be exercised in the direction of the larger question of town planning, and that the rebuilding at Norwich will not remain just an isolated improvement, but be properly related to some general scheme for the eventual improvement of the whole city.

Garden City Appeal for Funds.

We trust that the appeal for further financial support which has been issued by the Garden Cities and Town Planning Association will meet with the support it undoubtedly deserves. There can be no question of the value of this movement as a powerful influence tending to the uplift of humanity. Although in essence perhaps a reform which has social rather than artistic ends in view, rightly considered the two things are one. Architects owe much to its efforts, and should do everything in their power to help it. This Society has long carried a heavy financial burden, having been responsible for the propaganda of this movement from the start. This work increases in magnitude day by day, and the Society is now endeavouring to raise a guaranteed subscription for the next five years of at least 1,000*l.* a year. We hope that all those interested in civic design, who must realise how important this movement is, will respond to the appeal, so that the Society's efforts shall not be hampered by a lack of adequate financial support.

Liverpool Custom House.

In a "Note" in our number of May 31 last we adverted to the proposals for building a new Custom House for the port of Liverpool in lieu of the existing structure, which, we may here mention, was built in 1828-9, after John Foster's designs, on the site of the Old Dock (1710-1826), at the joint expense of the Government and the Corporation. We now read that the project to erect a new Custom House at the pier-head is abandoned. It seems that no settlement could be arrived at as to the division of the land in pursuance of an arrangement made between the Corporation and Messrs. Cubitt & Co., of London (who held an option to purchase the entire site of the Old George's Dock not yet utilised), whereby the latter were to retain two-thirds of the land and convey one-third to the Government

for the new building, and that all the site will be now acquired by the Cunard Shipping Company for their new offices. The Treasury had agreed to defray the cost, estimated at 100,000*l.*, of the Custom House upon a site to be provided by the Corporation, and it is understood that the Mersey Docks and Harbour Board would contribute 10,000*l.* The Old Dock, opened in 1710 and closed in 1826, was the first after its kind constructed in England; George's Dock, since enlarged, was made in 1760-1.

Sessional Papers at the Institute.

The programme of the papers to be read at Conduit-street during the session 1912-13 has now been issued, and it is on the whole a fairly interesting programme, if it includes nothing—shall we say?—of sensational interest. We are glad to observe that we are to have some papers on modern work abroad, and that the more or less archaeological type of subject, interesting as it may be, is not represented at all, for Mr. Ball's paper on "Bath and Wells" will no doubt be architectural rather than archaeological. We welcome the papers on modern work abroad, because it is interesting to have brought home to us in a personal way, as a paper at the Institute does, what our confrères in other parts of the world are thinking about. Mr. Baker, of Toronto, is to read a paper on "Canadian Work"; Mr. Thomas Hastings, of the distinguished firm of architects, Carrère & Hastings, of New York, one on "Modern Architecture," which, we presume, will include the architecture of his own country, while to M. Billerey is allocated the subject of "Modern French Architecture"—all interesting subjects. Mr. Cecil Brewer, the Godwin Bursar of last year, and the architect, with Mr. Dunbar Smith, of the new Cardiff Museum, will no doubt in his paper on "American Museum Buildings" throw some additional light on the problem of planning connected with buildings of this type; while the papers on "Modern Steel Construction," by Mr. F. N. Jackson and Mr. Bernard Dicksee, and "Modern Hospitals," by Mr. A. Saxon Snell, will be no less instructive. Mr. Horace Porter's paper on "The Walls of Visby, Gotland," suggests the archaeological view, but it covers new ground, and Mr. Porter is not likely to let the architectural issues of his subject escape him.

MODERN PICTURES AT THE GOUPIL GALLERY.

It is no small praise to say that the seventh exhibition of the Goupil Gallery Salon, which was opened last week, is equal to any of its predecessors; we are not sure that it is not quite the best of the series. It is international—that is to say, that the pictures are either by French or English artists—but the prevailing atmosphere, even where English work is concerned, is French. Although the work represented is modern, the Post-Impressionists' influence is scarcely felt, except in the examples of those determined Post-Impressionists, Mr. Roger Fry and Mr. Peploe. Mr. Fry is Post-Impressionist under the influence of Cézanne (who would be a little surprised if he could see what is being perpetrated to-day), while Mr. Peploe is frankly a cubist, or something

of that sort. As a whole, however, the exhibition is eminently sane. We do not in any case need a manual of new theories to appreciate the quality of the pictures, some of which possess a definite architectural interest. There are some clever sketches of St. Mark's and the Campanile by Mr. Pearce. Skelner shows an admirable study of the Fountain Court at Hampton Court, while Mr. Jamieson continues to discover excellent subjects in the statuary and pleasant waters of the park of Versailles. Time was, before the landscape school dominated the outlook of European painters, when architecture formed one of the chief accessories of pictorial composition. Within recent years Mr. Sargent has shown us that it may provide quite as good material as a portrait for the subject of a picture. If painters were to realise the psychology that may be discovered in fine design in building we should probably find the walls of picture-galleries less burdened by uninteresting repetitions of outworn effects. In the case of portraiture, for instance, the incessant striving for a new pose, for an artificial resemblance of naturalness which deceives no one, would be less apparent. There are two portrait studies of the kind at the present exhibition, which possess considerable technical qualities, but which are not otherwise interesting. M. Jacques Blanche, always an enterprising painter, breaks fresh ground in his studies of still life. They are not merely the detached affairs to which we are accustomed, a group of flowers in a vase, with a glass or two and some cutlery, nicely arranged on a glistening table (for the reflections) for the purpose of being nicely painted. The still-life formula is one of the most rigid in the art of painting. M. Blanche's pictures suggest none of this limitation of imaginative outlook; his flowers and vases and other table furniture provide not only a rich arrangement in colour, but also suggest that they form part of a rich and luxurious habitation, the living character of a room. The tenantless interiors of Mr. Patrick Adam obtain, after a staid fashion, something of the same quality of suggestion; they evoke the type of the absent inhabitants almost as clearly as if they had been portrayed. We must not omit also to mention the still-life studies of Mr. Livens and Mr. Connard. M. Cottet's two pictures of the coast and sea of Brittany (which deserve, by the way, a better position than below the line) are the work of a painter of a more individual temperament than the majority of his companions. His work is as far removed from audacious technical display as it is from purely theoretic artistic expression. We do not know whether M. Cottet is himself a Breton, although he has so closely identified himself in his art with its scenery and people that he would in any case seem to have caught the Celtic spirit. No painter has interpreted the life and natural scenery of Brittany more sympathetically. Above all, a naturalistic painter, and one of the innovators among French artists of this movement of a generation or so ago, the purposes of his art have been put to the service of a profound interpretation of things, not to a superficial parade of technical fireworks. We have scarcely touched the fringe of this most interesting exhibition, which offers so many contrasts in methods of work of first-rate importance, and which is never for a moment dull, while its animation is that of living and serious art.

CASTLE CARROCK SEWERAGE.

The Brampton Rural District Council have now approved and accepted the scheme of sewerage and sewage disposal for Castle Carrock prepared by the Engineers, Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of Newcastle-upon-Tyne and Birmingham. The sewage will gravitate to the outfall and be disposed of in modern bacterial works. Application for the necessary loan is to be made at once to the Local Government Board.



A COMBINED ordinary meeting and Camera, Sketch, and Debate Club meeting of the Architectural Association was held on Monday at Tufton-street, under the chairmanship of Mr. Gerald Horsley (the President).

Mr. Hall (Hon. Secretary) made the following announcements:—

That the annual Conversazione will be held at 18, Tufton-street on Thursday, November 21, at 8 p.m.; the next meeting of the Camera, Sketch, and Debate Club will be held on November 7, at 8 p.m. (Novices' Night), when papers will be read by Messrs. H. Bart Tunnard and H. E. Moss; and that arrangements have been made for a visit to be paid to the Wesleyan Church House on November 16 (Saturday). Members to meet outside the building at 2 p.m.

The President announced that the following had been elected members:—

F. A. Addey, Wakefield	L. Marnus, W. Ken-
R. Atkinson, West-	bridge-on-Wye
J. Barber, N. Finchley	E. Meredith, New-
G. W. Callender, Queen	J. L. Murgatroyd,
Victoria-street	Pinner
R. D. S. Charles, Stan-	R. J. G. O'Donoghue,
more, Middlessex	Epsom
J. O. Cheadle, Ken-	D. J. Parr, Hampstead
sington	L. Payne, Wyatt-
G. G. Clarke, Stockwell	Brien
L. Clark, Glamorgan	I. B. Pite, Regent's
L. Clayton, Tunbridge	Park
Wells	C. C. Polhill, Great
J. H. Collis, Peckham	Ormond-street
G. S. Cutts, Notting-	G. A. Rose, Wembleton
ham	J. S. Ruchwalsky, Singa-
N. F. C. Day, Hamp-	apore
stead	H. Schein, Clapton
C. A. Dickeson, Forest	A. B. Schmuck, Bom-
Gate	beury
R. A. Duncan, Cardiff	C. J. G. J. Schumann,
V. A. Eschawier, Sack-	Highgate
vill-street, W.	G. S. S. Seddon,
H. M. Fletcher, Lin-	J. Victoria-street
coln's Inn-fields, W.C.	G. W. F. Sexton,
D. S. Glover, Wands-	Bromesbury
worth	A. Silcock, Kensington
G. E. Hamlyn, Ealing	E. A. D. Tanner,
R. Jackson, S. Croydon	Fulham
C. W. Langlands,	W. E. W. Terrell,
"Doughly-street"	Reading
W. H. Lloyd, Chelsea	G. B. Tubbs, Alders-
E. Lyne, jun., Street-	gate-street
ham	F. P. M. Woodhouse,
R. H. Maddock, Sutton	Wimbleton

It was announced by the President that Mr. W. G. Newton had been nominated to fill the vacant office of Librarian, and Mr. H. M. Fletcher to fill the vacant seat on the Council. On the motion of Mr. Keen, seconded by Mr. Curtis Green, the Report of the Council for 1912 (printed in the Brown Book) was adopted.

SMALL COUNTRY HOUSES OF TO-DAY.

Mr. Lawrence Weaver gave an address on "Small Country Houses of To-Day," which was profusely illustrated by lantern slides. In his opening remarks he wished to guard himself against any misconception as to the way in which he proposed to treat the subject. He hoped no one would think he was there to instruct architects about their own business, and still less to advance any theories as to the course the design of small country houses ought to take, or was likely to take. It was natural enough that he should have views of his own about the various streams of tendency in modern design, and perhaps

they would allow him to say that he did not think the sun of architecture first rose at Regent's Park. He was also unable to agree that Wren was a foolish old person whose chief function was to pave the way for the final glories of Soane and Nash. That, however, was by the way. His present business in the matter was to act the part of a showman and to try to make clear his excellent and varied was the work which the architects of to-day were doing, and to dispel, as far as might be, some of the misapprehension which clouded the minds of people who are proposing to build, and who endeavour to make people understand the building of their houses was the one branch of modern art in which they were much concerned, and he conceived it his duty to show as many widely differing types of houses as could fairly be said to represent an honest and unaffected outlook on the problem of fitting suitable houses to greatly differing needs and personalities. It was obvious that he must in the pursuit of this idea show many houses which some of them would think poor or even positively bad, but he could claim that he had never written with appreciation about a house which did not seem to him to have some definitely good point, either in its planning or its treatment, and that did not serve as text which enabled him to explain how difficult were the problems which confront the architect. It was, then, in the spirit of the showman that he was going to put on the screen that night a series of houses chosen almost at haphazard from the large number which he had seen as described. As he had very rarely written about a house without first seeing it, he had the advantage, which they would admit was a peculiar one, of learning from clients what they thought about their houses or about the ways of architects, and it might be that he would be able to indicate some point of view of the layman which might not always have made themselves apparent to architects. He would begin the series with one or two houses by Mr. Norman Shaw and Mr. Philip Webb, as they would agree that the great structure of modern architecture had been very largely built on the foundations which he laid, though he did not mean to exclude from that pioneer work such honoured names as Eden Nesfield, Geo. Devey, and others. Mr. Weaver proceeded to show a large number of photographs of houses, and divided the series into the following classes:—(1) XIXth Century Revival; (2) Traditional; (3) Influence of Materials; (4) Direct Historic Influence; (5) Foreign Influences; (6) Restorations; (7) New Ideas; and (8) Gardens. His first view was of the "Red House," built in 1859 by Mr. Philip Webb for Wm. Morris, which he described as the first red-brick house built in the XIXth century with conscious intention to use red brick for artistic design. It contained the first piece of modern furniture in the great press made by Wm. Morris, with paintings by Burne-Jones; "Coneyhurst," at Ewhurst, Surrey, was built by Mr. Philip Webb towards the end of his work, and the plan was much better than with the "Red House." The other two examples shown in the first class was "Dawpool," by Mr. Norman Shaw, and addition at "Chesters," by the same architect. Class (2) the lecturer showed the house near Woking built by Mr. Horace Field for himself, two houses built in Leicestershire and Gloucestershire, by Mr. Ernest Gimson; "Coldcote," at Moreton-in-the-Marsh, by Mr. Guy Dawber a cottage at Llanfairfechan, by Mr. North a cottage by Mr. Curtis Green; "Ardkinglas," built by Sir Robert Lorimer; a house in Scotland built by Mr. Deas for himself "Gilliams Birch," a house of the typical Sussex farmhouse type, by Mr. E. J. May "West Chart," a house by Mr. Turner Powell "Sunnymead," near Wadhurst, by Mr. Frank Chesteron; the "Deanery Garden," Surrey by Mr. Lutyens; "Dyke Nook," Accrington Lancashire, by Mr. Brierley; "Dawstone," Westmorland, by the late Dan Gibson; and "Acres Mead," Kent, by Mr. Brewer. Commenting on the various houses, the lecturer said that before he saw Mr. North's house he had a prejudice against Welsh slates, but after seeing it he appreciated how good the material was if used in the right way in the right country. Mr. North got them to cut the slates of reasonable thickness and reasonably small, and also got a quarry owner to reopen a quarry, from which he got beautiful grey and golden slates. With regard to the late Dan

ibson, he had been struck with the affection in which he was held by his clients. Amongst other houses illustrated were:—"Redlands," Birmingham, by Mr. Bateman; "Four Oaks," Professor Lethaby; "Winterbourne," by Mr. Hall; "Moorecroft," by Mr. Buckland; a house at Norwich, by Mr. Morley Horder; a room in house at Birchington, by Mr. Arthur Bolton; group of cottages at Checkendon, by Mr. Maxwell Ayrton; "The Platts," Petersfield, by the late W. F. Unsworth; an interior, by Mr. Aillie Scott, at Wimbledon; a Norfolk house, Mr. E. S. Prior; and a house at Hertford, Mr. Walter Cave. Mr. Weaver remarked in the important school of architecture at Birmingham, which seemed to have established something like a definite local tradition of building. Messrs. Bateman, Bidlake, Ball, and others, he thought, all followed more or less the footsteps of Mr. Lethaby. Birmingham architects were very fortunate, because Birmingham men liked to build their own houses, and for the size of the city there was a larger number of satisfactory houses than any other place he knew of. Of the Checkendon cottages, the lecturer observed that it was one of the few places where half-timber work had been satisfactorily done. To see half-timber work in a London suburb where one could not imagine there was an adjacent forest was not satisfactory. Of houses in Class (4) Mr. Weaver mentioned work by Mr. Lutyens, R. Bateman ("Castle Bromwich Rectory"), R. Macartney (at Woolhampton, Berks), R. Ernest Newton (at Wokingham), Mr. Albert Oole (at Wimbledon), and Mr. Goodhart Rendle. As examples of houses showing foreign influences, he illustrated the house at Leighton designed by Mr. Lutyens for Lady Weston, showing South African influence; a house at Camberley, by Professor Reginald Lomfield, in which French influence could be seen; a house by Mr. Detmar Blow, near Barnham; the Dormy House of the Walton Heath Golf Club, by Mr. Lutyens; a house by Mr. Ernest Willmott at Totton, near Southampton; and a house designed by Mr. Arthur Bolton in the Italian villa manner at Wharfedale. As instances of good restorations, he referred to Mr. Corlett's work at Garsley, York; Mr. Walter Brierley's work at Whitley Hall; and Mr. Quennell's house, Surrey, by Mr. Basil Stallybrass. In class (7) he illustrated Mr. Edgar Wood's "Upmeads," but said he did not think the architect had made out a case for the abolition of the arched roof. In conclusion, Mr. Weaver showed photographs of the garden at Mr. Inigo Triggs' house at Little Boarhunt; R. Lutyens' garden at Marsh Court; and a garden by Mr. Bidlake at Birmingham.

Mr. Quennell, proposing a vote of thanks to the lecturer, said that, looking at the house designed by Professor Lethaby twenty years ago, one could not help feeling that there had been no marked improvement since then. They were only doing very traditional work. The best part of their work seemed to be the planning. They planned a skeleton which could be roofed, and then they went back to the Jacobean manner, and tried various of putting tiles in gables and having thick mortar joints, and so on. He thought the average client looked very much on a house as he would look on a motor-car. To the client it was a practical thing, and if he got a little bit of art thrown in for the same money he was satisfied. The client had to live in the house, and whilst one felt that the planning of the house was good, yet when they came to the elevations they rather broke down. A thing which had worried him lately was the practical question of heating and cooking, and he thought in the next twenty years they ought to be able to get a kitchen range which would heat the house, cook the food, and give a supply of hot water. In looking at the photographs they also saw a lot of the antiques of which they were somewhat tired. In these days, to ask a person to sit in a chair made for a person in chain armour did not seem to him to be right. The interiors of houses with the old furniture looked quite as long as they kept the lady with the noble skirt out of the picture. In these days people had to be more practical and study hygiene and drains and that sort of thing. Houses were still abominably bad, and Professor Quennell, of Liverpool, in criticising some of the modern city houses, considered that the problem could be solved by much more simple and traditional ideas.

Mr. Jenkins, in seconding the motion, thought that the modern houses were a great deal better than the blue tiles and stock bricks and all the things one saw a few years ago when architects did not try to build rather on the old lines. He would like to hear what Mr. Weaver had to say as to bathrooms. They seemed to be tending towards the time when a bathroom, or at least a fitted lavatory, was required for every bedroom. The open loggia was an excellent thing, as one could breakfast in it during a large portion of the year. He believed there were several economical heating systems on the market which would allow them to keep the coal bill down. In some of the plans shown it appeared that the servants would have to go through the hall every time they had to answer a call at the front door.

Mr. A. T. Bolton remarked that the whole question resolved itself into trying to find some compromise between the ideas of the client and that of the architect as to what the house ought to be. If they had certain qualities they could not have others, and the whole trouble in house building arose from the fact that the public did not understand. The client wanted a Jacobean manor-house and the wife French windows, and so on, and the house became a hideous muddle. In Birmingham the man who could afford it acquired a freehold and built a house, and if that was done in the South it would be much happier for everyone concerned. Now the builder put them up as a financial operation, and the work was credited to architects. With regard to the traditional cottage way of building houses, the old builders knew a lot about economical building, and whilst it was all very well to talk about building classical houses, yet it was a remarkably expensive thing to do.

Mr. Dale agreed with Mr. Quennell in wishing they could build something a little more characteristic of themselves. Perhaps development might be made in the direction of hygiene, and there were no doubt valuable suggestions to be got from hospital planning, although he did not suggest they should make their houses like hospitals.

Mr. Arthur Keen considered it a regrettable thing that they could not arrive at any possible standard in house design. The plans of houses were generally very good and met modern requirements, but there was a degree of affectation and a sense of over-design about most of them which could not fail to be disastrous. Mr. Norman Shaw had designed houses of all kinds which were very admirable, but he never seemed to have arrived at a standard, and he was beginning to despair of ever arriving at a recognised method of building a house.

Mr. C. Brewer failed to see any analogy between a house and a motor-car. A man bought a car for a few years, but with a house it was altogether different. He also thought that if an architect had shown the photographs he would have been a good deal more severe than Mr. Weaver had been with regard to certain points. The motion having been carried,

Mr. Weaver, in reply, said Mr. Quennell was anxious for modern methods of construction, but there were by-laws which prevented anyone indulging in larks. The devising of an ideal kitchen range was not the business of the architect, and people who ran foundries would probably understand more about such things. If two bathrooms could be squeezed in a house it was an enormous advantage, and with the client that was often the test of successful architecture. There never would be a standard of design when they had forty millions of people in a country, most of whom thought they knew all about architecture. Mr. Philip Webb was consistent, but which of them could afford to take up the attitude which he took? He knew several architects who always built in the same spirit and had succeeded in retaining their client's regard, but it was largely a question of personal character.

The President announced the next meeting on November 11, at 8 p.m. Paper by Mr. J. A. Marshall, entitled "Marbles Used in Greek, Roman, and Byzantine Buildings."

THE BRITISH SCHOOL AT ATHENS.

A SPECIAL meeting of the British School at Athens was held on Tuesday evening at the Rooms of the Society of Antiquaries, Burlington House, under the Chairmanship of the Right Hon. Lord Justice Kennedy. A collection of drawings and photographs by members of the School and also the Finlay Memorial were on view.

The Chairman, in his opening address, referred to the pleasure it gave him to be present as one who had a firm belief in the supremacy of classical learning as an educational instrument, and who had found in the classics, and especially in the Greek classics, an endless refreshment in the turmoil of an active life. He heartily congratulated the School on its success, for the work it did was not merely noble in itself, but was productive of real and substantial benefit. The records of the School enlarged their store of knowledge of one of the most interesting regions and one of the most interesting peoples that the world knew. The work was not devoted altogether to what they were apt to call the classic period of Greece, but it was within the purview of the Institution to investigate the later periods through which the region had passed. He wished he knew a great deal more of what was called the Hellenistic period, and still more of the period which, alike in religion and thought, as well as to some extent in the realm of law, was comparatively unknown, viz., the Byzantine period. In spite of the work of Geo. Finlay, he felt far less acquainted in reality with the life lived during the first eight centuries after Christ than of any other period of well-known history. He was inclined to irritability when people divided history into ancient and modern, and spoke of languages as being dead or living according to their proximity to our own era, for it was impossible to separate by inter-compartments that which had contributed to the formation of modern life and character and thought. The Greeks and Romans, through their works of literature, were as alive as any so-called modern nation. He thought the School had fulfilled the prophetic words of Richard Jebb in 1883, when he said it was not to be exclusively a school for specialists of archaeology, but was to be in the most comprehensive sense a school of classical study in Greek lands. This was illustrated by the fact that classical teachers and teachers of the cognate branches of geography and topography who were working in the colleges and schools had availed themselves of the facilities which the School gave at Athens, and he regarded that as of vital interest and important, in the sense that it created a claim not only on the Universities and the schools, but upon the public generally, who cared for the best education to subscribe. There never was a time when the life and the literature of Greece ought to be more studied than the present. We lived in days which, whether they could be called vulgar or not, in many other respects were at least not marked by a want of luxury or absence of advertisement. These were days in which they were not able to say that there was not a great deal which was false and untrue in what was preached as the best art and the coming art and literature. Therefore, he hoped they would have not less but more of that acquaintance with the great Athenian nation which, small in numbers, was great in intelligence and sanity of thought; which developed a humanism which to him, after Christianity, was one of the noblest features of the thought of mankind in any age; and a love of beauty extending to morals and every action of the common life. To quote the words of an able writer whose book he had recently read, "The Greek genius has its lesson, especially for us, in their marvellous directness in the view of life which keeps men from humbug and from false sentiment, which clarifies their thoughts, and teaches them to verify their emotions." And, lastly, he thought the lesson of individualism, the freedom of individual life, and life which was a conspicuous trait in the Athenian in his best days, was something with which the rising generation should be acquainted. They owed to them a great deal of literature of all kinds which they produced in the most perfect form that the world had seen, and it might be that through the efforts of the School, and of other like institutions, some statesman of some modern European country might be able to say to his



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people in the future what a great Athenian statesman could say with truth of his countrymen in Athens: "We are lovers of beauty without extravagance and of wisdom without effeminacy."

Mr. R. M. Dawkins, the Director, gave an account of the site of Datcha, the ancient Stadia, on the promontory of Cnidus, on the western coast of Asia Minor. This was to have been the object of the School's excavation this spring, but the outbreak of the Turko-Italian war made it necessary to postpone the work. It is hoped to carry out the excavation in the spring of next year. The part of the site selected has already yielded a number of antiquities to local treasure-hunters, and Mr. Dawkins thinks there is every reason to suppose that below the surface are the remains of an important sanctuary or temple of the archaic period of Greek art. The researches of the Librarian of the School, Mr. F. W. Hasluck, have added considerably to the interest of the site. The story of the Knights of Rhodes searching for building material to repair their Castle of St. Peter at Budrum, the ancient Halicarnassus, and how they found a building covered with

sculptures, which they first admired and then destroyed, is well known. This building has hitherto been supposed to have been the famous Mausoleum of Halicarnassus, one of the seven wonders of the world; the sculptures from which are now in the British Museum. Mr. Hasluck has shown that there is good evidence that this view is incorrect, and that the building found was not at Halicarnassus, and was consequently not the Mausoleum, but some quite different building at the site now known as Datcha, the distance of which from Halicarnassus by sea is inconsiderable. Of so fine a structure some remains must have been left, and it is hoped that an examination of the site will reveal them; in any case, Stadia must have been a place of some importance to have contained so magnificent a structure.

Mr. Wace then briefly described the excavations of the School in Thessaly, and outlined the results of exploring journeys undertaken by Mr. M. S. Thompson and himself in Macedonia on behalf of the Macedonian Exploration Fund. At Halos, in Thessaly, some experimental excavations were made in the Necropolis. The principal results were

obtained from a tumulus, one of a group of ten. This, which is 2 metres high and 17 in diameter, was found to conceal sixteen burnt graves or pyres. The bodies had been burnt on the spot, and then a cairn of huge slabs about 1 metre high, was heaped over them. Later, the tumulus of earth was built over the group of pyres. With the dead were burnt also all their gear, quantities of geometric or Dipylon pottery, iron knives, and iron swords and spears or bronze brooches and bracelets. In the six pyres which contained bronze brooches and bracelets no weapons were found, consequently those are probably the graves of women. While in those which contained the iron weapons, there was no bronze, and these are the graves of warriors. A warrior's equipment consisted of an iron sword, an iron spear, and two or more long iron knives. No traces of helmets or body armour were found. These pyres, which are most interesting in that they recall the Homeric method of burial, belong to the developed iron age, and date probably between 900 and 800 B.C.

In Macedonia many important inscriptions have been found, including an important boundary decree of Trajan settling the frontier between Thessaly and Macedonia, and three letters written by Demetrius II. on behalf of his father, King Antigonus Gonatas, to the city of Berrhœa. The site of Argos Oresticum has been identified, and considerable attention has been paid to the meeting of Byzantine Churches worth further and detailed study.

The explorers have devoted some time and trouble to the study of the Wallachs or Vlachs, the southernmost branch of the Rumanian race. The manners and customs of this little-known but interesting people, which the lecturers proceeded to illustrate, are exceedingly interesting from an anthropological point of view.

CHURCH OF ST. JOHN, GUERNSEY-GROVE, HERNE HILL, S.E.

This building, recently completed, consists on the lower ground floor of large assembly hall with platform and classrooms.

In connexion with the hall is a kitchen with gas coppers for tea and coffee, china and chair store and lavatories. The vestry is also placed on this floor and by means of a special staircase communicates with the church on the upper ground floor. This special staircase would also be used as an emergency exit in case of fire.

Externally the building is of red brick of varied hue with Portland stone dressings to windows and doorways, etc., with red tile roof and bell turret covered with oak shingles.

Internally the walls are plastered and finished pale cream; the pews are stained dark green, and the woodwork of altar, paneling at back of same, choir stalls, pulpit, chancel rail, and joinery generally of Austrian oak slightly fumed.

The paving of the church generally is of pitch-pine wood block "riff sawn"; the steps and paving of chancel are of white and green marble.

The gas fittings were specially designed by the architect and form a pleasing feature of the interior.

In spite of the usual trouble of small funds available, an effective interior has been produced, the design of the whole of the fittings having very wisely been left by the Building Committee to the architect, who has thus been enabled to produce a harmonious whole, simple in character but dignified in proportion.

The general contractors were Messrs. F. & H. F. Higgs, of Station Works, Hinton-road, Herne Hill, S.E., and the architect was Mr. Leonard Martin, F.R.I.B.A., of Seymour House, Waterloo-place, Pall Mall, S.W.

ARCHITECTURAL SOCIETIES.

Liverpool Architectural Society : St. George's Hall.

Mr. Hartwell Grayson, President of the Liverpool Architectural Society, inaugurated the sixty-fifth winter session on the 21st ult. at the Society's Rooms with an address, in the course of which he said:—"The topic of the moment is undoubtedly the fate of the St. George's Hall podium. The controversy, which has now lasted two years, should be

settled during the winter. In the meantime the interest of the public has been most gratifying. Quite a number of people are sincerely trying to understand the points at issue. Unfortunately, many believe that plain walling represents cheapness and shows lack of imagination, and they cannot understand what we mean by epithets such as "repose" and "strength." The difficulty of appreciating the simple is perhaps a heritage from the Gothic revival. The man in the street remembers that one of the most delightful characteristics of Gothic is its adaptability to an irregular site. He forgets that Renaissance architecture is not so elastic and that Greek is infinitely more exacting. The last demands and insists on uniformity in both site and surroundings and ample spaciousness in these surroundings. This truth was obvious enough to Elmes and Cockrell when they designed St. George's Hall, but it is hard to explain to laymen. Elmes did not take the chief entrance at the southern end of the Hall because it was lacking inside and outside fore and aft in vista and in spaciousness, but more especially because on the east front there was a fine level "place" with ample room for a dignified approach. His plan is logical, scholarly in the details, and admirably suited to the plan and to the site. Notice his treatment of the steps to Lime-treet. He gives two flights of ten steps each separated by a 10-ft. landing. These steps have a bare 6-in. rise and 15 in. tread. They are completely in scale with the colonnade, but the actual steps seem fully steep when compared with those at the west and north entrances to St. Paul's Cathedral, which have 4½-in. treads and 5-in. risers; or those at the main entrance to the British Museum, where the treads are also 14½ in., but the risers 4 in. At the south end of St. George's Hall Elmes maintained the same level of the colonnade for the portico; a different level might have introduced element of restlessness. The portico stands less than 40 ft. back from St. John's-lane, and is about 29 ft. above it. For a descent with steps to match those in front of the colonnade at least sixty would have been required. The space necessary for sixty steps with adequate landings is about 120 ft.

It is not surprising, therefore, that Elmes decided that no descent to St. John's-lane was practicable. Instead, he formed a spreading base, composed where seen in perspective of eight blocks of masonry, 15 in. high and 2 ft. 6 in. wide. They, again, are wonderfully in scale with the whole design. Where not seen in perspective, close to the wall east and west of the portico and on the axis, these blocks are divided into two, and



St. John's Church, Herne Hill.

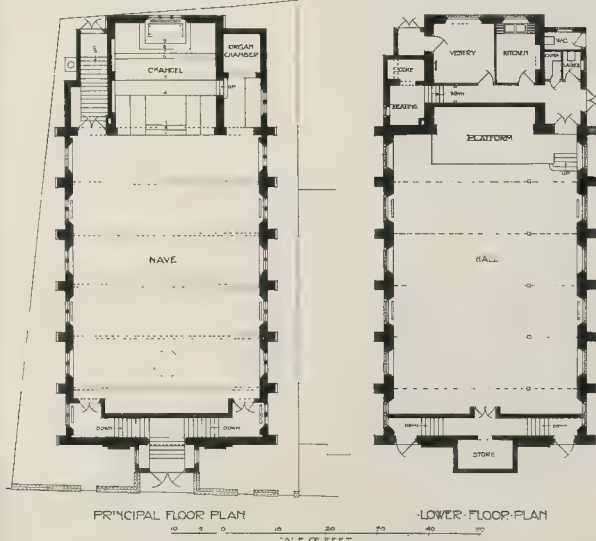
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make an uncomfortable and undignified stairway, perhaps just good enough for the few who use them. Below the last step there is a stone terrace 23 ft. wide, ending in the podium—a massive battered wall of masonry, unbroken for its full length of 160 ft. The spreading base, the platform, and the podium

are logically just as much part of the composition as the sculpture in the pediment. They blind the eye to the fall in the ground, they separate the building from the turmoil of a busy thoroughfare, and, above all, they add strength and power to the design. The plan temporarily approved by the City Council destroys all Elmes's carefully-thought-out efforts. The podium becomes two flanks, two pedestals, and a space. The platform is split into three landings. A very dangerous flood of forty-seven unnatural steps flows over on to the sidewalk. The aloofness of the Hall from the tramways and traffic is gone. And why? Who wants to climb forty-seven steep steps? Is there really no other site available for the proposed Royal memorial? Will an equestrian statue, blocking the traffic, placed on one side of the steps, almost on the top of a public convenience, meet with the approval of the Royal Family? No answer has ever been or can be given to these simple questions.

There are only three possible benefits. The first is to the building, for the abruptness of the finish between the podium and the stone-ward will seem less marked. The second is to ourselves, for we have been unofficially informed that in the Local Government Board Inquiry evidence of an architectural character will be admissible. This will form a most valuable precedent. Far too many so-called public improvements have been passed where doubtful utility has been the excuse for unnecessary vandalism. The third benefit is to the citizens of Liverpool. The controversy has opened their eyes to the world-wide fame of St. George's Hall. It is the one art treasure that Liverpool possesses. When Harvey Lonsdale Elmes ended his brief life of thirty-three years he had gained admittance to that select band who have created something to be admired and studied, not merely by their neighbours and contemporaries, but by students of all nations and all times. He was not, of course, one of the world's greatest men; he was not even a pioneer. He was the last of that scholarly

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band of English architects who worked steadily on in the footsteps of Inigo Jones until they were snuffed out by the Gothic revival. Elmes carried classical architecture just one definite step forward. He had a very great opportunity, and he stamped it with the hallmark of the "grand manner." No native art-worker since Wren, except possibly Sir Joshua Reynolds, has left such world-wide fame behind him. It is therefore not surprising that the Council of the Royal Institute of British Architects last Monday unanimously resolved to protest against unnecessary meddling with St. George's Hall, that a similar resolution has been passed by the Historic Society of Lancashire and Cheshire, and that individual protests have been received from Europe and America. However, thanks to the generosity of numerous members and friends, there are ample funds for fighting the city plan whenever an opportunity occurs. My own impression is that no opportunity will occur. The scheme is rapidly dying. It was never popular, and its authors will be glad to quietly let it drop. Some lessons, however, have been learnt by both the City Council and the public. No more such schemes for altering our landmarks will be launched at the suggestion of an eminent sculptor. Local advisers, whom in the past the City Council has gaily overlooked, are not likely to be permanently ignored. As defenders of the *status quo* this Society has earned some respect and aroused some local patriotism. When next a big public improvement is projected the ratepayers will expect Liverpool architects to be consulted.

A cordial vote of thanks to the President, coupled with a recognition of the services of a gentleman who had exhibited through a new electric lantern seventy slides of recent and important works by members of the Society, was accompanied by a consensus of opinion in support of the Presidential declaration that St. George's Hall must not be touched.

Mr. A. Thornely (a Past-President) said one could not understand why the original scheme for the proposed alteration was put forward, and though the amended design was a vast improvement upon it, the public would see that the Hall must be let alone, and not touched in any way.

Mr. Eccles endorsed these remarks, agreeing that the podium must not be altered.

Manchester Society of Architects: "Growth in Architecture."

At a meeting of this Society on October 24 Mr. Halsey Ricardo lectured on "Growth in Architecture."

In Professor Lethaby's little book on architecture he said there is that pregnant statement, "No art that is only one man deep is worth much. It should be a thousand men deep." It is much the fashion to accentuate the names of the architects of famous masterpieces and to regard them as the sole creators and originators of their work—to regard such men as Brunelleschi, Michelangelo, and others as creative ends in themselves, as independent phenomena who individually affected and controlled the tendency of their time. Yet from another point of view we may look on them as resultants rather than causes. Their environment has produced them, not they their environment.

The stream of life is immortal and the various mortal shapes in which it is manifested are the outward signs of its current, and owe their characteristics to the composition of the stream at the moment of their appearance. In our tributary of this stream the building instinct is immortal. Its manifestation at any period depends upon the ideals, the structural resources of the time. The dominant determining factor is the main stream of life. The history of the world is shown by its art with faithfulness exceeding all other record, with an eloquence unmediated by the craftsman.

This Mr. Ricardo then proceeded to show by a masterly view of the history of the arts, commencing with a contrast between the Assyrian bas-relief, with their tale of cruelty, strife, and oppression, to the Egyptian hieroglyphs, expressing their belief and hope in a future life, their delight in nature and animal life. Especially loved was the account of the passing of Medievalism and the dawn of the Renaissance, the lecturer emphasising the growing tendency of the craftsman of the

Middle Ages to perfect his own craft, giving it individualistic excellence, losing his view of the whole work, and the characteristic of the mediæval genius.

The emergence of the specialist paved the way for the revival of learning. Coming to modern times, Mr. Ricardo maintained that the impress of our social, religious, and public life on any example of our work is greater than that of the individual architect who designs it. The buildings of our age express its temper; and posterity will look back upon our present period as one of high endeavour, even if we have failed in high achievement.

Nottingham Architectural Society: President's Address.

The opening meeting of the winter session was held at the Society's Room on the 23rd ult., when the President, Mr. Ernest R. Sutton, F.R.I.B.A. and member of the Council of the Royal Institute, delivered his Presidential address, in the course of which he said:—

"The Council have been in communication with the University and School of Art authorities on the question of establishing classes embracing the subjects included in the Intermediate and Final Examinations of the R.I.B.A. It is most gratifying to be able to report that these classes have been instituted, and it is hoped that the students will show their appreciation of the steps taken by the Council by attending the classes, which should be of the greatest assistance to those preparing for the Institute examinations. I hope that ere long all architectural classes for students throughout the country will be linked up with our University centres and the R.I.B.A."

The Council have instituted a special Committee, to undertake all matters connected with the Town Planning Act. I am glad to know that Mr. A. W. Shelton has consented to join this Committee. It is proposed that the Committee shall get in touch with all local authorities at an early stage, and before they have actually prepared the completed scheme, in order that suggestions can be most effectually made both in regard to the planning and regulations comprised in the scheme.

A Trade Question.

There is a question that will, I believe, have to be considered by us in the near future. That is our position with regard to the contractors adding 10 per cent. in all provisional items irrespective of the amount or class of work. In many cases this amount appears to be excessive, and more especially when the contractor does not add anything for his own services in connexion with his subcontractors. Let me just give you an illustration:—You have a block of warehouses; the heating or electric lighting amounts to, say, 500*l*. If we include this in the quantities the client will have to pay an additional 10 per cent. of 50*l*. If it is kept out of the builder's contract, our client will have certainly the trouble of drawing two cheques, but he will be 50*l*. in pocket less the penny stamp for the cheque.

Now, what is our position? If we are instructed by our clients to omit all provisional items and treat them as separate contracts, has the builder any grounds for complaint? On the other hand, if we do not explain the 10 per cent. commission, what is our position with regard to our client?

A Nottingham Street Improvement.

I should be neglecting my duty as your President were I not to make some reference to the finest improvement scheme undertaken by the Corporation for many years—the widening and rebuilding of Carrington-street. The inability to successfully manage our street architecture appears to be almost a national weakness when one considers the prominent examples we have before us. Look, for instance, at the Regent-street rebuilding scheme, the "Piccadilly blunder," and, again, the collection of promiscuous buildings in Kingsway. Now, with regard to Carrington-street, I hope I am not getting on thin ice, but it is foolish to ignore the lessons which past mistakes have taught us. The initial mistake was sacrificing too much to the individual shopkeeper. The architect should have been given a free hand to design a façade of a monumental character, and worthy of one of the finest streets in the

city, and not be hampered by the hundred and one special requirements of a vast number of tradesmen carrying on different trades. It is not very difficult for us to realise what a magnificent street our President would have given us if he had been allowed to carry out the whole of the buildings on some such similar lines to the very successful Carrara terra-cotta façade. The opportunity of obtaining a grand approach to our city, flanked on either side by buildings worthy of such a position, has now unfortunately been lost.

Competitions.

I am introducing the subject of competitions this evening with the object of raising a discussion on the question. I am of opinion that we should use every endeavour to limit the number of competitors in all cases. In almost all open competitions the competitors expend collectively in the preparation of their designs a sum far exceeding the fees that the successful architect receives for the whole of his services. This is a very expensive luxury for the profession to be saddled with, and one which we can ill afford to keep up. I cannot see how the cost of preparing competition drawings is to be reduced. Yet, must, if you are to stand a chance of success, work out your scheme in every detail, and the draughtsmanship must be of a high order.

The conditions as revised by the R.I.B.A. Competition Committee are much improved, but I should like to suggest a further improvement—that the responsibility of nominating an assessor shall be in the hands of the Committee, and that the assessor shall be an architect who has either specialised or is acknowledged authority on the particular subject.

The Royal Academy Exhibition.

I should like to refer to the Royal Academy Exhibition. I think we have a real grievance here with regard to the amount of accommodation allocated for the exhibition of architectural drawings, though I can quite imagine the authorities replying:—

"It is the least popular room in the exhibition, except with the dear old lady, who just goes in to have a quiet little encooee." This I must reluctantly admit, is the case, and I regret to say it is in a great measure due to our own action. If we wish the general public to take an interest in the works exhibited in this much-neglected room we must supply drawings that have some interest to "the man in the street," and I would advocate that in all cases the drawings should be of buildings which have been recently erected or are in course of erection. Many of the drawings which find a place on the walls are of buildings that do not, and never will be in existence; rejected competition drawings and fancy pictures culled from the highly imaginative brain of the artist.

Registration.

The question of Registration is bound to be much in evidence this session owing to the Council of the R.I.B.A. having a large majority of its members pledged to support Registration. It is perhaps worth while to review the question and see just where we stand. Registration has been before the profession more or less prominently for many years, even before the birth of our Society, but no definite plan of action was suggested until the Society of Architects made Registration the keystone of their policy. The R.I.B.A. were urged by a small section of their members to pursue a similar policy; this has been done for some time with varying enthusiasm according to the personnel of the Council. In 1903, I think it was, the Registrationists formed a strong Committee and nominated for the Council a group of men committed to their policy. They were successful at the election, and in 1905 a Bill was drafted and presented to the members of the Institute. The Bill was, however, rejected.

In 1908 the question was again to the fore, but it was obvious to all that if a Bill was to stand the slightest chance of becoming law the scope of the Bill must be considerably widened. With this object in view another class of members was created—the Licentiate. This was the means of attracting to the ranks of the Institute a large number of architects. It was also proposed to join forces with the Society of Architects, and a Bill was drawn up for the Society of

architects to be amalgamated with the I.B.A. The new Bill was prepared, and in January of this year was presented to the members. There was strong opposition to the amalgamation of the Society of Architects, and an amendment was carried, "referred back to the Council for further consideration." At the first Council meeting of this session a strong representative Registration Committee was appointed to consider and report on the question. What conclusions this Committee will arrive at it is impossible to say, but I am of opinion that the Bill will be drafted on such lines that it will be acceptable to all classes within the walls of the Institute.

As I have on several occasions spoken against Registration, I should perhaps state that I am now strongly in favour of Registration, and one of my chief reasons for this change of attitude is that I fail to see how we can set up a high degree of education unless we keep before us the advantages of registration. It is impossible to exaggerate the importance of education. We find on every hand in every walk of life a higher standard of education is demanded, and it is essential that the architect of the future shall be thoroughly trained in his art and have a higher educational standing than in the past, if the status of the architect is to be maintained, so that he may take his proper place in the group of learned professions. I am not convinced that Registration will confer any pecuniary benefit on the average architect. Competition will, I imagine, be keener for this reason.

The boy who enters the profession to-day, as a rule, one who has a desire to design, create; he has a strong natural desire to become an architect. But when we have obtained our Act of Parliament and are a closed profession it is not probable that any will be attracted who have no aptitude for the work? This, I sincerely hope, will not be the case. In conclusion, gentlemen, let me impress upon you that, whatever trials and difficulties we may be called upon to face, we must at all times remember that we are members of a noble profession, and that our career has greater possibilities for influencing the world in which we live. It is an art that perhaps more than any other marks the character and history of nations. Surely the advancement of such an art is both living and working for."

After the address the members adjourned to a refreshment kindly provided by the President, and on returning to the lecture room a hearty vote of thanks was accorded to Mr. Sutton for his address and hospitality. A discussion on the various points mentioned in the address followed. The Nottingham Society celebrate their jubilee this year by a conversation on November 12.

Architectural Association of Ireland.

The first ordinary meeting of the session of the Architectural Association of Ireland was held on the 22nd ult., in the Rooms, 15, South Frederick-lane, Dublin. Mr. George L. Connor, F.R.I.A.A., President, presided.

New University College Buildings.

At the opening of the proceedings the Chairman, on behalf of the Association, tendered his congratulations to Mr. Butler, a fellow member, whose designs for the proposed new buildings of the National University had obtained first place, and also to Mr. Hill, of Cork, and Mr. Cullen, whose designs had been adjudicated second and third respectively.

Presentation.

In connexion with his recent marriage, Mr. George Dickinson was presented by the Chairman, on behalf of the members of the Association, with a silver salver. In making the presentation the Chairman said that Mr. Dickinson, who was lately the President, was held in the highest esteem by them all. Mr. Dickinson returned thanks.

President's Address.

The President then delivered his inaugural address. He said that fortune's wheel was turning for the country was evident by the increased activity in the building trade—a sure sign of general advancement and commercial prosperity. Such a change would be appreciated by the architects. Given the needful opportunity to display his skill, he would say,

without hesitation, that the Irish architect was capable of holding his own with any of his professional brethren throughout the world. Unfortunately, when opportunities did arise the work was handed over to some one across the Channel. He condemned that principle and those responsible for such unworthy actions. Some of the large insurance companies, as well as several of their nobility and gentry, were the chief offenders. He trusted as time progressed such occurrences would cease entirely. In this connexion it was cheering to hear testimony to the spirited action of the governing body of the National University and the Dublin Corporation in throwing open the doors of competition so that all Irish architects might enter and present samples of their originality and skill in the designs submitted for the new buildings. All credit was due to them for their recognition of the Irish architects' work, and there could be no shadow of doubt that when the selection of designs took place the results would amply prove that Irishmen had still the brilliancy of thought and action and cultured refinement for which they have long been famed. He referred to that auspicious event of a few days ago, which was destined to make its mark indelibly on the architectural life of this country—the establishment of a School of Architecture in the National University. The advantages of such a school could not be over-estimated, and he was confident that under the capable tuition of Professor Scott the young architects of Ireland would have afforded them those opportunities for which they had so long waited, and without which they had been seriously handicapped in competition with their more favoured brethren in Great Britain, where such schools existed. Already the signs of improvement were with them, notably the development of town planning. The housing of the working and lower middle classes was one however that required, and was obtaining, immediate and earnest attention. Already they saw schemes in process of construction in the city and in many provincial towns. The much criticised, and sometimes abused, Dublin Corporation had led the way, and they were being quickly followed by the urban bodies, notably the Pembroke Council, in endeavouring to adopt the "garden city" principle as far as possible in the laying-out of the sites. The young man starting business might despair because cathedrals and town halls did not call for a display of his talents. He should remember that a hygienic and comfortable home, not unbecomingly in its external appearance, suitably planned to house the worker, was of really more importance to a nation than magnificent public buildings, and should not be beneath anyone's interest.

Mr. Kaye-Parry proposed a vote of thanks to the President for his address.

Mr. P. J. Lynch, who seconded, said that as the Town Planning Act did not apply to Ireland they should not be wasting time on it, but should concentrate their efforts on the question of the housing of the poor.

GENERAL NEWS.

The Royal Institute of British Architects' Board of Architectural Education.

The Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by the following students, who are qualifying for the Final Examination, have been approved:—Subject IV.—Design for a Senate House for a Modern University.—Messrs. B. F. Bothwell, A. D. Clare, H. A. Dod, R. Duckett, E. Gee, E. H. Gibson, K. Glover, E. Prestwich.

King's College, London.

Mr. A. H. Jameson, M.Sc. (Manchester) M.Inst.C.E., formerly Bishop Berkeley Fellow in Engineering, Owens College, and, since 1909, Resident Engineer on the Thirlmere aqueduct, has been appointed to the part-time Professorship in Civil Engineering (London University), tenable at King's College.

Appointment: British School at Athens.

The Craven Committee, Oxford University, have recommended Mr. Stanley Casson, B.A., Senior Scholar of St. John's College, for appointment to the Studentship in the British School at Athens.

Southwark Bridge.

The tender of Sir William Arrol & Co. for the reconstruction of Southwark Bridge has been accepted, and the work will be commenced

as soon as possible. The tender provides for the demolition of the existing bridge and the building of a new structure on the present site as provided by the Act, passed by agreement between the City Corporation and London County Council. The gradients of the new bridge will be eased, and until it is completed the carrying-out of the new St. Paul's Bridge cannot be entered upon.

Visit of Continental Engineers to London.

A deputation of members of the Association Générale des Hygiénistes Techniciens Municipaux, and consisting of about 150 representatives of cities and towns of France, Belgium, Poland, Switzerland, and Luxembourg, have arrived in London. Amongst the places visited by them are the Engineering Exhibition at Olympia, and under the guidance of Mr. W. B. Bryan, Chief Engineer, the Metropolitan Water Board's pumping stations near Hampton Court.

The Riverside Improvements, Millbank.

Progress is made with the construction of the riverside embankment which will extend to Grosvenor-road, at the foot of Lambeth Bridge, which for longer than two years past has been closed to the passage of vehicles. For the new work some 50 ft. in width has been reclaimed from the foreshore between the bridge and Victoria Tower gardens, and the embankment will permit of an extension of the gardens in alignment with the terrace of the Houses of Parliament. It is stated that a site will be assigned to M. Rodin's group in bronze, "The Burghers of Calais."

The Home of Cornille at Rouen.

The birthplace (1606) and home of "Le Grand Cornille," No. 4, Rue de la Pie, Rouen, has been acquired by the Municipal Council for £1,360*l.*, which sum, being the vendor's price, was raised by a committee. The façade of the house will be restored to its pristine condition as it was one hundred years ago, and the ground and first floors will be adapted for purposes of a Cornille Museum.

Safety Appliances Museum.

Mr. Gill asked the Home Secretary whether any steps had yet been taken for the establishment of a Museum of Safety Appliances as recommended by the Accidents Committee.—Mr. McKenna: A museum of safety and health appliances has been under consideration for some time. It has been decided to erect a special building for the purpose, and a site has been secured in a central position in Westminster. Plans have been prepared after consideration of the arrangements in the most important of the museums of this kind on the Continent, and it is hoped that a commencement will be made with the erection of the building at an early date.

A New Theatre in Soho.

Mr. W. G. R. Sprague has been appointed as architect of a new theatre, with 660 sitters, which is to be erected upon the site abutting on West-street, Tower-street, and Lumber-court, recently purchased by Mr. Herbert Jay.

The Late Lord Peel.

Viscount Peel, who died on October 24, aged eighty-three years, was a Trustee of the British Museum, late Chairman of the Trustees of the National Portrait Gallery, Visitor of Balliol College, Oxford, and for a while Chairman of the Council, Toynbee Hall.

The Melton Prior Memorial.

A memorial to Mr. Melton Prior, the war artist and correspondent, was unveiled in the crypt of St. Paul's Cathedral on the 22nd ult. by Field-Marshal Sir Evelyn Wood, V.C. It consists of a bronze medallion of Mr. Prior, in bas-relief, set in a large tablet of onyx, with tints of white, brown, and green; and was designed and gratuitously executed by Mrs. Bennet Burleigh, the wife of the war correspondent.

French Textiles.

The exhibition of French textiles from the Mobilier National, Paris, has proved of so much interest to visitors to the Victoria and Albert Museum that application has been made to the French Government for an extension of the period of the loan. It comprises a series of seven tapestries woven at the Gobelins factory for King Louis XIV. after Raphael's frescoes in the Stanze of the Vatican, four Savonnerie carpets of the same period, and a collection of woven silk fabrics and embroideries of the early part of the

XIXth century. The exhibition was opened to the public on July 18 in the North Court of the Museum for a period of three months, and it has now been arranged, by the courtesy of the French Government, that it shall remain on view until Monday evening, November 11.

The Health of the City Worker.

A conference on "The Health of the City Worker," under the auspices of the Incorporated Institute of Hygiene, has taken place this week at the Guildhall. The Lord Mayor, who opened the proceedings, said that he believed that the principles which applied to the health of the City worker would apply equally to all private houses. During his sixty years' practice of medicine in the City he had seen an almost entire rebuilding of rooms in which clerks worked. It was his experience that the health of the clerk was well looked after, but it was well that with improved ideas the subject should be well ventilated. Referring to the drainage of the City, he said the improvement had been marvellous, and the health of the workers had seen a corresponding change for the better. Many fevers had disappeared from the City. In his youth typhus was no uncommon thing; now it was unknown in London. With improved water supply enteric was very rare.

Westminster Hall.

Mr. King asked the representative of the First Commissioner of Works whether he could give the House any information concerning the statue, supposed to be of a certain monarch, recently erected in Westminster Hall over the door leading to the Members' entrance.—Mr. Wedgwood Benn replied that the attention of the Commissioner of Works had been drawn to three stone statues of kings in the Tufnell-street Museum which had been removed from Westminster Hall. They were well preserved works of the end of the XIVth century, but in the absence of any symbols or accessories, it was not possible to say what kings they represented. The First Commissioner now proposed to bring them back, and he had had one set up experimentally in Westminster Hall.

Improvements to the House of Commons.

Mr. King asked the representative of the First Commissioner of Works whether he could inform the House if it was intended to undertake, in connexion with the Estimates for the next financial year, any alterations or improvements in the building or appointments of this House; if so, what the nature and extent of such works, if any, would be; and what means he proposed to take to consult Hon. Members before altering the building in which they had to spend so much of their existence.—Mr. Wedgwood Benn replied that various proposals were under consideration, but the opinion of Hon. Members would be sought before any considerable changes were decided on. He would welcome suggestions.

BOOKS.

The Blight on the Countryside. By FRANK ALTON MORGAN, author of "Fruit Cities," "The Story of an Essex Farm," etc. (London: The Whitehall Publishing Company. Ltd. 66 pp. 1s.)

THE objects of this small volume are stated in the Preface to be to call the attention of the public "to the misery and suffering caused throughout the country to the thrifty classes of the community by the system adopted of administering the land clauses of the Finance Act 1909-10," to the extraordinary methods of valuing small properties, to the disastrous effects of the Act upon smallholders, the illusory nature of the exemptions to small cultivators, and the general check to land development created by the administration of this measure. The work deals with the question of house property as well as agricultural holdings. Having summarised the objects of the work, we may state that the author is a Welshman and a supporter of the Government, and he approved the Finance Act on its introduction enthusiastically, but he now confesses that he is disillusioned, and readers of these pages will see that his conversion on the subject of the Finance Act is complete, although he is still a supporter of the Government. We fear many persons like the author formed their opinion of the Finance Act, not upon the Bill itself as introduced, but upon the speeches with which

it was introduced, and that this is too often the case nowadays.

The contrast between what was put forward as increment value and what it is in practice is well brought out in these pages. The author describes the system of valuation as the "Mad Hatter" system, and observes that under it private enterprise in connexion with houses and land will be shattered, and he points out that its full effect has still to be experienced. The title of the work is not wholly original, as an article entitled "The Blight of the Land Taxes" appeared in the *Nineteenth Century and After* in September, 1910. The author writes in a very colloquial style, but he appears to have a considerable grasp of his subject, and we commend this very interesting little volume to the attention of our readers.

The Cheap Cottage and Small House: A Manual of Economical Building. By J. GORDON ALLEN, A.R.I.B.A. (Letchworth Garden City Press, Ltd. 1912. Price, in paper 1s. 6d., cloth 2s. 6d.)

NOTHING would so tend to improve the aspect of our villages and the outskirts of our towns as to devise some means whereby the very smallest type of habitation should enjoy the advantages to be derived from the knowledge and skill of the architect.

The difficulty being, we suppose, principally an economic one, it seems to be open to the architect to show that he is not merely a luxury which this type of building cannot afford, but that his special skill can effect such economies or produce such added value as shall more than balance the cost of his employment.

This book, the second edition of which we now welcome, appears to tend in that direction to prove that beautiful buildings are not necessarily expensive nor ugly ones necessarily cheap. As Mr. Allen says:—"It may well be argued that the very qualities that make for cheapness tend towards a pleasing appearance," and his book goes far to prove it. Mr. Allen appears to have made a close study of economical building, and a special feature of the book is the definite information, based on actual experience, of the cost of houses ranging in price from 105s. to 900s., plans and views of which are given. Many of these designs are admirable. The book is full of information and suggestion on every aspect of economical building, and should be useful to all those interested in a subject of such great importance to the welfare of the community.

Nothing Gained by Overcrowding. By RAYMOND UNWIN, F.R.I.B.A. (Garden Cities and Town Planning Association. 1912. Price 3d.)

ALTHOUGH public opinion is always averse from restricting individual industrial activity in any direction, it has lately come to realise that the activity of those who overcrowd the land is detrimental to the public welfare. Proposals for restricting this activity by way of limiting the number of houses to the acre, although generally recognised as necessary and reasonable, may naturally enough be expected to look quite otherwise to those whose profit lies in creating overcrowded areas. It is as well, then, that everyone should be in a position to realise how small is the extra profit to be obtained by overcrowding the land compared with the harm done to the community, and how slight a

restriction to individual enterprise is entailed by reasonable limitations. In this little publication Mr. Raymond Unwin discusses the financial result of the usual by-law system of development compared with that of a method which by limiting the number of houses to the acre establishes a satisfactory proportion between the area built over and that left open for gardens or roads. This he illustrates by diagrams and figures applied to a 10-acre plot, which is shown developed on the two different systems. Attention is drawn to the fact that the limitation of houses to the acre does not by itself achieve the end desired unless it be accompanied by some limitation of their area and cubic contents. The study of the facts and points of view here set forth must, we think, go a long way to convince all those concerned that the hardships entailed on individuals by this necessary measure of public reform are considerably less than is generally supposed.

The small price should help to secure it the wide circulation it deserves.

BOOKS RECEIVED.

AN ACCOUNT OF MEDIEVAL FIGURE SCULPTURE IN ENGLAND. By Prior and Gardner. (London: Cambridge University Press. 3s. 3s. net.)

THE ETCHINGS OF FRANK BRANGWYN. (London: The Fine Art Society, Ltd. 3s. 3s. net.)

THE LAW AND PRACTICE OF RATING. By W. C. Ryde. (London: Butterworth & Co.) BRASSES. By J. S. M. Ward, B.A., F.R.Hist.S. (London: Cambridge University Press. 1s. net.)

ST. MARY'S COLLEGE, GALWAY.

ST. MARY'S COLLEGE, Galway, opened on August 25, 1912, is at a considerable elevation above the city, and commands a fine view of Galway Bay on one side and of Lough Corrib on the other. Professor W. A. Scott, of the National University, Dublin, was the architect, and Mr. James Wynne, of Dundalk, the builder, the contract price being 13,000s. The College affords accommodation for over 100 boarders in addition to the resident College staff, but the wings are so designed as to admit of extension. The building is 240 ft. long, with returning wings of 90 ft. The principal entrance is flanked by four subordinate towers supporting a central tower, which forms the chief feature of the front ornamentation. The towers are in Celtic monumental scholastic style, the central one rising above the roof and containing a water tank holding 20,000 gallons. The building is fire-resisting, the floors and roofs being of concrete. The asphalt work was executed by Messrs. Reinhardt, of Dublin, supported on framework by the Expanded Metal Company, of London, the concrete partitions being made with the machines of the Winget Company, of Newcastle-on-Tyne. The College was founded by the Bishop of Galway, Most Rev. Dr. O'Dea, and is intended to train young men of his diocese for the Roman Catholic priesthood.



St. Mary's College, Galway: Front View.

Professor W. A. Scott, Architect.

ILLUSTRATIONS.

Buckingham Palace.

THE illustrations of Buckingham Palace are given in connexion with an article appearing on p. 495, which deals with the history of the fabric and with the design for the new front.

New Congregational Church, Fairhaven.

FAIRHAVEN is a fair place by the sea, lying on the Ribble Estuary between St. Anne's and Lytham. The site of the Church is within a few steps of the bay, at the junction of Clifton-drive and Ansdell-road. The church is faced externally with "Ceramo," from the Middleton Fire Clay Works, Leeds. Many important buildings in recent years have been erected of this material. Having a matt or vellum surface, it presents a very marble-like suggestion. It is also more enduring than stone, and especially so when used near the seaside.

The plan of the church is in the form of a cross, three of the embayments being utilised in the interior space as transepts, and the fourth as choir and Communion. The ceilings of these and the nave are segmental in shape.

The main entrance is from the junction of Clifton-drive and Ansdell-road, and consists of an open octagonal-shaped vestibule, and above this there is a campanile 90 ft. high. At the northern corner of the church there is another entrance from Clifton-drive; this is a similar portico and vestibule as the central one. This is intended to be used as an entrance to church, church-parlour, and school premises (the latter having been erected some few years ago). This entrance is surmounted by a smaller flanking over about 50 ft. high.

The organ-chamber, about 17 ft. by 12 ft., is placed at the Communion end and adjoining the vestibule and entrance to the Church Hall in Ansdell-road. At this angle also of the facade there is a corresponding flanking tower to the same height as the one at the northern corner. The choir vestry is at the opposite side of the Communion, and the size is 17 ft. by 16 ft. The floors throughout are laid in wood blocks, and the Communion, vestibule, and notices marble mosaic. The accommodation is for about 500. The church-parlour is placed on the right-hand side of the entrance from Clifton-drive. From this entrance there is a corridor leading to the minister's and teachers' vestries, and also to the present Church Hall.

The buildings have been designed by Messrs. Briggs, Walsenholme, & Thornely, F.R.I.B.A., of Blackburn and Liverpool, and the estimated cost is about 7,500. The contractors are Messrs. Gerrard & Sons, of Swinton, Manchester.

The Orchestral Association.

The premises we illustrate this week have been designed by Messrs. H. Percy Adams and C. H. Holden, for the Orchestral Association, Ltd., and will be used as a club by the members of the Institution.

In the basement is a large cloakroom fitted with "lock-up" cupboards for the use of members. The ground floor consists of the secretary's offices and a large smoking and refreshment room. The first floor consists of committee-rooms and a large billiard-room; the second over the reading-rooms. The top floor consists of steward's quarters and kitchen and offices, with lift to every floor.

Internally the woodwork generally is of teak and the walls plastered.

Externally the elevation is faced with grey leading bricks, flush-pointed, and Portland cement dressings.

The sculptured panel is by Mr. C. Pibworth. Contractors, Messrs. Sheffield; fireproof floors, Messrs. Homan & Rodgers; electric lighting, General Electric Contracts; heating, Messrs. Perry & Son; locks and fittings, Messrs. Gibbons; casements, Messrs. Hope & Sons.

MEETINGS.

FRIDAY, NOVEMBER 1.

Royal Sanitary Institute.—Mr. Edward Willis, F.S.I., on "Sanitary Appliances." 7 p.m.
University Extension Lectures.—Visit to Westminster Abbey. Meet at the Cloisters. 2 p.m.

MONDAY, NOVEMBER 4.

Royal Institute of British Architects. Opening meeting session. Presidential address by Professor Reginald Lomfield, M.A., A.R.A. 8.30 p.m.
Royal Sanitary Institute. Mr. Edward Willis, F.S.I., on "House Drainage." 7 p.m.

The Society of Engineers.—Mr. William P. Durnall on "The Generation and Electrical Transmission of Power for Marine Transportation." 7.30 p.m.
The London University (Victoria and Albert Museum).—Mr. Banister Fletcher on "Italian Gothic." 5 p.m.

TUESDAY NOVEMBER 5.

The London University (British Museum).—Mr. Kaines Smith on "Homer and His Age." 7 p.m.
Royal Sanitary Institute.—Mr. Henry C. Adams on "Sewerage." 7 p.m.

Institution of Civil Engineers (to be held at the Institution of Mechanical Engineers, Storey'sgate, S.W.).—Address by Mr. E. Elliott-Cooper, the President, and presentation of the medals awarded by the Council.

WEDNESDAY, NOVEMBER 6.

The Royal Archaeological Institute.—Mr. C. H. Bothamley, M.Sc., on "The Walled Town of Aigues Mortes." 4.30 p.m.

Nottingham Architectural Society.—Exhibition and criticism of "Constructional Details and Testimonies of Study" by Mr. W. R. Gleave, A.R.I.B.A.

Institute of Sanitary Engineers.—Mr. William Marriott on "Meteorology and Public Health." 8 p.m.
Edinburgh Architects Association.—Opening meeting. Mr. Francis Bond, M.A., F.G.S., on "French and English Cathedrals." 8 p.m.

THURSDAY, NOVEMBER 7.

The London University (British Museum). Mr. Banister Fletcher on "Creban and Mycenae Architecture." 4.30 p.m.

FRIDAY, NOVEMBER 8.

Royal Sanitary Institute. Mr. Henry C. Adams on "Sewage Disposal." 7 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 523.

University Buildings, Dublin.

Twenty-two sets of designs were sent in for the proposed new buildings for University College, Dublin, the competition drawings being adjudicated upon by Mr. Henry T. Hare, F.R.I.B.A. The award is as follows:—First place, Messrs. Doolin & Butler, 27, Dawson-street, Dublin; second place, Messrs. Arthur & H. H. Hill, 22, George's-street, Cork; third place, Mr. T. J. Cullen, 25, Suffolk-street, Dublin. The competition was limited to architects living and practising in Ireland. Mr. R. M. Butler, F.R.I.B.A., was a pupil of and afterwards a partner with the late Mr. W. G. Doolin, F.R.I.B.A., who died in 1902.

Municipal Buildings, Dublin.

The date for sending in designs for this important work is given as January 1, 1913, but it is probable that an extension of time will be arranged. The cost of the proposed buildings is 55,000, and the author of the design placed first will be appointed to carry out the work on a 5 per cent. basis, exclusive of railway and personal expenses. Premiums of 1500 and 1000 are offered also. Mr. Albert E. Murray, F.R.I.B.A., is the Assessor.

Hale Town Planning.

The Town Planning Committee of the Hale (Cheshire) Urban District Council, with their Adviser, Mr. Percy D. Lodge, of 3, Ridgefield, Manchester, have made the awards in this competition. The first premium of 500 was awarded to Mr. R. Dann, of Messrs. J. Cheal & Sons, Ltd., Lowfield Nurseries, Crawley,

Sussex; and the second premium of 250, to Messrs. Robert Bennett, A.R.I.B.A., and Wilson Bidwell, architects, Letchworth Garden City, Herts. The design coming next in order of merit was that of Mr. John C. Thompson, of the Earle Estate Office, Manchester, and 12, Dunham-road, Altrincham. The Committee present were unanimous in their decision. The plans of the two successful competitors will be used as the basis for the town planning scheme which the Council intend to make application to the Local Government Board for permission to prepare, the first step of which is the settling of the area to be included in the scheme. This question will come up at the next meeting of the Committee, which is to be held at an early date.

R.I.B.A. Competitions.

Next month the drawings for the studentships and prizes of the Royal Institute of British Architects must be delivered, and those who are at work on designs must soon put in the finishing touches. This year competitors may choose their own subject for the Essay Medal with 25 guineas, and the result should be interesting. The Soane Medallion with 1000 is offered for the best design for a Terminal Railway Station, and American enterprise in this direction will have influence, we expect, on the schemes submitted. With the Buckingham Palace alterations in mind attention will be directed to the Title Prize design for "The Façade of a Royal Palace in a City."

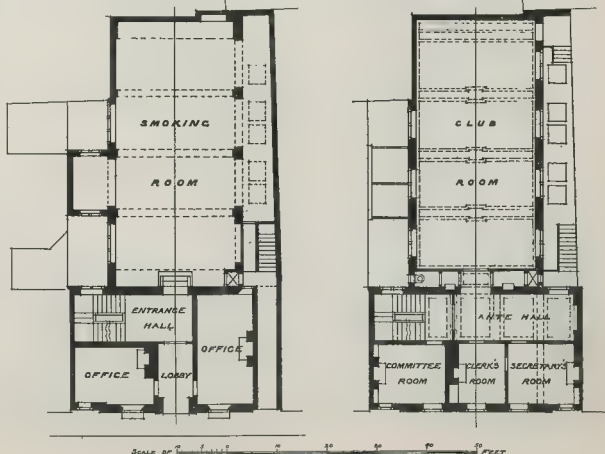
CORRESPONDENCE.

Teachers as Adjudicators.

SIR,—Everyone interested in contemporary architectural education cannot but be delighted with the outstanding success of the system adopted at the Liverpool University School; but is it quite just that studies prepared at this Institution, apparently under the supervision of the Professors, should be accepted as testimonies of study for the R.I.B.A. Final Examination?

For every candidate for the Associateship who comes from the Liverpool School there must be many who are unable to obtain a similar advantage; and it seems to me that it is rather unjust that those other candidates should be handicapped (as they must be) by having to compete with students whose designs are, to all appearances, prepared under the supervision of, if not with the assistance of, such able Professors.

One also notices that Professor Reilly is one of the Committee of Adjudicators appointed for the competitions for the new scholarship at the British School at Rome. Most probably some of Professor Reilly's pupils will be competitors for this valuable scholarship; and, without for one moment attributing the slightest intentional partiality to Professor Reilly, surely it would be more



Premises of the Orchestral Association.
Messrs. H. Percy Adams & C. H. Holden, Architects.

satisfactory to all concerned if this gentleman did not occupy the position of Adjudicator in a competition in which there are, almost of a certainty, many of his own students competing?

If the architectural profession in their own competitions cannot frame arrangements in a manner beyond question, surely it should not complain of outside bodies issuing unsatisfactory conditions.

CRICKET.

[*.* We think there is something to be said for the points raised by our correspondent, especially with regard to the scholarship of the British School at Rome, and we shall be interested to hear the views of our readers upon them.—ED.]

Demolition of the Old G.P.O.

SIR.—It is with regret that I observe another City landmark being demolished, viz., the old G.P.O., which has always rightly been considered a beautiful piece of architecture, and, without question, is far superior as regards façade, to its successor, which shows no particular genius on the part of its designer.

The writer would be pleased to hear what the Government intend doing with the site, and whether it would not have been possible to reconstruct the interior to suit the purpose of whoever requires the site; and, again, could not the Government have adapted the building to have suited their own requirements, and have saved the country the enormous expense they have been put to in securing the old Christ's Hospital site and the erection of the new buildings—especially when one thinks of the amount of money outlaid in additions and alterations, say, during the last twenty years?

Finally, would it not be possible for the Government to re-erect the façade in a convenient place for the benefit of architectural students, memory of days gone by, and a tribute to genius?

ADRIAN C. S. WHEELER.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring-gardens, S.W., Lord Cheylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended that loans be made to various local bodies as follows:—Hackney Union Guardians, 15,000*l.* for poor law purposes; Islington Borough Council, 8,486*l.* for electricity undertaking, and 11,500*l.* for repaving works; Lewisham Borough Council, 4,000*l.* towards cost of street improvement; Poplar Borough Council, 10,000*l.* for electricity undertaking; and Stepney Borough Council, 10,250*l.* for electricity mains.

St. Paul's Bridge.—In a joint report of the Highways and Improvements Committee it was recommended that authority be sought in the next session of Parliament for the construction of a tramway over the proposed St. Paul's Bridge. During a discussion on this matter the Chairman of the Special Committee on the allocation of the cost of street improvements along the tramway routes moved that of the proposed contribution by the Council of 350,000*l.* towards the cost of street improvements at St. Paul's Churchyard, 20,000*l.* should be allocated to the tramways account. The Chairman of the Highways Committee also presented a report pointing out that trams would pass through a subway and be constructed at a cost of 86,000*l.*—the whole of this amount being allocated to the tramways' account, and therefore suggested, on behalf of his Committee, that no part of the cost of widening at the Churchyard should be borne by the tramways account.

The recommendation to allocate 20,000*l.* to the tramways account was carried by a majority of one.

Theatres, etc.—The following drawings have been approved by the Theatres and Music Halls Committee:—Aldwych Theatre—Provision of a movable screen in the dress circle; construction of an enclosure for projecting arc lamps. Bear-street, Leicester-square (Cinema de Paris)—Alteration to the seating. 28-32, Denmark-hill Provision of a motor generator enclosure. Hackney Empire, Mare-street—Alterations to the electrical installation. Hamilton Hall, South-road, Forest-hill Arrangement of the new portion of the supper-room and the new block of dressing-rooms. 2, Holloway-road and 4, Highbury-crescent—Ventilating arrangements; amendment of the sanitary arrangements. 44, Mile End-road—Arrangement of the lighting and heating installations. Morley Hall, Mare-street, Hackney—Provision of a motor generator enclosure. Mornington House, Canonbury-lane—Provision of a balcony. Clapton Rink and Cinema, 137-147, Lower Clapton-road Alterations to seating arrangements, etc. 226, Commercial-road (late Yiddish Theatre)—Provision of a cinematograph chamber. 396, Mile End-road Alterations. Rotherhithe Town Hall—New lavatories and alterations to cloakroom. Royalty Theatre—Provision of electric fan. 56 and 58, Rye-lane—Alterations.

Drawings have been submitted for cinematograph theatres as follows:—By Messrs. Deakin & Cameron for a cinema to be erected at the junction of Great Western-road and Hornsea-road, Paddington; by Messrs. J. S. Quilter & Son, for a cinema to be erected at 213, King-street, Hammersmith; and by Mr. F. T. Verity, for a concert hall to be erected at 316-320, Regent-street, W.

FIFTY YEARS AGO.

From the *Builder* of November 1, 1862.

Prevention of Decay in Timber.

MESSRS. YORK & Co. are circulating a translation of an "Essay on the Prevention of Decay in Timber," by a new system of carbonisation, written by Mons. de Lapparent, Inspector General of Timber for the French Navy, and which system, it appears, is extensively adopted at the present moment in the French Government dockyards for their line-of-battle ships, as well as by railway companies both in that country and Spain for the preservation of their sleepers, &c. The advantage of putting the butt of a gate-post, for example, into a fire before placing it in the earth, is perfectly well known in England. The difficulty found in effecting this charring has prevented a more extensive use of the process.

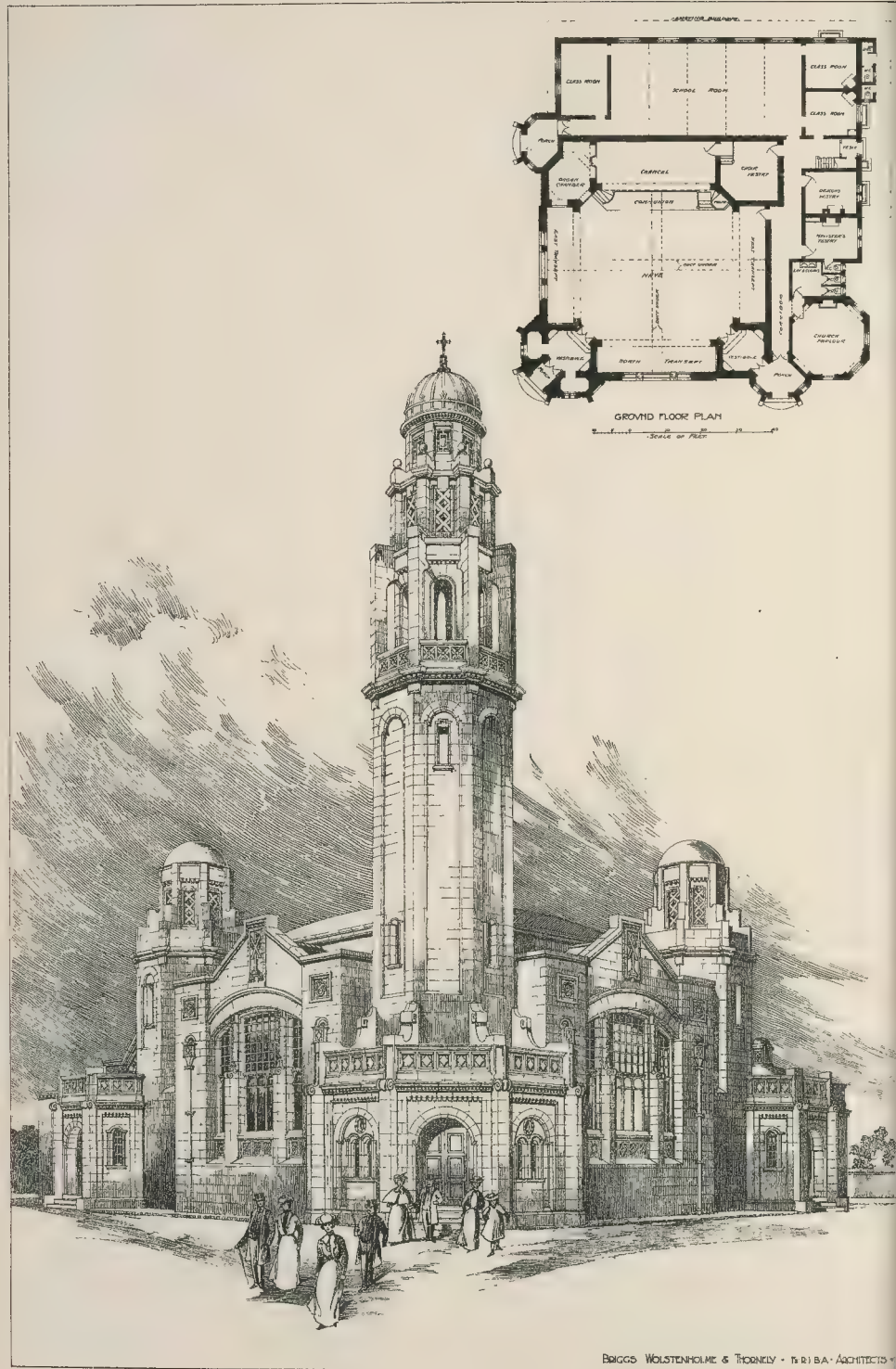
. Any method devised for the preservation of timber must be directed in the first place either towards eliminating the sap or destroying its vitality. Any treatment affecting the surface of timber only offers but a temporary impediment to the action of moisture. The sap may be soaked out by immersion in water, or the spores may be destroyed by a high temperature. It is possible that, in the process referred to, by which the surface was thoroughly charred by a contrivance of Bunsen burners, the heated products of combustion permeated the wood to a greater depth than the portion actually charred, thereby rendering such parts sterile. But it is improbable that any such action went very far, and a later report on M. de Lapparent's system was not satisfactory. The process that has for long now held the field consists in forcing creosote into the pores of the timber at high pressure and at an increased temperature. In fact, nothing less than a complete permeation of the timber by some antiseptic medium can be accepted as a reliable preventive. The application of heat may only result in the drying up of the sap, leaving it eager to absorb moisture again. The mere dipping of the end of a post in some preparation before burying it—a proceeding that is very popular—cannot be trusted to act as a deterrent to decay, unless care has also been taken to ensure the fact that the spores within the timber are dead.—ED.



Euterpe.

Mr. Charles Pibworth, Sculptor.

Figure in Portland stone on the new premises of the Orchestral Association. (See Inset Plate.)



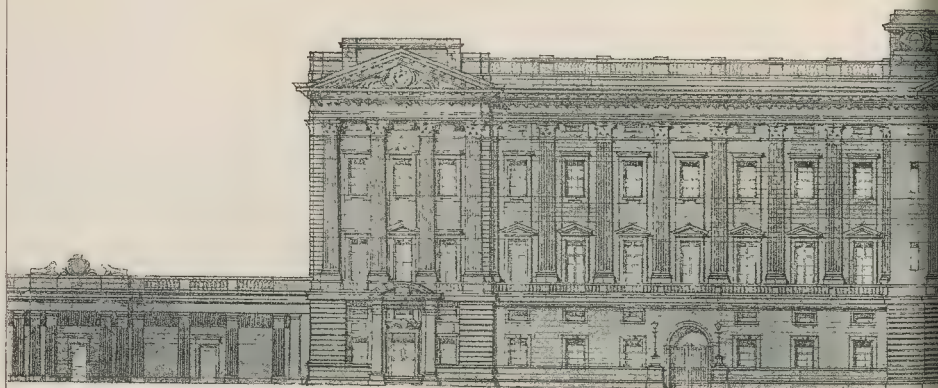
BRIGGS, WOLSTENHOLME & THORNELY, F.R.I.B.A., ARCHITECTS.
 PHOTO-LITHO SPRABUE & CO. LTD. 69 & 70, DEAN STREET, SOHO, W.

NEW CONGREGATIONAL CHURCH, FAIRHAVEN.—MESSRS. BRIGGS, WOLSTENHOLME & THORNELY, F.R.I.B.A., ARCHITECTS.

BUCKINGHAM, PALACE

PROPOSED REFACING, OF EAST FRONT

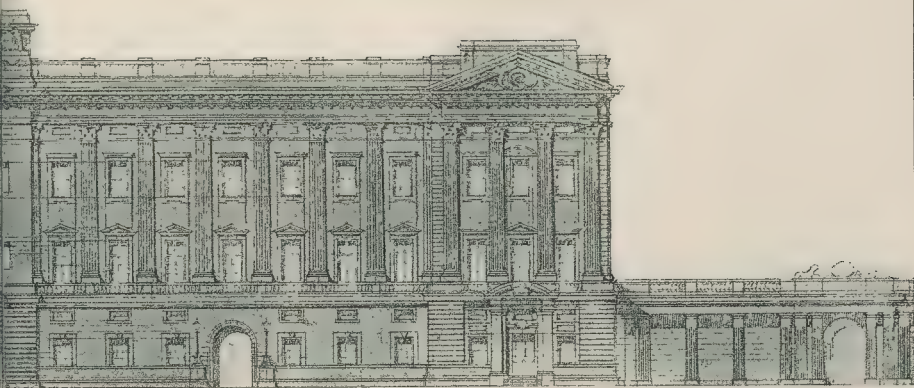
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— FRONT ELEVATION —

BUCKINGHAM PALACE: DESIGN FOR NEW FAÇAD

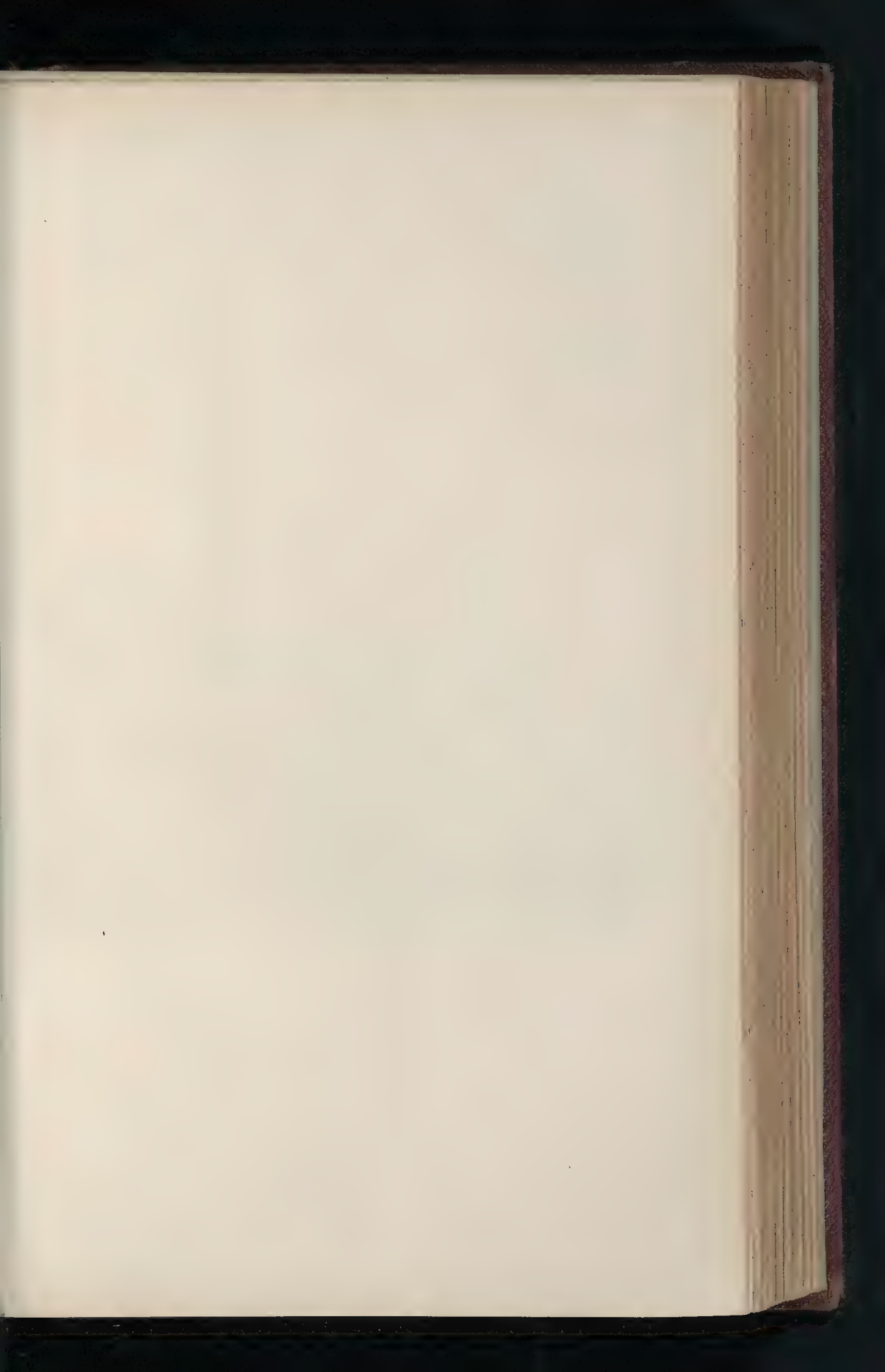
1912.



ALL AS PROPOSED.

PHOTO SPRAGUE & CO LIVED & TO DEAN STREET, SONO, W

GRAPH DRAWING BY SIR ASTON WEBB, C.B., R.A., ARCHITECT.





BUCKINGHAM PALACE: DESIGN FOR

BUCKINGHAM PALACE
VIEW TOWARDS THE MALL AS PROPOSED

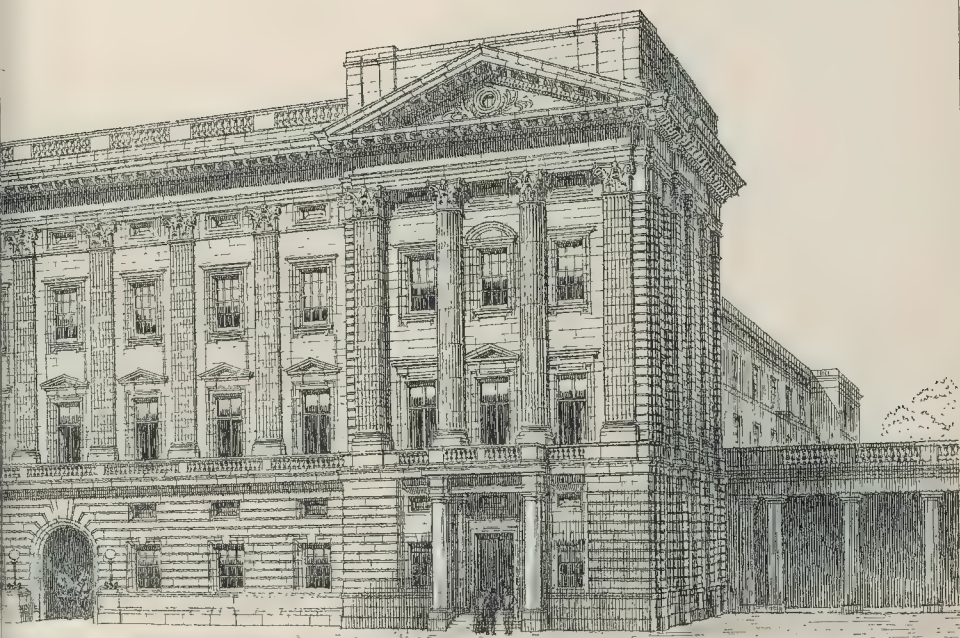


PHOTO. THE SPENCER & CO. LTD. 89 & 90 DEAN STREET, SOHO, W.

SIR ASTON WEBB, C.B., R.A., ARCHITECT.



PHOTO-LITHO SPRAGUE & CO. LTD. 69 & 70 DEAN STREET, BOLD, W.

PREMISES OF THE ORCHESTRAL ASSOCIATION, ARCHER STREET.—MESSRS. H. PERCY ADAMS & C. H. HOLDEN, ARCHITECTS.

MONTHLY REVIEW *of* CIVIC DESIGN.



Broadway, Winnipeg, in which the New Parliament Buildings will be placed.

TOWN PLANNING AT WINNIPEG.

THE Town Planning Conference held during the summer in Winnipeg, which was attended by the Governor-General, and by the leading authorities on design in the Dominion, should give considerable impetus to the movement for a general improvement and extension plan for the city itself. We are interested to learn in addition to exhibits lent by the Garden City and Town Planning Association, a special report of this Congress was the scheme presented by the Winnipeg Town Planning Commission.

The citizens of Winnipeg are nothing if not realistic, and they are fully aware of the great future which lies before their city. It may be said that they are, therefore, that any plan they put forward will express their confidence in its ultimate expansion into the central city of Canada, which, if it rivals London in size, will never, we hope, rival it in beauty.

We understand that the plan put forward by the Commission provides for a civic centre, the Parliament buildings, Government buildings, Law Courts, etc., grouped round a new Hall. This scheme, we presume, takes account of the new Parliament buildings to be erected by Mr. Simon on a site on Broadway—a view of which is given—founded on the other side by the Assiniboine

combination of the two in an architectural composition at the same centre will present an extremely interesting architectural problem, and we shall be interested to see how it is treated at Winnipeg.

We publish also a plan of the city in 1909, which gives an idea of its general lay-out and of the manner in which it has developed from the original fort of the Hudson Bay Company at the junction of the Red River and the Assiniboine River. Owing presumably to these rivers and to the presence of old Indian trails to Fort Garry, the main thoroughfares have not been laid out at right angles, so that although the filling in of the plan is on the usual gridiron pattern, the main skeleton suggests some possible adaptation or modification of the radial system in any future developments of the central area.

Anyone who has been confronted with the difficulties and drawbacks entailed by the huge bulk of Greater London will realise that in a city size, beyond a certain limit, is not a thing to strive for and to be proud of.

It is to be hoped that in the case of Winnipeg the garden city idea will be borne in mind, and a green girdle acquired before it is too late.

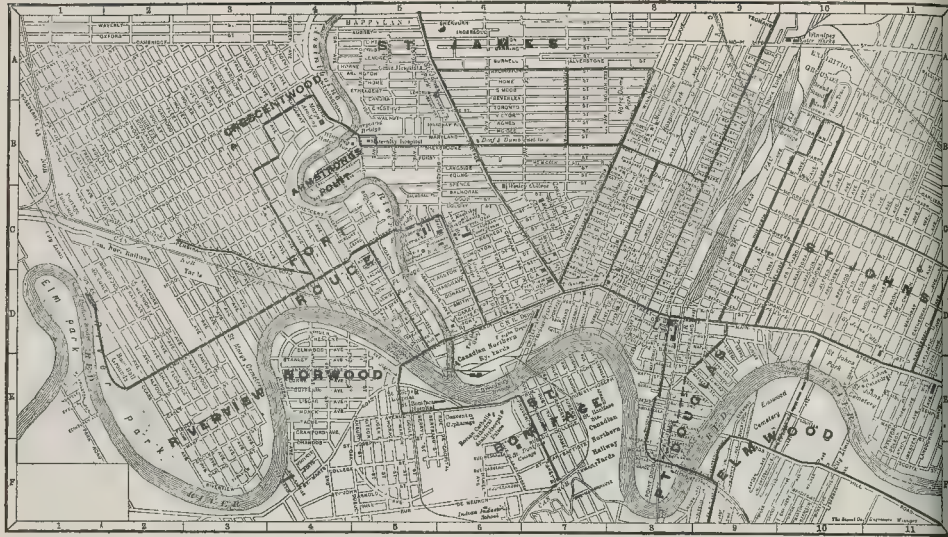
THE CITY DEVELOPMENT PLAN.

LONDON still lacks its city development plan. That there is a growing need for such a plan is shown almost daily as fresh improvements are contemplated, improvements which, to judge from the past, will be left but half completed, lacking the most important part, co-relation to the city as a whole. Examples will

occur to everybody—the Aldwych and Kingsway fiascos, the discreditable petty warfare of the powers that be about the termination of the Processional Way, the St. Paul's Bridge question—there is no need to prolong the list, all these point insistently to the necessity for some carefully co-ordinated plan upon which the city may base its development and growth.

The idea is not by any means new, but in the general apathy which has reigned until recently it has been overlooked and its importance unrecognised. Imperfect appreciation of the purpose and aims of such a plan have caused a regrettable bias against it in some quarters, and an impression, quite unfounded, exists that the idea is visionary and could not be carried out in practice. That this is false the following quotation from the report of the New York City Improvement Commission (1904) will show:—"A comprehensive plan must necessarily anticipate the future growth of the city for many years to come and be so framed as to meet all possible requirements, so far as they can be reasonably foreseen, and be so designed that all its parts shall be consistent the one with the other, and form a homogeneous whole. In order that any improvements hereafter made may be entered upon with reference to the accomplishment of a definite purpose." That is the definition of the city development plan, and emphasis is laid on the gradual nature of the change to be brought about in the city, and also upon the necessary harmony of the projected changes and their relation to the city as a whole.

The majority of the larger American cities have realised the importance of this method and have formed advisory boards, composed



Map of Winnipeg. (See page 509.)

of men of standing in the community, whose interests or attainments fit them for the difficult task, and these boards have gathered materials and information of all kinds bearing on the city—historical, social, and topographical. The result of their deliberations is published (often as a handsome volume, illustrated by the foremost draughtsmen of the day), and forms the base upon which to plan any improvement. The advantages of such a course are obvious.

That such a plan is needed in London today cannot be denied, and the necessary machinery should be easily set up—an advisory board, with a few assistant experts, whose united labours would inspire confidence. The civic authorities, too, with the advantage of a clearly defined line to follow, and would be able to guide the evolution of their city with little, if any, hardship to those most nearly concerned. It is surely time now that something on the lines indicated above was done, as we have been long enough content to muddle through.

THE ESSENTIALS OF A GARDEN CITY.

Owning to the numerous paragraphs that are continually going the round of the daily Press, under the heading of "A New Garden City," whenever a few acres of building land are to be developed, the Secretary of the Garden Cities and Town Planning Association sometime ago asked to be allowed to define the essentials of a garden city as distinct from a garden suburb, or from ordinary development. He states them as follows:

1. That before a sod is cut or a brick is laid the town must in its broad outlines be properly planned with an eye to the convenience of the community as a whole, the preservation of natural beauties, the securing of the utmost degree of healthfulness, and proper regard to communication with the surrounding district.

2. That in the town area the number of houses should be strictly limited, so that every dwelling should have ample light and air, with a suitable garden, and that public recreation ground and open space should be provided generously.

3. That the town area should for ever be surrounded by a belt of agricultural and park land, so that while in the centre the urban problem is being dealt with, the rural portion, which should be the larger part of the estate, may be available for farms and small holdings, in order that the smallholder and market gardener may have a new market direct to hand for the sale of produce.

4. That the return on capital should be limited to, say, 5 per cent., any profit above that amount being applied to the estate itself for the benefit of the community.

5. That the town should be not merely residential, but also commercial and industrial, that provision should exist for taking the worker and his work away from the crowded centres into the fresh air of the country district, where not only should the land be cheaply obtainable for the employer, but the worker should have a comfortable cottage at a convenient distance from his labour.

"It is therefore," he continues, "essential that the land should be of considerable area, and its development should be in the hands of one controlling body, which, in Mr. Howard's scheme, should have for its ultimate object, not the making of huge profits, but the improvement of the conditions of life for all who live on the area. The estate should be somewhere from six to ten square miles in area, and in order to give effect to the desire for the combination of town and country about two-thirds should be reserved for the rural area."

As he further points out, neither a "garden suburb" nor a garden village, such as Bournville, fulfils these conditions, for they make no attempt to deal with the root evil of rural depopulation, towards which the garden city acts as a preventive not as a palliative.

It certainly is most desirable that terms should be accurately defined, and that the fundamental principles underlying the garden city movement should not be forgotten. Although it is no doubt annoying to those who have been propagating this idea for the past thirteen years to find the name used by every speculator who is anxious to draw attention to his building scheme, yet there should be some comfort in the proof it affords of the growing popularity of the movement.

The same difficulty has arisen in other countries, notably in France, where, if we may believe the speculators' announcements, garden cities are to be found in profusion on the outskirts of all the large towns.

It is difficult to see how the abuse of the term is to be prevented, but at any rate the public can be kept informed as to the salient features of a garden city, and not be left under any misapprehension.

MONTREAL.

In a previous number (August 4, 1911), in the course of some notes on recent work in the city of Montreal, attention was called to the extensive additions to the equipment of the city as regards schools, and in the present issue we give some further illustration of these. The census of 1911 pretty clearly reveals some of the pressing necessities which have been at the back of recent building activity. The city proper numbered a population of 267,730 in 1901, whilst the census

of the current year places it at 466,197, showing a larger increase than in any other city of the Dominion. With its suburbs Montreal has now a total population of over 520,000. The province of Quebec also shows a larger increase than that of any other of the older provinces due no doubt to the steady development of great natural water powers in various industries and this increasing industrial development with corresponding mercantile organisation is what has called into being the Ecole des Hautes Etudes Commerciales de Montreal, Commercial High School.

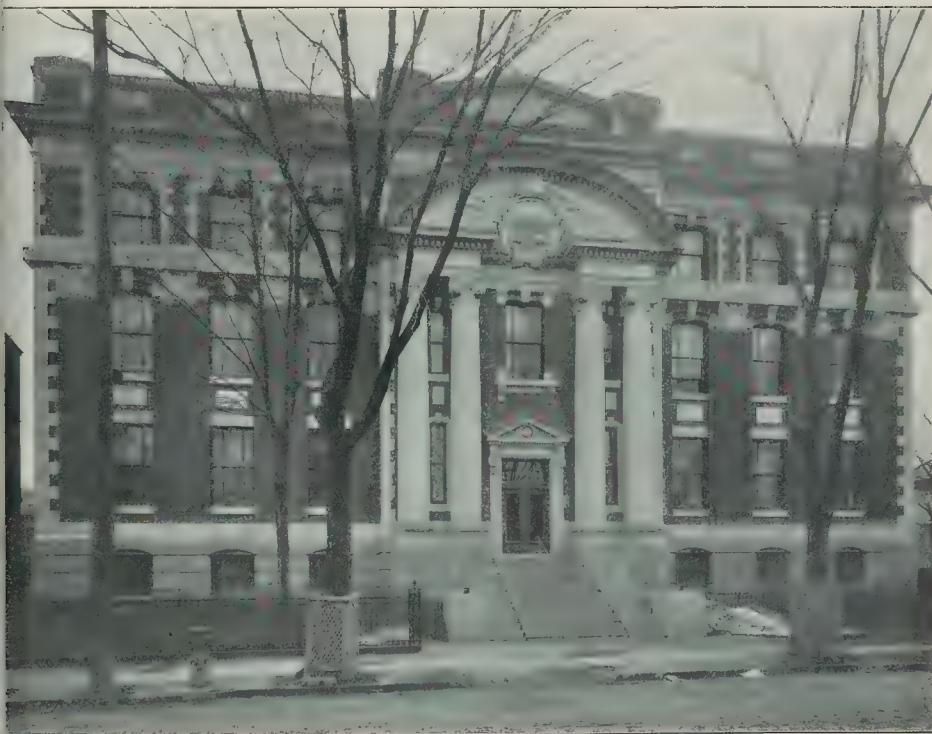
The building is advantageously placed on the side of one of the city squares, the Place Viger, opposite the terminal of the eastern system of the Canadian Pacific Railway. Limestone only is employed in the facade. Internally the woodwork in doors and dado is chiefly oak and the floor is birch. The chief feature internally from an architectural point of view is the entrance hall, with four Roman Doric pillars and a wide staircase oak with wrought-iron railing of scroll-work. Besides classrooms and laboratories the building contains a commercial and industrial museum the exhibits in which are in process of acquisition. The architects are Messrs. Gauthier, Daoust, of Montreal. The courses in the institution are in the French language, about two-thirds of the population of the city being of French descent.

On the other hand, the Montreal Technical and Commercial High School in Sherbrooke street is under the direction of the Protestant Board of School Commissioners, and education is here given in English. The building is of red brick and yellow limestone. There is a large assembly hall in the rear. The architect is Mr. A. F. Dunlop, of Montreal, who has been successful in one of the most important open competitions held in the city in recent years that for the Sir William Dawson School on the St. Joseph Boulevard. The general practice of American schools is here very rigidly observed as regards type of classrooms and their relation to adjoining cloak-rooms in every case. A large combined assembly-room and playroom is provided in the basement. Fire escapes stairs are provided within the building, ought to be more commonly practised in Canada when snow and ice are apt to render external stairs dangerous, especially for children in winter. The classroom windows are of the type which is now almost absolutely demanded—the continuous mullioned window. The new health by-law for the city of Montreal runs:—"The windows of class and study room dormitories, and infirmaries shall be so arranged that the rays of the sun may penetrate direct into the interior of the room. The glass area of the windows in each class and study



Ecole des Hautes Etudes Commerciales, Place Viger, Montreal.

Messrs. Gauthier & Droust, Architects, Montreal.



Technical and Commercial High School, Sherbrooke Street, Montreal.

Mr. A. F. Dunlop, Architect, Montreal.

room shall be equal to at least one-fourth the area of the floor of the room." In the exceptionally clear atmosphere of Montreal, almost immune from fogs and blessed with high percentage of bright sunshine, which in winter is still further intensified by the reflection from the snow, one-fourth of the floor area is equivalent to a much larger area in England. When it is remembered, too, that the thermometer in Montreal often stands below zero for days and even weeks at a time it will be realised that such lighting conditions entail considerable expenditure in heating. The new health by-law is not yet finally adjusted, but in the present connexion it may be of interest to quote the requirements for ventilation:—"The number of pupils to be admitted to a study or class room shall be so limited that each of them and the teacher or master shall have a minimum of 150 cubic ft. of air, and the total area of the floor space shall be 15 sq. ft. at least per head." Mechanical devices must be provided capable of supplying 1,800 cubic ft. of fresh air per hour per person during occupation of the rooms; air not to be introduced at a speed of more than 200 ft. per minute at not less than 65 deg. Fahrenheit. It is also usual to aim at a certain percentage of humidity—in the neighbourhood of 40 per cent., the necessity for this arising from the circumstance that air at zero can only sustain a small percentage of humidity; when, therefore, its temperature is raised its extreme dryness has the effect of drawing off the moisture from all substances in the rooms, doors shrink, flooring boards open, furniture is injured, and the influence on human health is made apparent in injury to the membranes of the breathing passages and lungs.

The Académie Marchand has been recently built under the care of the Catholic Board of School Commissioners for French-speaking children in Berri-street in a fairly closely-built and old quarter. The architects are Messrs. Marchand & Hawcoll, of Montreal. The lower stories and dressings are in limestone, the three upper stories are in pale buff brick.

ETCHINGS OF NEW YORK.

MESSRS. ACKERMANN & SON, now of New Bond-street as well as of Regent-street, have inaugurated their season by publishing four etchings of New York subjects by Mr. W. Monk, R.E. We have obtained permission to illustrate two of them, namely, "Wall Street" and "New York from the River."

The other two are "Fifth Avenue" and "St. Patrick's Cathedral." It may be said at once that Mr. Monk, whose work is well known to readers of the *Builder*, has represented the various buildings with due consideration to architectural exactitude and scale. The scenes are not shown in reverse, as is the case with so many original etchings of the present day, and the artist has avoided the modern tendency to blur over or leave out altogether the difficult features of the chosen subjects. The etchings, however, are neither microscopical in detail nor hard in general effect; enough has been put in to satisfy the architectural critic,

yet the treatment is sufficiently broad to attract those who expect an artist to realise the pictorial possibilities of groups of buildings.

It is obvious from these etchings that Mr. Monk was impressed with the architecture of New York, and the series ranks among the artist's best achievements in black and white. The effective and descriptive plate of "New York from the River" is a masterpiece of drawing and lighting. The buildings on the island, "down town," are seen from the Brooklyn side, the Singer Tower rising highest, with its forty stories. The dock scenes give movement to the composition, and the foreground "occurs" happily.

The other small illustration represents Wall-street, with Trinity Church in the distance. The Bankers' Trust building, with its pyramid-shaped roof, is skilfully rendered, and the ravine-like effect of the street, with the scale indicated by the human element, is suggested without undue emphasis on the perspective.

WHOSE WORK IS TOWN PLANNING?

OUR contemporary, the *Surveyor and Municipal and County Engineer*, publishes a letter calling attention to the alleged "danger of architects usurping the legitimate functions of municipal engineers in regard to town planning." An editorial note which accompanies this letter points out that the municipal engineer's "special knowledge of existing evils, his practical experience with the design, construction, and maintenance of roads and sewers, and his knowledge of building gained through his duty of supervising the plans and works of architects, alike specially qualify him to deal with questions of town planning." The opinion is then expressed that "town planning is eminently a matter in which those who are by their daily work experienced in town development are well qualified to take a leading part."

With this opinion, as a general statement, we cordially agree, and if this is all our contemporary is concerned about it is only forcing an open door. Architects themselves admit it, and have pointed out that, as under present conditions the first work to be done is generally the lay-out of new roads, the municipal engineer is bound to take a leading part in all practical work under the present Act.

But to gladly concede to the municipal engineer his "leading part" in his own sphere of activity is a very different thing to conceding him what our contemporary's correspondent calls "his true work of town planning, construction and maintenance." For this seems to concede him everything—which is, we imagine, more than any reasonable municipal engineer would wish to claim.

Town planning is a wide and complicated subject which has only recently entered the field of practical politics in this country. At present there is no one man, or class of men, competent to deal with every aspect of it.



Wall-street.

From the Etching by Mr. W. Monk, R.E.

It requires combined effort. Naturally enough we do not yet see our way clear in this respect. We have not yet discovered how each of us may best contribute his mite of knowledge and skill to the common stock. It is all to the good, therefore, that the matter should be discussed in a spirit of mutual respect; but it seems to us unnecessary to press the claim of the architect as it is to deny that of the engineer. We possess the special knowledge of the one to supplement the special skill of the other.

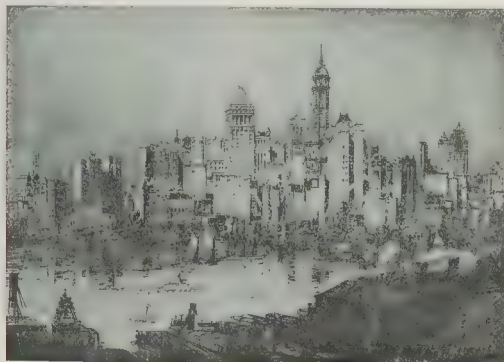
But whatever claims may in the near future be put forward by one or another to play a "leading part"—and everyone, whether architect or engineer, has a natural weakness for this—one thing is certain: the question settles itself regardless of the feelings of either. Those who lead who are the most competent, and we imagine that, by whatever name they may be called in the future, they will possess the gift of design and be able to approach the subject from an architectural standpoint.

CIVIC DESIGN NOTES.

City Tramway Projects. The London County Council will renew in the next Parliamentary Session their application for powers to extend

existing tramways from Charles-street, Farringdon-road, as far as (but not beyond) Ludgate-circus, and, if consent is given them by the Corporation of the City and Holy Trinity Corporation, they will seek for statutory authority to widen Charterhouse-street and Farringdon-road. The new double line, 2 furlongs 8 chains long, will cost about 18,000. The Council have also prepared plans of the proposed system of electrical traction and mode of construction in regard to the extension of the tramways from the City boundary through Bishopsgate to Liverpool-street. This short line, 2 furlongs 1 chain in length, from North Folgate to near Liverpool-street, has been agreed upon between the Council and the Corporation, and when the latter resolved last year to widen Bishopsgate between the City boundary and Brushfield-street, the Council consented to pay one-half of the cost conditionally upon the Corporation not opposing the contemplated running of the tramway-cars on Middlesex-street. The estimated cost for construction and equipment upon the underground conduit system for this double line is near 10,000.

County or Borough Improvement? The dispute between the London County Council and the Stepney Borough Council as to who should widen Cable-street is another instance of the muddle into which London administration has fallen. Stepney contends that this improvement should be treated as a county improvement, as, Cable-street being really a main



New York, from the River.

From the Etching by Mr. W. Monk, R.E.

reach to Tower Bridge and also to the roads, most of its traffic is through traffic, local. Also it claims that a widening would relieve the through traffic in main arterial routes outside its jurisdiction. We do not yet send the reply to these representations, but if a properly constituted authority, with a properly thought out general scheme, such discussions, we imagine, would be of no need to arise. The differences between London County Council and the Road Board as to the value of a western approach road to London illustrate the same point.

The Model Village Criticised. A CORRESPONDENT of the *Daily News* in visiting model villages in Yorkshire, where open spaces and large backyards in common have been provided instead of the usual back and front garden to each house, was struck by their neat appearance, and concludes that, owing to the lack of privacy, in actual working systems seem to have proved a disadvantage to the dweller who wishes to show a proper pride in his residence.

If you plant a few flowers," a housewife explained to me, "as likely as not the children in the other houses come and spoil them. I do wish I had my own backyard! What's the use of trying to be tidy if you've got untidy neighbours sharing the yard?" It is also found that some dull-looking red brick and slate cottages were preferred to those of the model village. They're better than these in some ways," as told. "Their baths are in the scullery." It, it appears, is a real recommendation to collier, whose wife doesn't approve of his living through the house before he can remove dust from his body.

A Boston Improvement. THE plan for the improvement of Copley-square, Boston, prepared for the city by Mr. Frank A. Bourne, does away with that part of Huntington-avenue which diagonally crosses Copley-square. This will provide a quadrangle nearly 400 ft. square between the Public Library, Trinity Church, and the City Plaza Hotel, and extend the line of City Church out to Boylston-street, so that the line by the obliteration of Huntington-avenue could be converted into a garden park. One would then have a public square worthy of comparison with the great squares of other cities. It is intended to place a large column like the Nelson monument in London in the centre of the square.

Western Approach. THE Road Board have signified their approval of a proposal preferred by the London County Council, Heston and Isleworth Urban District Council to divert the line of the contemplated road near Osterley by turning it southwards to effect a junction with the present main road at Spring-ridge, and continuing it thence northwards along the track originally intended. It is also proposed to turn the new route away from the main road at Chiswick, so as to pass round Kew Station and then to enter the main road at Pears' Fountain. The Improvements Committee of the London County Council have decided to recommend the Council not to proceed with the undertaking having regard to the conditions attached to the Road Board to their offer of a grant, £1000, amounting to half the computed cost of the improvement.

Traffic Authority for London. WE are interested to note that the General Purposes Committee of the London County Council reports in favour of the establishment of a London Traffic Board, but that an amendment is to be moved declaring that such a board would be opposed to all principles of local government, and that the County Council should have the duties and powers of traffic authority now performed by other authorities. Motion is also to be moved in favour of restrictive proposals which will secure for the local authorities of London and Greater London the control of street traffic corresponding to the control possessed by the City of London and by other municipalities in England, including powers to determine what roads should be reserved for private residences. These proposals and counter-proposals involve, no doubt, questions of policy which we are not

directly concerned, but we are concerned to obtain for London, however it may be brought about, such simplification and unity of administration as seems necessary if any adherent general plan is to be evolved. That a town should be competent to control its own traffic seems at first glance a self-evident proposition—how much more therefore a county? But at the same time there may be reasons connected with the National or Imperial aspect of London as the capital city which, at the moment, escape us. This seems to be the inherent difficulty with London. As the capital city she is not mistress in her own house from the civic point of view.

Planning of Delhi. MR. KING asked the Under Secretary of State for India whether the report of the Committee appointed to advise on the site planning of the new Delhi will be published shortly; what steps will be taken to carry out the promise that the planning and designing of the public buildings of the new Delhi will be considered with the greatest deliberation and care; and what means are being taken to consult the best Native Indian opinion and those practically experienced in Indian building as to the style and character of the proposed new buildings in Delhi. Mr. Montague replies that the Committee have not submitted any report that could be conveniently published. When their inquiries are completed and their final recommendations submitted the Secretary of State will consult the Government of India as to publication. No decision has yet been come to with regard to the matters mentioned in the second and third parts of the question, but they are engaging the closest attention of the Government of India and of the Secretary of State.

National Housing and Town Planning Council's Irish Report. We have received the Report of a deputation sent by the Housing and National Housing and Town Planning Council to investigate the working of the Irish Labourers' Acts. This Report is stated to have removed all doubts which the members of the Committee may have had as to the economic wisdom of asking for State help for the housing of the poorest classes. We hope to deal with this Report at greater length in a future issue.

Royal Housing Commission for Scotland. THE vital importance of the housing question is again recognised by the appointment of a Royal Commission to inquire into the housing of the industrial population of Scotland, with special reference to the rural districts and the housing of miners and agricultural labourers. This Commission will, no doubt, advise legislative action in due course, but in the meanwhile there is much that might be done by administrative action under the existing law. In such matters as housing it is the energetic and whole-hearted administration of the law by local authorities which seems to be the important thing.

The Scapa Society. FROM the annual report of the Scapa Society, hitherto known for much useful work as the National Society for Checking the Abuses of Public Advertising, we gather that the most important event of the year has been the framing of the Hampshire By-law, under the Advertisement Regulation Act, 1907. The terms of this by-law enact that "no advertisement shall be exhibited on any hoarding, stand, or other erection visible from any public highway (whether carriage-way, bridle-way, or footway), and so placed as to disfigure the natural beauty of the landscape." The important point is that the Secretary of State has approved a by-law whose terms are of general application, not requiring the scheduling of each particular place that it is desired to protect. Five other County Councils, we learn, have followed this example with by-laws of equal or even greater scope. Although it is generally held that the words "visible from any highway" would apply to railways, rivers, and public spaces, the by-laws of Gloucester, Surrey, and Somerset specifically include them. The Scapa Society is to be congratulated on good work well done and may be wished that increase of membership it desires to enable it to extend its sphere of usefulness.

Totterdown Fields Estate. THE development of the Totterdown Fields Estate, Tooting, has been practically completed. The estate, which was purchased in 1900 for £4,238, now comprises 1,261 dwellings. The expenditure on the estate has amounted to £95,931, and the financial prospects are considered satisfactory. Not only does the accommodation provided supply a real need, but the action of the County Council in purchasing and developing the estate has done much to promote the development of a district where additional suburban housing was urgently needed.

Edinburgh as the Seat of a Parliament. WITH reference to the Government Offices that will take the place of the prison erected in 1808 on Carlton Hill, Edinburgh, the Secretary for Scotland was asked whether provision should be made for the housing of a Scottish Parliament in Edinburgh, whether he had considered the propriety of utilising Carlton Hill for that purpose? The reply was made that this site would be fully occupied by the permanent offices. If the present political trend towards federation and devolution is to result in a Parliament for Scotland it is as well that the possibility should be foreseen and provided for however remote it may seem at the moment. The *Builder*, in view of the possibility of Imperial Federation, has already put forward a suggestion for the development of Central London as the capital of the Empire, and it would be interesting to see something of the same sort attempted for Edinburgh as the seat of a national Parliament for Scotland. In any event, the inhabitants of Edinburgh need not scrutinise too closely all proposals for dealing with such an outstanding site as Carlton Hill. Any buildings erected there should be entrusted to the most capable designer available and not left to the ordinary routine of a Government Department.

Railways and Town Planning. AT the Local Government Board inquiry, held to consider a town-planning scheme for East Birmingham, an important question of principle was raised by the railway companies, who contend that the scheme should not apply to any land vested in them for the purposes of their railways. The land in question, some 1,400 acres, has good communication with the central area, but no communication from north to south, the railway line forming a barrier. This defect is proposed to be remedied by the construction of new roads. The position taken up by the Birmingham Council is that so long as the use of the railway land is confined to the purposes of permanent way they have no wish to interfere; but if the companies begin to erect buildings upon it, such as engine-sheds, goods yards, or workmen's dwellings, they ought to come within the provision of the scheme. It is understood that the companies were disposed to consider the position as far as the dwelling-houses are concerned. We are not aware that the property of railway companies, like that of the Government, is expressly excluded from the provisions of the Act. The position needs to be carefully watched, as the railways are not exactly famous for their consideration for the amenities, and there is little doubt that, in the future, the alteration or removal of their permanent way will be the crucial point of many a town-planning scheme.

Regent-street Rebuilding. MR. FELL asked the representative of the First Commissioner of Works if he would state what are the questions submitted to the Committee appointed to consider the proposed rebuilding of Regent-street and the Quadrant; and if it was made a condition of the rebuilding that the height of buildings to be erected shall not exceed that of the present structures, so that the sunshine and light and air of the street shall not be interfered with. Mr. Benn said the terms of reference were as follows:—"To consider the design to be adopted for completing the rebuilding of the Quadrant, Regent-street, due regard being had to aesthetic considerations, commercial requirements, and the interests of the land revenues of the Crown." The point raised in the last part of the question would no doubt be considered by the Committee.

THE BUILDING TRADE.

LAND VALUATION: THE FINANCE ACT.

ON June 20 it was announced by the Chancellor of the Exchequer that an inquiry was to be instituted into the administration of the Finance Act, and it was understood that this was to be proceeded with at once. We are not aware that any steps have so far been taken to appoint a Committee, but on the 16th ult. a question was put to the Chancellor of the Exchequer in the House as to whether under the terms of the reference it would be competent for the Commission to inquire whether the true site value of agricultural land was being ascertained and credit being given for all improvements by owners and their predecessors. The building trade are especially interested in very similar points in connexion with building estates, but on July 5 we pointed out that under the terms of reference—"To inquire into the working of the valuation prescribed by sect. 26, subsect. 1, of the Finance Act, 1910, and to report whether any modifications of the machinery carrying out the valuation are necessary, and, if so, what modifications"—it seemed that questions such as the above would not be the subject for inquiry. In his answer to the above question the Chancellor is in agreement with the view we expressed, as he stated that a Committee of experts such as has been proposed would be confined to considering questions of administration—i.e., whether the Act had been fairly administered; but that if questions of policy were involved, such as the above, the Committee would have to be differently constituted. It is important to note that Mr. Lloyd George made the further statement that he had never stated that the Government were opposed to an inquiry which would embrace questions of policy involving an amendment of the Act, but that the Opposition ought to make up their minds as to the kind of inquiry they desired.

There can be no doubt that an inquiry of the widest kind is that which is required, and that the terms of reference as originally framed were far too narrow to serve any useful purpose, and therefore we trust that the offer now made by the Chancellor of the Exchequer will at once be accepted.

The Act has now been sufficiently long in force for any defects in its working to have been fully grasped and any unexpected results affecting injustice to be considered. We may add that where new principles are applied, as was the case in the Finance Act, it is almost inevitable that defects in their practical application should be disclosed and call for amendment, and we trust that the former reference may now be cancelled and that a full inquiry into the working of the clauses affecting land, both as regards principles and administration, may be instituted without delay.

DISPUTES IN THE BUILDING TRADE.

THE Industrial Council resumed its sittings at Winchester House, St. James's-square, on the 29th ult., to hear evidence upon the settlement of disputes in the building trades of London, Lancashire, Cheshire, and North Wales. Sir George Askwith (Chief Industrial Commissioner) presided.

Mr. Frederick Higgs, Vice-President of the National Federation of Building Trades Employers and ex-President of the London Master Builders' Association, was the first witness. With regard to the scope of the Association in London, he said that they numbered 137 members, who were the chief contractors of London. During 1910 their members paid 1,692,000*l.* in wages to their operatives. They had agreements with their workers as to wages, conditions, demarcation, and the settlement of disputes. Recently they made a fresh agreement with stonemasons and carpenters. Bricklayers were also awaiting a settlement. The agreements embodied a conciliation clause. There were Conciliation Boards and various arrangements for settlements. In case of failure there was a right of appeal to the

Board of Trade to appoint an arbitrator. He thought the decision of the arbitrator should be final. His general experience was that the agreements had been observed by both sides. The conciliation rule which was brought into force was the result of negotiations after long periods of squabbling from 1890 to 1900. The rule came into active operation about 1905. He had heard representatives of the workmen saying that Conciliation Boards were not much used in cases where the decisions were against the workmen, or where they could not agree. There had been several cases of breaches of agreement by employers, and he had generally found that a censure from the Association had been effective. He favoured financial penalties for the enforcement of agreements. If these were imposed on the organisation it would fall on the individual offender.

By Mr. J. M. White: He did not object to compulsion if it could be properly applied to make non-associated competitors pay the same rate of wage as members.

Replying to Sir T. Ratcliffe Ellis, witness said the position ought not to be that a workman should be labelled by being asked, when seeking work, whether he was a unionist or a non-unionist. "My view," he added, "is, ask him if he can lay a brick, and if he can, give him a job."

Mr. Clynes, M.P.: As the result of agreements come to, one effect has been an improvement generally in the quality of work done, and in value and durability?—Possibly; I think it might be so.

Witness said some big firms of contractors in London were not members of the Association. He had suggested that architects should agree to give orders only to builders in the Association for the purpose of inducing employers outside to come in.

In the course of further examination witness stated that he was not in favour of the non-unionist escaping penalties which would fall upon organised workmen of the same trade. He would like to see them organised, just as in his own Association he should like to see more power exercised over outside employers.

Sir Hugh Bell: Do you favour adopting the course of not employing a man unless he produces a union ticket?—I could not prevent it. I can see the man's point of view.

The question is, whether you would be willing to take the same course in regard to men as you suggest architects should take in regard to yourselves—that is to say, to give work only to builders belonging to your Association?—I could not see that.

Mr. Thomas Arthur Locan, of the Lancashire, Cheshire, and North Wales Master Builders' Association, complained of the way in which the Manchester trade had been affected by sectional sympathetic strikes, and favoured the national agreement being more absolute. He would attach monetary penalties to any breach of agreements. Agreements should be arrived at voluntarily between the parties concerned, and when they desired that they should be enforced by law they should be sanctioned by law.

Mr. George Dew, London County Council (Secretary of the London Building Industries Federation), was of the opinion that once an agreement defining wages, conditions, and hours had been arrived at mutually between employers and the trade unions, all employers in the particular industry should pay those rates and observe those conditions. He was strongly in favour wherever possible of adjusting all disputes by amicable means. His Federation was in favour of the enforcement of industrial agreements in regard to rates of wages and conditions of labour. When an agreement had been arrived at between the representatives of the workmen and the employers in any given district it should be an offence for any employer to enforce conditions that were less favourable than those agreed to. Much harm was often done by contractors from low-wage districts, who brought cheap labour into London and took an unfair advantage of the trade. The law should help to enforce agreements mutually arrived at, either by process of recovery of wages from the employers in the wrong or by withholding support from the workman or workmen in default.

The Council adjourned. The results of the ballot on the question of amalgamation of existing trade unions in the building trade has been a disappointment to the promoters of the scheme. Twenty unions were at first committed to the principle, but

the final returns show that only ten seem prepared to go forward with the project, even here the support accorded is not, as stated, calculated to inspire much hope of success. The detailed results of the vote are:—

	Membership.	Votes.
Amalgamated Carpenters and Joiners	77,000	18,600
Operative Bricklayers	24,000	4,371
United Operative Plumbers	12,000	1,606
Stonemasons	9,000	1,249
National Operative Plasterers	8,000	1,778
National Builders' Labourers	5,000	756
United Builders' Labourers	3,000	2,369
Manchester Unity of Bricklayers	2,000	427
Street Masons and Paviers	2,000	152
London and Provincial Painters and Decorators	1,000	223
Totals	143,000	31,541

It will be seen that the statutory two-thirds majority of the total membership has only been obtained in the case of the United Builders' Labourers, one of the smaller unions. A further Conference of the unions set out above will be held in London on December 4, to further consider the scheme, and the promoters are hopeful that other unions will agree to join before that date.

BRICKLAYERS' WAGES, MANCHESTER DISTRICT.

THE agreement arrived at between the Master Builders' Association and the Operative Bricklayers' Society as to rates of pay, etc., Manchester, Salford, and District, will come into operation on November 1. Under the agreement, the workmen receive an advance of 1*d.* per hour, bringing the rate up to 1*s.* 10*d.* an hour. During the summer months the hour will be reduced by five, making forty-nine and a half hours a working week, but the winter week of forty-one and a half hours remains unchanged. There will be advanced rates for men engaged in chimney building, and for sewer-work the new minimum is 1*s.* per hour. There are revised rates for travelling expenses to jobs; all apprentices are to be legally bound; provision is made for the admission of representatives of the union to jobs; and the demarcation of work is defined.

The agreement also provides for improved accommodation for men engaged on jobs, and for the giving of notice to men about to be discharged. It applies to a radius of 5 miles from Albert-square, and will remain in operation until May 1, 1915.

The reduction of hours during the summer months will increase employment by 5 per cent.—*Manchester Evening News.*

GENERAL BUILDING NEWS.

ALL SAINTS' CHURCH, GOODMAYES.
This church is being erected at a cost of 10,065*l.* from the designs of Mr. P. E. Allen, architect, of Tunbridge Wells. The external facings of the buildings are in grey brick with Portland stone dressings, and the contractors are Messrs. Dove Brothers, of Islington.

WESLEYAN HALL, BRADFORD.
Messrs. W. J. Morley & Son are the architects for the new Prospect Wesleyan Mission Hall, which is to be erected to provide accommodation for about 1,000 people. In addition to the large hall there will be several small rooms and a kitchen, and the estimated cost of the work is 6,000*l.* The contractors are Messrs. Brown & Son (masons), Messrs. Wilkinson & Dawson (joiners), Mr. H. Wilkin (plumber), Messrs. Hill & Nelson (slaters), and Mr. T. C. Calvert (painter).

TOWN HALL, CLARE.
A new Town Hall is to be erected on the site of the old Corn Exchange at a cost of about 1,050*l.* From designs submitted in competition that of Mr. Beaumont, architect, has been chosen, which provides for a hall 46 ft. by 32 ft., with a gallery, and a large room below the hall. The contract has been secured by Messrs. Grimwood & Son.

THE SOUTHWARK BRIDGE CONTRACT.
At the last meeting of the Corporation of London an agreement was sealed between the Bridge House Estates Committee and William Arrol & Co., Ltd., for the execution by the company of works in connexion with the removal of Southwark Bridge and erection of a new bridge for the sum of 278,148*l.*

MANCHESTER MUSEUM EXTENSION.

extension of the Manchester Museum in connexion with Manchester University has just opened. Accommodation is provided in extension for the collection of Egyptian antiquities and also for geological and zoological specimens. The architect is Mr. Waterhouse.

TRADE NEWS.

Under the direction of Mr. Arthur J. Stedman, Lic.R.I.B.A., Farnham, the "Boyle" system of ventilation (natural), embracing the latest patent "air-pump" ventilators, air-inlets, has been applied to Old Bourne, Bourne, Farnham, Surrey. The new, new Infectious Diseases Hospital, Milton, Fife, is being supplied with Shor's warm-air ventilating patent Manchester and patent Manchester grates by Messrs. J. Shorland & Brother, Ltd., of Fallowfield, Manchester.

WATER SUPPLY, ABERTILLY.

A new reservoir is to be built for the Abertilly and District Water Board at a cost of £100,000 from the plans of Messrs. Baldwin, Lam, engineers, and the work is to be carried out by Messrs. Underwood Brothers. The reservoir will hold 376,000,000 gallons of water, and will serve a population of 80,000. The height of the dam will be 146 ft., with foundations of 26 ft., and the length will be 1,200 ft. The water will be carried in 12 in. pipes, of which there will be 30 miles. Mr. Latham is the resident engineer.

NATIONAL BUILDING EXHIBITION, LEIPZIG, 1913. The Directors of the Exhibition inform that the date for exhibitors to be finally fixed for October 1, 1912) has been decided to January 1, 1913. Thus firms who wished to participate, but who hitherto have not sent in their application, still have opportunity of securing the space they require. Space has already been booked to amount of a million marks.

LEGISLATION IN THE BUILDING TRADE.

A meeting of Glasgow Technical College Architectural Craftsmen's Society, held in the evening on the 25th ult., Mr. A. H. Purdie, president, an address was delivered by Mr. J. H. Baxter on "The Effect of Recent Legislation in the Building Trade." In order to aid, to understand how steadily oncosts of building and legislative burdens were increasing it was necessary to go back and examine the more troublesome Acts of Parliament and the effect of such as the Factory Acts, Workmen's Compensation Acts, and the Insurance Act. The stringency of the last two had been steadily increasing, and it was no doubt, the National Insurance Act had long become more burdensome, as clear that employers had not realised the effect of such legislation in piling up oncosts, and the percentage of these was increasing, and also methods whereby definite oncosts could be allowed for in ordinary contracts. Discussion followed.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

Tuesday's meeting of the London County Council, for the following applications under the Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Camdenwell.—Erection of a shop front at 90, Camberwell-road, Camberwell (Messrs. J. & Sons for Messrs. H. & C. Davis, Ltd.).—Consent.

Camberwell, North.—Building on the western side of Wells-street, Camberwell, to abut also on the southern side of Blackbridge-street (Messrs. Hichison & Co., Ltd.).—Consent.

Hampstead.—Projecting wooden entrance to the use of the northern side of St. Cuthbert's-lane, Hampstead, next to Shoot-up-hill (Messrs. Rix & Wilkins).—Consent.

Islington, East.—Illuminated sign in front of No. 292, Holloway-road, Islington (Mr. C. E. R. Consent).

Lewisham.—Erection of shops on the western side of High-street, Lewisham (Mr. H. H. Hall).—Consent.

Wandsworth.—Erection of a one-story building No. 264, Burdett-road, Wandsworth (Mr. J. Hayworth for the Bow-common Estate).—Consent.

Wandsworth, West.—Erection of an oriel window and two balconies at No. 394, Oxford-st. St. Marylebone (Mr. G. Thrale Jeffs for Mr. F. Dixon).—Consent.

Wokingham.—Erection of a building on the eastern side of High-street, Peckham (Mr. Wetherell).—Consent.

St. George, Hanover-square.—Erection of a projecting shop front and balcony at No. 23, New Bond-street (Mr. M. E. Collins for Messrs. A. C. F. & W. M. Hill).—Consent.

Strand.—Iron and glass shelter at the entrance to Nos. 1 and 2, Coventry-street and No. 1, Wardour-street (Messrs. Emden, Egan, & Co.).—Refused.

Wandsworth.—Erection of bay-windows and porches at a proposed building on the northern side of Becmead-avenue, Streatham, abutting also upon the eastern side of Garrads-road (Messrs. Marsh & Wiles for Mr. C. N. Murphy).—Consent.

Width of Way.

Limchouse.—Erection of a building at Hough's Wharf, on the northern side of Narrow-street, Limchouse (Mr. W. M. Knight for Mr. R. Hough).—Consent.

Mill End.—Erection of additions at No. 381, Mile End-road, at less than the prescribed distance from the centre of the roadway of Lewton-road (Mr. F. E. Harris for Mr. I. Zeligman).—Consent.

Rotherhithe.—Erection of a stable building and an open shed upon a site on the eastern side of Braddon-road, Rotherhithe, abutting also upon Seven Step-alley (Mr. J. M. Kennard for Mr. A. H. Foster).—Consent.

Width of Way, Lines of Frontage, and Projections.

Kensington, South.—Erection of a circular iron staircase and a balcony at No. 35, Queen's-terrace mews, Kensington (Messrs. Hayward Brothers & Eckstein, Ltd.).—Consent.

Lewisham.—Erection of a building upon a site at the rear of No. 60, Loampit-hill, Lewisham, to abut upon the southern side of Beaufort-gardens (Mr. H. G. Fennell).—Consent.

Lines of Frontage and Construction.

Hackney, Central.—Retention of wooden fowlhouses of a temporary character at the rear of No. 21, De Beauvoir-square, Hackney, next to Mortimer-road (Mr. E. J. Shelly).—Consent.

Paddington, South.—Temporary shed in front of No. 10, Craven-hill, Paddington (Messrs. T. W. Heath & Son).—Consent.

Width of Way, Projections, and Construction.

Kensington, North.—Erection of an iron and glass covered way at Nos. 3, 5, and 7, Chestow-place, over the public way of Chestow-mews, Paddington (Mr. E. J. Stubbs for Messrs. Bradley & Sons).—Consent.

Line of Fronts, Space at Rear, and Projections.

Deptford.—Water-closets and wooden staircases at the rear of Nos. 58 to 78, even numbers only, inclusive, Whitechapel-street, Deptford (Mr. W. J. Clayton for the South-Eastern Railway Company).—Consent.

Lewisham.—Buildings on the northern side of Georgelane, and the eastern side of Roxley-road, Lewisham (Mr. P. Roche).—Consent.

Frontage and Space at Rear.

St. Pancras, South.—Erection of projections to a building to abut upon Hunter-street and Handel-street, St. Pancras (Mr. A. Davis for the London Housing Society, Ltd.).—Refused.

Width of Way and Construction.

Dulwich.—Lean-to shed at the premises of Messrs. J. F. Chiverrall & Co., at the rear of Nos. 87 and 89, Camberwell-grove, Camberwell (Mr. J. F. Chiverrall).—Consent.

Width of Way and Space at Rear.

Poplar.—Erection of four cottages on the southern side of Morant-street, Poplar (Mr. T. J. Bee for Mr. W. J. Kemp).—Consent.

Width of Way, Space at Rear, and Height of Buildings.

Battersea.—Buildings on the northern and southern sides of a street for foot traffic only leading from St. John's-hill, Clapham Junction, to Clapham Junction Station (Messrs. Trehearne & Norman for Mr. W. J. Fryer).—Consent.

Space at Rear and Alteration of Building.

Maylebone, West.—Erection of an addition at the rear of No. 83, Gloucester-place, St. Marylebone (Mr. J. Hudson for Mr. W. Gadd).—Consent.

Alteration of Buildings.

Chelsea.—Erection of an additional story to the back addition of No. 17, Moore-street, Lennox-gardens, Chelsea (Messrs. Douglas Young & Co. for Miss M. L. Talbot).—Consent.

Hampstead.—Erection of a bathroom addition at the first-floor level of No. 2, Harley-road, Hampstead (Mr. A. W. Moore for Mr. C. E. Marshall).—Consent.

Islington.—War-closet addition at the rear of No. 159, Hornsey-road, Islington, at the

second floor level (Messrs. W. J. Smith & Co.).—Consent.

Wandsworth.—Enclosing walls of less thickness than required by the said Act to cellars at Nos. 6 and 64, Waldron-road, Wandsworth (Messrs. Holloway Brothers (London), Ltd.).—Refused.

Cubical Extent.

City of London.—Additional cubical extent in connexion with the erection of a printing office and factory building abutting upon Shoe-lane and Plum Tree-court, City (Messrs. J. W. Beaumont & Son).—Consent.

Kensington, North.—Erection of a building upon the site of Nos. 3, 5, and 7, Chestow-place, Kensington, exceeding 250,000 cubic ft. in extent (Mr. E. J. Stubbs for Messrs. Bradley & Sons).—Consent.

Cubical Extent and Construction.

Paddington, South.—Erection of iron and glass roofs over loading-platforms, external iron staircases and galleries, and iron enclosures to lifts at the premises of Messrs. W. Whiteley & Co., Ltd., Queen's-road, Bayswater (Messrs. John Belcher, R.A., and J. J. Joass for Messrs. W. Whiteley & Co., Ltd.).—Consent.

Uniting of Buildings and Construction.

St. George, Hanover-square.—Erection of an iron staircase at No. 7, Dover-yard, and the uniting of No. 43, Dover-street with Nos. 5 to 7, Dover-yard, Piccadilly (Mr. F. Newman for Messrs. A. Webster & Co.).—Consent.

Cubical Extent, Uniting of Buildings, and Construction.

Mill End.—Additional cubical extent in respect of a proposed division to be used for cask washing and drying at the Anchor Brewery, Mile End-road; the formation of openings, fitted with steel rolling shutters; and the erection of the cask washing shed in reinforced concrete (Messrs. W. Bradford & Sons for Messrs. Charrington & Co., Ltd.).—Consent.

The recommendations marked * are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERNANT.—Houses for the Aberdare Urban District Council (Messrs. John Morgan & Son, Ltd., builders, Pendarren-street, Aberdare).

Ayr.—Diphtheria block at Heathfield Hospital (2,700); Mr. J. Young, Surveyor, Town Hall, Ayr.

Banbury.—Proposed rebuilding of Britannia Works for Messrs. Samuelson & Co., agricultural and milling engineers.

Bangor (Ireland).—Baths and convenience, Pickie (3,000); Surveyor, Council Offices, Bangor.

Barry.—Shelters on Promenade (1,200); Mr. J. C. Pardoe, Surveyor, Council Offices, Barry.

Basingstoke.—Fire-station, Brook street (700); Mr. E. Reginald Phipps, Surveyor, Town Hall, Basingstoke.

Beverley.—Proposed school (3,500); Vicar, St. Mary's Church, Beverley.

Birkenhead.—School, Pilgrim-street (800 places); Mr. Robert T. Jones, Town Hall, Birkenhead.

Birmingham.—Tramway depot, Highgate-road (30,000); Mr. A. Baker, Tramways Manager, Town Hall, Birmingham.

Birmm.—Rebuilding Birmm Hotel; Messrs. Henry & Maclellan, architects, 7, South Charlotte-street, Edinburgh.

Blackburn.—Weesleyan Mission-buildings (20,000); Messrs. Bradshaw, Gass, & Hope architects, 19, Silverwell-street, Bolton.

Blackpool.—Picture theatre, Dickson-road; Mr. H. Wade, architect, Birley-street, Blackpool. Rebuilding Sunday-school for Trustees, Wesleyan Church, Adelaide-street, Blackpool.

Booker.—Administrative block at isolation hospital (527); Messrs. C. H. Hunt & Son, builders, Station Works, High Wycombe.

Bury.—Alterations and additions to Holy Trinity Church (1,500) for the Vicar.

Bury St. Edmund's.—Six houses, near Northgate-street, for the Guildhall Tenement Trustees; Mr. Sidney Naish, architect, The Croft, Bury St. Edmund's.

Cardiff.—Offices, Cardiff Dock; Mr. H. Bugden, architect, 95, St. Mary's-street, Cardiff. Cawood (Selby).—Alterations to chapel (1,000) for the Trustees.

Cheadle.—Additions to Harthill. The Crescent, for Dr. John H. Godson; extensions to works of Messrs. William Mosley, Ltd., bleachers, for the Bleachers' Association, Ltd., 4, Norfolk-street, Manchester.

* See also our list of Competitions, Contracts, etc., on another page.

Cockermouth.—Proposed new building for the Board of Management, Cockermouth Nursing Home.

Crompton.—Warehouse at Higher Clough Mills for the executors of Mr. J. Milne, cotton spinner.

Cullompton.—Unitarian chapel (900*l.*); Mr. R. M. Challice, architect, 14, Bedford-circus, Exeter; Messrs. E. Labdon & Sons, builders, 1, Fore-street, Cullompton.

Denbeath.—Residence adjoining hospital for the Wemyss Coal Company, Ltd., East Wemyss, Fife-shire.

Doncaster.—Proposed addition to Yorkshire Institute for the Deaf and Dumb (4,900*l.*) for the Governors.

Dundee.—Additions to buildings, Dens-road and Main-street, for Messrs. Harry Walkers & Sons, Ltd., jute goods, etc., manufacturers, Caldrum Works, St. Salvador-street; additions to Lilybank Foundry for the Caledon Shipbuilding and Engineering Company, Ltd., Kembach-street, Dundee.

Dunston-on-Tyne.—Proposed large steelworks for the Stobie Steel Company of Sheffield; works for the Team By-Products Coke Company, Ltd., Milburn House, Newcastle-on-Tyne.

Eastbourne.—Plans have been passed as follows:—Garage, Prideaux-road, for Mr. O. Bradford; Mr. A. Ford, architect; Messrs. Miller & Selmes, builders. Four houses, Station-road; Mr. A. Chandler, architect; Mr. E. Merchant, builder. Addition to Palgrave-mansions, Devonshire-place; Messrs. Peerless, Dennis, & Co., builders. A plan has been lodged for alterations to the Club Hotel for Messrs. Young & Rawley; Mr. T. Woodbridge Biggs, architect.

Elvington (near Eyrthorpe).—Houses; Mr. W. Bromley, builder, Maison Dieu-road, Dover.

Foleshill.—Addition to school, Windmill-lane (4,052*l.*); Mr. I. Langley, builder, Tyburn, Chester-road, Erdington, Birmingham.

Freckleton.—Alterations and improvements to Holy Trinity Church for the Vicar.

Gorseinon.—Two hundred and sixty-four houses for the Gorseinon Co-partnership Housing Society.

Halstead.—Baths, Parsonage-street; Mr. W. A. Nicholson, Surveyor, Council Offices, Halstead.

Hinckley.—Proposed workmen's dwellings (1,850*l.*); Mr. E. H. Crump, Surveyor, Council Offices, Hinckley.

Holmfrith.—Hippodrome, Eldon-yard, for Messrs. Hawthorne & King, Milfield; Mr. P. N. Brown, architect, Hawthorn Bank, Holmfrith.

Horton.—Alterations to Bolton and Horton car depôts (500*l.*); Mr. C. J. Sydenham, Tramways Manager, Town Hall, Bradford.

Huddersfield.—Mill, Acre-street, Lindley, for Messrs. Joseph Sykes Brothers, branch of the British Card Clothing Company, Ltd., Acre Mills, Lindley, Huddersfield.

Huntingdon.—Children's quarters for Guardians; Mr. R. A. Fordham, architect, Peterborough.

Kilmarnock.—Reconstruction of infirmary (12,000*l.*); Dr. Burnett, architect, Glasgow.

Lancaster.—Church; Rev. A. S. Andrew, Pastor of Trinity Presbyterian Church, 2, Westbourne-terrace, Lancaster.

Larne.—Store, filter shed, Circular-road, for the North of Ireland Paper Mill Company, Ltd., Inver Mill, Larne.

Leigh (Lancashire).—Picture palace (3,000*l.*); Messrs. J. C. Prestwich & Son, architects, Bradshawgate-chambers, Leigh.

Lincoln.—Adaptation of premises, Bank-street, as tuberculosis dispensary, also probable sanatorium (10,050*l.*); Mr. R. A. MacBair, Engineer, Town Hall, Lincoln.

Lincolnshire.—Six houses, Deeping St. James; four houses, Market Deeping; and four houses, Carly; Mr. J. H. Roberts, builder, 3, North-street, Bourne.

Linslade.—School (1,638*l.*); Messrs. Webster & Cannon, builders, 42, Cambridge-street, Aylesbury.

Luton.—Workshops, Biscot-road, for Commercial Cars, Ltd., motor-car manufacturers, Biscot-road, Luton; additions to premises, Upper George-street, for Mr. W. M. Skelton, Master, Cottage hospital; Mr. Joseph Humphries, architect, Maesteg.

Manchester.—Proposed baths, Chorlton; Mr. Henry Price, Architect, Town Hall, Manchester.

Matlock.—Pavilion in the Park (4,000*l.*); Mr. Joseph Turner, Surveyor, Council Offices, Matlock.

Menai Bridge.—School (4,731*l.*); Messrs. R. & J. Williams, builders, Park-street, Upper Bangor.

Mountcorrel.—Conservative Club; Mr. F. Sleath, builder, Rothley, Loughborough.

Nelson.—Tan houses and shop, Carr Hall Estate, for the Co-operative Society.

Newcastle-under-Lyne.—Six houses, Brampton Farm, Garden Suburb; Mr. R. T. Longden, architect, York-chambers, Stoke-on-Trent; Mr. J. Cooke, builder, Wolstanton.

New Malden West.—School (4,700*l.*); Messrs. Grace & Marsh, builders, 79, Tamworth-road, Croydon.

Northampton.—Creosoting works, Cotton End; Mr. Edward Mackie, Estate Agent, London and North Western Railway Company, Ltd., Euston Station, N.W.

Nuneaton.—Cookery and manual instruction centres, Canon-road (3,642*l.*); Mr. S. Smith, builder, care of the Town Clerk, Town Hall, Nuneaton.

Rotherham.—Congregational church, Kimberworth-road; Mr. J. Totty, architect, 20, Moorgate-street, Rotherham.

Selby.—Proposed thirty to fifty houses; Mr. R. G. McG. Gray, Surveyor, Council Offices, Selby.

Sandwich.—Sanatorium, Holly-lane (11,200*l.*); Mr. A. Hoskens, Surveyor, Town Hall.

Southend.—Pumping-station and destructor buildings, two houses, etc. (13,195*l.*); Messrs. E. & B. H. Davey, builders, Southend. Theatre, Leigh-road, for the Raymond Animated Picture Company.

Swansea.—Extensions to warehouse at Prince of Wales' Dock (about 3,000*l.*) for the Swansea Harbour Trust. Buildings, Castle-street; Messrs. Phillips & Vaughan, architects, 39, Commercial-street, Newport, Mon. Buildings, Castle-street, Sea View-terrace, and alterations to premises, Carmarthen-road; Mr. Marcus Hoskins, Estate Agent, Town Hall, Swansea. The following plans have been passed:—Warehouse, Paxton-street, for Mr. E. Holwitt; four houses, Sketty-road, for Mr. T. Spragg; eleven houses, Glangydran-avenue, for Mr. J. B. Jenkins; three houses, De Breos-avenue, for Mr. Jonah Roberts; four houses and garages, Eversley-road, for Mr. Henry Billings; four houses, De Breos-avenue, for Messrs. Munday, Hayes, Griffiths, & Pugh. A plan has been lodged for four houses, Florestfach, for Messrs. Fogler & Allen.

Towcester.—Seventeen houses (2,700*l.*); Mr. Robert Marriott, builder, High-road, Rushden.

Wallasey.—Workmen's dwellings (4,110*l.*); Mr. W. H. Travers, Engineer, Town Hall, Wallasey.

Warwickshire.—Schools at Glascoote, Hillman-ton, and Studley; Mr. Bolton King, Secretary, County Education Offices, Warwick.

Wealdstone.—Additions to works for Messrs. Kodak, Ltd., Kingsway, W.C.

West Molesey.—School (4,595*l.*); Mr. E. Potterton, builder, East Molesey.

Wigan.—Proposed rebuilding of factory, Solo-street, for Mr. H. King, furniture manufacturer.

Willington.—Additional premises for the Co-operative Society.

Yorks (East Riding).—Adaptation of Armeley House as boarding-house (500*l.*); school, North Newbold (1,500*l.*); and addition to school, Great Driffield; Mr. J. J. Bickersteth, Secretary, Education Offices, Beverley.

THE HYGIENE OF BUILDING.

At a meeting of the Institute of Sanitary Engineers on October 21 Mr. T. W. Aldwinckle, F.R.I.B.A., in the chair, a paper on "The Hygiene of Building" was read by Mr. Percy L. Marks. After some general remarks the author said, in speaking of ventilation:—"An important hygienic consideration is the provision of thorough ventilation. Can anything more detrimental to health be conceived than the old discredited arrangement of back-to-back houses, an arrangement of held in conjunction though it did not connote side-to-side houses as well. I say "discredited"; and yet it is not so long since I read in a North-British paper that one of the burghs had, though finally voting against their continuance, a fair-sized minority in favour of back-to-back houses—and that in the twentieth century! And in a provincial paper (of last April) I read that "Flint R.D.C. has ordered the closing of a house at Dyerdy, which has no water supply, no drainage, no light, no ventilation, and no bedroom, the only living-room being used for sleeping."

Buildings should be well lighted; dark spaces connote disregarded collections of undesirable matter; and, if they do not connote, yet dark spaces certainly invite eye-

strain and nervous breakdown. Scientifically-based proportions for lighting have been tabulated, but it is difficult to credit the value of these proportions, except as a "Guide to the Perplexed." It has, for instance, been recommended that for each 70 cubic ft. of air space in an apartment there should be 1 sq. ft. of glass; and other proportions on different bases of calculation have been advocated. But these are, to an extent, rule-of-thumb methods that do not need to be regarded too rigorously. What ought to be borne in mind is that, whilst it is proper to ensure against unlighted spaces, an excess of light is also detrimental. But of the two extremes excess of light is preferable to deficiency of light.

Strictly regarded, ventilation and warming should not be dissociated, under which circumstances the intimate relation between warming and hygiene would be at once made manifest. And it must be remembered that warming should be warming, not scorching, or drying the air or in any way rendering the effect enervating. It may almost be said that correct heating, when effected by mechanical means, is the result of empiricism, though it assumes the form of a scientifically-based tabulation. But science is itself based upon practical purposes upon an empirical basis, though fundamentally it is independent of and superior to the latter. Accepting matters as they stand, however, we are furnished with a plenitude of tables to indicate the quantity of 2-in., 3-in., or 4-in. pipe that should be provided under given conditions and doubtless in a majority of cases the answers satisfactorily.

The avoidance of draughts is an important point for consideration, and, to this end, doors and windows *vis-à-vis* to each other should to one another are undesirable. Nor is it well for a door to be placed in the wall contiguous to and overlooking the length of the fireplace; when the door is opened it produces a draught by the hearth more pronounced than in any other position, and ought to be obviated by the interposition of screen.

The best relative positions for door, window, and fireplace are probably as here detailed, if we start with an assumed writing-table placed more or less centrally; the fireplace to face the writer, the door to be to the right and opening against, not towards, the fireplace; the window area to be treated (at a moderate-sized room) as two separate openings to the writer's left, a solid wall confronting the more or less centrally placed door in the opposite wall. Where writing facilities may be disregarded a left-hand light is not of importance, as, for instance, in a drawing-room, where such a lighting scheme would never be considered. In a small room an angle fireplace has distinct advantages, though this is not a hygienic point.

But the others just mentioned are assured hygienic points to be borne in mind, even though the reference to door-hanging is hygienic only so far as the promotion of a sudden draught between the fireplace and the open door is concerned, and is of effect only when the former is being used as a focus of attraction.

Another point is to obviate draught between the front or other entrance door and any of the rooms. This satisfaction may be most frequently secured by interposition of only a small vestibule, or by so deflecting the currents of air as to produce the happy result. This deflection may be obtained by the use of a projecting porch with the opening set at one side.

A staircase-well is a fruitful source of draughts, but this feature is so commingled with the desire of possessing spacious and artistic or picturesque staircase treatment that it is difficult to effect a cure, except by using the well for a lift-run.

The inter-relation of the living-rooms to the kitchen is of importance so far as non-transportation of odours is concerned, for with people who are in any degree neurotic the insidious attack of such odours has an irritant effect upon the olfactory organs and the nervous system. A dinner service hatch giving direct communication between the kitchen and the dining-room very trying in this connexion.

Similarly with the inter-relation in regard to the water-closet, which is frequently in properly ventilated and improperly placed.

w often in the average-sized town house we find it situated halfway up the principal staircase—perhaps the worst possible position for selection. But if it were solely from the standpoint of want of space I would not deal with it here; it is a hygienic objection that justifies—nay, demands—its condemnation in this place. Its inter-relation with the bedrooms could be likewise carefully considered. Making generally, if it can be kept entirely detached from every room, other than a bathroom, it will be best so arranged. And it should be also entire detachment from places where food is stored or cooked, but it is too frequently disregarded, though the Public Health Acts are gradually effecting improvements.

Hygienically it is a mistake for habitable rooms to be unduly high in proportion to their area; it tends to a stagnation of air, which is the negation of good ventilation. How are we to find out what is the proper height, either absolute or relative? We may take with a minimum height of 8 ft. 6 in., and with any lesser height the ceiling would tend to press down upon the heads of the people in the room. But having fixed a minimum, can we find a maximum? I fear not. We may, of course, say that we cannot have of any room in an ordinary house more than 30 ft. high, but how much nearer can we approximate a maximum? We can say that a cube room would perhaps be a desirable maximum, but further we cannot go, for then it then a matter of hypothesis as to a matter of proportion, not of dimensions.

Respecting hospital-ward capacity I will make a slight difference respecting data; by means of accumulated experiments which result in experience it is perhaps possible to say that such and such a minimum of space is requisite in order to promote valences under average conditions, and such and such a lineal wall-space between patient and patient is desirable. This is so, and allowing for the necessary lateral gangway in a multiple ward, the ideal height is thus obtained. But when we are considering the spacing for barracks, for workhouses and school dormitories, for other and smaller apartments unassociated with people in an abnormal pathological condition we are confronted at once with the empirical bases. For though scientists may say that all is properly based upon the fact that a certain small fractional amount of CO₂ per 1,000 cubic ft. of air is admissible maximum, yet we must bear in mind that other conditions are allowed prevail outside hospitals and infirmaries, not disturbing (not to say disastrous) effects.

We must therefore be careful to distinguish between scientific formulae and tables affecting people abnormally conditioned in regard to health and between all others. The Public Health Acts, Building Acts, Health Acts, and others may, it is true, lay down instructions on such points, but I must emphasise the fact that there is no scientific accuracy in such instructions, though it may be added that they are far more than merely lenient.

It is, of course, most desirable that bathrooms, lavatories, water-closets, housemaids' rooms, and sculleries should be placed not external walls and, as a natural consequence, be lighted and ventilated in an external wall.

Even as the relative horizontal grouping of the living-rooms and the kitchen is to be regarded as hygienically important, so, too, their relative vertical grouping. If a service lift is installed with its intake in the kitchen, then its outlet should be in the dining-room, but in a lobby; otherwise the penetration of odours will be pronounced, which would be trying and perhaps injurious to delicate nervous systems.

When considering hygienic construction it is fitting to consider simultaneously the use of hygienic materials; otherwise there is bound to be overlapping. Firstly, thin walls detrimental to health in such samples of houses as the British Isles possess. Combricks are naturally porous, though of course there has been an increasing manufacture of denser stuff. Habitually, however, atmospheric moisture penetrates readily,

with the result of a general tendency to levelling of the internal and external temperatures, causing rooms to be hot or cold in sympathy with the rise or fall of the mercury. This is, of course, a mistake; the internal temperature should be able to be maintained easily some 10 deg. higher or lower than the external. In the good old days, when defensive building was in vogue, walls were built perhaps 10 ft. or more in thickness, so thick, indeed, at times that they would contain hidden rooms, tortuous corridors, and winding staircases—houses such as Woodstock, on whose site Blenheim now stands. Whatever defects they may have had, from a sanitary standpoint, they were certainly not subject to sudden and unwelcome changes of temperature—except such as might be provided by a conflagration. I do not forget that the houses of the commonality in general were not so constructed; but even the latter were structurally superior to many, very many, of our modern edifices.

It is well where a wall-face is exposed to very humid influences that it should be protected either by weather-tiling or stucco; if it be a driving damp, stucco is preferable. Slate—the ordinary slate—makes a pervious roofing material. In fact, for the ordinary urban and suburban house all possible means seem to be taken so as to ensure comfortable conditions of existence. Again I must interpolate that I do not forget the numerous tile-hung roofed houses that are to be seen, but I have in mind the general treatment of the long-suffering public.

Lime-and-hair plaster is not a notably sanitary material to employ—it is too apt to harbour vermin; and the super-hanging of wall-paper upon wall-paper is a prime factor in similar harborage. Let me tell you of an experience of my own with some small shop property in South London with which I had to deal in the way of repairs under a schedule of dilapidations served on my client. When the workmen commenced stripping the walls of the bedrooms they were able to count as many as eighteen separate papers, besides which there was a massed thickness that represented half a dozen or so more; that is to say, there were some twenty-four or more papers in all, and the inference is that in the whole course of the life of these premises not a single paper had ever been stripped off before hanging a fresh one.

Lead and copper should, by preference, not be used for storage cisterns connected with table service; in fact, galvanised iron is now customarily employed. Thatched roofing is very pleasing in appearance, but, besides the fire risks attaching to its use, it is also apt to harbour vermin. Its good quality is the maintenance of an equable temperature. Oxide of lead paints should be avoided, as they are of a poisonous nature. Oxide of zinc and some of the many varieties of water paints may be safely employed. Arsenical wall-papers are a source of danger, particularly in bedrooms; poisonous particles may become detached and enter into the organs of those using the rooms. It is a popular mistake to think that only green tones contain arsenic. But the use of these papers is easily avoided at the present day.

There is great merit in choosing good lavatory-basins, baths, and closet apparatus. The basin should be self-cleansing, and should have an accessible overflow—in so many lavatory-basins may be observed soap that has clung to the sides, even after a flush, and so often do we become unpleasantly cognisant of the odour of stale soap that has collected out of sight by the overflow.

Of course, there are other good overflows, but the weir principle, with the facility of removing the plate and exposing the overflow, appeals to my sense of cleanliness. The old-established shell-screened overflow is an abomination, harbouring collections of dried scapods which may easily prove injurious to health. Of course, the lavatory-basin waste should be provided with screw-capped cleansing traps in an accessible position, and should also have a puff-pipe (that is anti-siphonage pipe). Stack waste-pipes should also be supplemented by anti-siphonage pipes, so as to prevent the standing water from the traps being drawn out by the action of momentary anti-siphonage.

Baths should be trapped and should have

accessible overflow and puff pipe. There should also be a dribble-pipe from the safe beneath the bath. Water waste-preventing (commonly called flushing) cisterns should be of good construction, and, where permitted, they should be of 3-gallon, instead of merely 2-gallon, capacity; nor should the inlet-pipe be contracted in bore, as is not infrequently the case.

Closet-pans should be self-cleaning, and should not only have a sufficient water-seal, but a fair standing water area also. Good valve-apparatus closets are very commendable, but still I prefer the "wash-down" variety of pedestal closet. Of course, the "wash-out" variety is adjacently unnameable, and is discredited in London, though not infrequently still to be met with in unmodernised systems.

And with all or any of these systems wooden enclosures are to be avoided, for even with the valve variety it is possible to obtain "pedestal" treatment. Baths and lavatories should also be unenclosed; let the fittings stand exposed to light and air.

As regards drainage, the lines should be straight and laid to a moderate fall only; too slight a gradient means the possibility of inefficient clearance, leaving deposits, which will gradually silt more and more and eventually choke the drain, and too steep a gradient also, curiously enough, may have a similar effect. It has been found that for 4-in. and 6-in. drainage a fall of 2 in. in 10 ft. (1 in 60 gradient) is generally effective; an increase in the pipe diameter should be met by a decrease in gradient, but an increased diameter should only be provided where the mass of discharge justifies it. In a house where I was concerned a few years ago I found that a system of 9-in. drainage throughout was installed, and this, too, by a firm of London engineers for a property dating only thirty years back even now. I had the whole of this cleared away, substituting 4 in. and 6 in. There was also not very far from the house a large choked-up cesspool, not habitually used; for by means of a sluice-valve inserted in a Y-junction pipe the discharge could be directed either to the cesspool or to the main sewer. This cesspool, too, I had cleaned out and filled in with brick rubbish and plenty of lime disinfectant.

Where curves or changes of direction become necessary in a drainage system, man-holes or inspection-chambers should be provided. Good pipes and good jointing are necessary. I have a preference for unsocketed pipes, such as those in Lowe's patent; the latter system admits, too, of quicker laying down, ensures a more satisfactory bedding, and is, in my opinion, likely to prove more lastingly satisfactory. Of course, all drains should be bedded on and partially in shallow concrete. Porous pipes and open joints are inadmissible, except for agricultural drainage and unconscientious landlords.

Defective drains might be a matter of less urgency for replacement were they running in an open channel exposed to the free air of heaven, for they would then be aerated. But confined underground, noxious gases are generated, which gradually permeate the surrounding soil by way of defective work and materials, and thus promote a breakdown of health. Recently I had a case of this nature, where the tenant complained of the smell and also of the rats. Despite the fact that on inspection my plumber saw a rat poking his head up from the sewer through the cleaning-eye of the disconnection trap (which was no disconnection trap, as the eye lacked a sealing-off cap); despite the fact that my plumber and I saw plentiful marks of the claws and presence of the rats; despite the fact that we could not fill the drains with water (for the latter lodged the surrounding soil and poured out in the disconnection-chamber at all points and places, except by way of the channel pipes); despite the fact that we saw the smoke pouring in volumes through the open joints of the soil-vent pipes—despite all those facts, the sanitary inspector (declining to use the hydraulic test as being "unfair") calmly reported that there was nothing wrong anywhere under a smoke test, merely graciously conceding that it would be well to put a sealing-off cap to the eye of the disconnection trap. It was red-tape rampant.

The specimens for testing as beams were prepared in a similar manner, and the columns were prepared with the ends in parallel planes at right angles to the axis of

TABLE IV.—SHEARING TESTS: NEW SOUTH WALES HARDWOODS.

Local Name.	Size of Test Piece.		Moisture.	Shearing Stress.
	Length.	Breadth.		
	in.	in.	per cent.	lb. per sq. in.
North Coast.				
Blackbutt	3	3.89	14.4	690
Yellow-wood	3	2.87	15.5	749
Grey gum	3	2.91	16.2	830
Grey ironbark	3	2.92	16.1	932
Blue gum	3	2.95	15.6	889
Ush box	3	2.91	14.9	830
Repentine	3	2.93	14.1	835
Admahogany	3	2.89	14.7	617
White mahogany	3	2.91	15.1	557
Colonial teak	3	2.90	12.9	873
South Coast.				
Grey box	3	2.87	16.5	914
Woollybutt	3	2.87	16.2	840
Spotted gum	3	2.87	17.0	965
Repentine	3	2.87	14.8	801
Blackbutt	3	2.88	15.4	771
Mountain ash	3	2.90	14.9	753
White stringybark	3	2.83	15.1	693

neutral length of 40 in. by the formula: $120 W/bd^2$; and the horizontal shearing stress S_h has been calculated by the formula: $= 0.75 W/bd$.

It will be observed that in Table II. the values of the modulus of elasticity as determined from the loads and deflections are ways greater than those obtained from the measured extension of the extreme fibres in tension. This is due to the fact that the deflection is produced by the direct and bending stresses combined, whereas the extreme fibre stresses and extensions are not affected by the shearing stresses, as the shearing stress is of zero value over the central portion of the beam. The values of the moment of resistance given in the table denote the work done in producing the deflections, and have been calculated by the equation: $M. R_1 = 0.432 \Delta/bd$.

The Report gives details of the tests conducted on the smaller beams mentioned, but, limits of space will not permit us to enter these, the reader is referred to the report for particulars.

3. Tests of Columns.

These tests were made on short, medium, and long columns. The short columns were 8 in. long and the long columns 8 ft. long, the kinds being of square and circular cross-section. The medium columns were 3 ft. long, and of square cross-section only. In every case the cross-section was either 4 in. square or 4 in. in diameter.

The results are given in several voluminous tables, for details of which the reader is referred to the Report itself; but we give in Table III. a summary of the average breaking loads for the three types of columns as computed for the uniform proportion of per cent. of moisture, which was exceeded only a few of the test columns. The average ratio l/d , denoting the ratio of the length to the diameter or side of the square, is included as an additional index to the proportions of the various columns tested. The complete tables in the Report are of such practical value, clearly indicating the percentage of moisture, the degree of seasoning, and other conditions affecting strength, stiffness, and affording guidance of a kind that cannot be furnished by formulae.

4. Shearing Tests.

The difficulty of making accurate tests of the shearing strength of any material is generally acknowledged. It is usually considered more satisfactory to subject the test specimens to shearing stress on one plane only, causing "single shear," than to apply stress on two planes, resulting in "double shear."

In the previous tests by Professor Warren, the results of which were published in 1892, the method adopted did not ensure determination of the true shearing stress, as bending moment was necessarily developed, though the ultimate shear was confined to one plane.

The method in question was devised for finding the strength of timber used as keys compound timber beams, and, while representing accurately the behaviour of timber so

applied, is not suitable for general employment.

For the purpose of the tests described in the present Report a new method was adopted by Professor Warren, the shear being confined to one plane and the bending moment developed being very small.

It was originally intended to cut the test pieces so that shearing would take place only tangentially or normally to the direction of the annual rings, but this was not done with all the specimens, and in some cases the plane of shear was more or less inclined to the tangent.

In the case of all the test pieces for which results are summarised in Table IV. failure occurred in the plane of shear irrespective of its position relative to the plane of the annual rings.

The results in this table are considerably lower than those afforded by the method of testing described in the 1892 Report, the difference being due mainly to the practical elimination of bending moment by the new method.

5. Tensile Tests.

From a practical standpoint data on the tensile resistance of timber are of secondary importance, as in structures the members in tension are jointed at their ends to other members, and the weakest point is at the joint and its connexions, where shearing stress is the governing factor.

Nevertheless, reliable information as to the tensile strength of timber is of general utility, and tests bearing upon this property have been included in every comprehensive

TABLE V.—TENSILE TESTS: NEW SOUTH WALES HARDWOODS. (SPECIMENS 8 IN. LONG, 1.23 SQ. IN. SECTIONAL AREA.)

Local Name.	Moisture.	Breaking Load.	Modulus of Elasticity.	
			per cent. lb. per sq. in.	lb. per sq. in.
North Coast.				
Blackbutt	12.2	17,965	4,362,000	
Tallow-wood	14.3	21,289	4,382,500	
Grey gum	15.1	14,820	4,057,000	
Grey ironbark	13.2	12,610	3,110,500	
Blue gum	12.5	20,350	3,530,000	
Brush box	12.3	13,475	2,668,000	
Turpentine	12.8	14,270	3,220,000	
Red mahogany	12.0	10,515	3,264,000	
White mahogany	—	—	—	—
Colonial teak	—	—	—	—
South Coast.				
Grey box	12.9	21,030	4,282,000	
Woollybutt	13.2	21,215	4,516,000	
Spotted gum	12.5	14,570	4,282,000	
Turpentine	13.3	12,355	2,281,500	
Blackbutt	13.2	14,340	2,990,000	
Mountain ash	15.8	13,930	4,885,000	
White stringybark	11.9	12,245	2,224,500	

investigation of timber conducted in Europe and in America.

Comparison of the tables accompanying this article illustrate the fact that timber is stronger in tension than in compression, and very greatly stronger in tension than in shear.

For these reasons it is somewhat difficult to make tension tests, as the head and shoulders of the test specimen must be stronger than the portion subjected to pure tensile stress, and because the stress must be applied accurately along the axis of the test piece, so as to avoid the effect of transverse stress.

Table V. summarises the principal results obtained by Professor Warren from specimens 8 in. long with a middle parallel portion having the sectional area of 1.23 sq. in.

6. Tests of the Holding Power of Nails and Spikes.

Comparatively little attention has been given in this country to experiments on the holding power of nails, the most complete data hitherto available having been those furnished by investigations at Watertown Arsenal, in America.

These data are now supplemented by the results furnished by Mr. H. A. Roberts, B.E., and Professor Warren in the Russell Engineering Laboratory.

As our readers are aware, the holding power of a nail in timber depends upon the friction developed between the fibres and the surface of the driven nail, the pressure of the fibres on the nail being governed by the elastic properties and strength of the timber.

In soft woods a nail can be driven without first boring a hole, and, as demonstrated by the Watertown Arsenal tests, the wrought-iron cut nail possesses greater holding power than the steel-wire nail.

In Australian hardwoods the resistance to driving is so great that it is necessary first to bore a hole slightly smaller than the nail in order to obviate the risk of buckling the latter, or in the case of stout nails to avoid the risk of splitting the timber.

Professor Warren gives numerous tables and diagrams bearing upon this part of his investigation, and from them the following notes are based:—

The holding power of a 6-in. nail of No. 1 S.W.G. first driven to the depth of $3\frac{1}{2}$ in. and withdrawn by stages varied from 1,331 lb. to 790 lb. per square inch of bearing surface, while the holding power for nails of the same size driven to depths ranging from $1\frac{1}{2}$ in. up to $3\frac{1}{2}$ in. varied from 1,438 lb. to 3,529 lb. per square inch of bearing surface.

Other experiments indicated that there is no definite relation between the size of the nail and the holding power per unit of surface, the results for nails of from No. 1 to No. 8 S.W.G. driven to the depth of 3 in. into ironbark varying only from 1,260 lb. to 1,320 lb. per square inch. The mean of 1,290 lb. per square inch is approximately three times the average holding power of nails in American softwoods.

An interesting point was the determination of the effect of the size of the holes on holding power. From the results quoted by Professor Warren we may cite as an example the fact that a 6-in. No. 1 S.W.G. nail driven 3 in. into a hole of 9.32 in. diameter developed the holding power of 1,130 lb. per square inch, while a similar nail driven direct into the wood showed the holding power of 1,400 lb. per square inch. For the reasons stated above it is desirable that the holes in hardwood should not be too small.

For purposes of comparison and reference we give in Tables VI. and VII. some of the results furnished by the tests of Professor Warren on Australian hardwoods, and by those conducted at Watertown Arsenal on American timber.

The effect of time and moisture on holding power are shown by other tables, the influence of time being somewhat variable, and that of moisture being always to reduce the holding power.

Finally, we may point out that the experiments of Professor Warren indicate the holding power of nails driven parallel to the layers of fibre to be slightly greater than that of similar nails driven perpendicular to the layers.

The holding power of spikes such as are used in railway and tramway practice is also discussed at some length in the Report, but as the results are generally similar to those for nails, and as most of our readers are less

TABLE VI.—HOLDING POWER OF NAILS IN AUSTRALIAN HARDWOODS. (6-IN. NO. 1 S.W.G. NAILS DRIVEN 3 IN. INTO HOLES $\frac{3}{8}$ IN. DIAMETER.)

Name of Timber.	Mean Load Applied per sq. in. of Surface.
	lb.
Grey ironbark	1,230
Tallow-wood	1,020
Blackbutt	1,060
White stringybark	724
White mahogany	998
Brush box	988
Grey box	1,017
Blue gum	910

TABLE VII.—HOLDING POWER OF NAILS IN AMERICAN TIMBER. (SIZE OF NAILS FROM SD. TO 60D.)

Name of Timber.	Mean Holding Power per sq. in. of Surface.
	lb.
White pine	405
Yellow pine	692
White oak	1,216
Chestnut	683
Laurel	1,230

TABLE VIII.—ABRASION TESTS: NEW SOUTH WALES HARDWOODS.

Local Name.	Volume Abraded: Reduced to Standard.		Ratio of Hardness in the Three Planes.		Order of Con. h.a.c. Hardness in Planes (A), (B), and (C).
	(A)	(B)	(A)	(B)	(C)
<i>North Coast.</i>					
Blackbutt	35	76	1	3.1	4.0
Tallow-wood	25	103	1	4.2	6.1
Gray gum	24	69.5	1	2.9	4.0
Gray ironbark	15.5	53.5	1	3.5	5.0
Blue gum	23.5	55.5	1.54	2.4	6.5
Brush box	42.5	38	1	4.3	8
Turpentine	37.5	61	1	1.3	2.2
Red mahogany	27.5	86.5	1	3.1	5.2
White mahogany	26	85.5	1	2.4	4.2
Common fust	44	116	1	2.6	2.2
<i>South Coast.</i>					
Gray box	21	43.5	1	2.0	2.6
Woollybutt	21	36	1	1.7	2.7
Spotted gum	21.5	44	1	2.0	3.4
Turpentine	21	31	1	1.8	3.5
Blackbutt	21.5	33	1	2.4	3.5
White Stringybark	20.5	33.5	1	1.1	2.6

interested in spikes of the kind than with ordinary nails, we need scarcely devote space to consideration of the tests.

7. Hardness Tests.

This part of the investigation was carried out by Mr. G. E. Cowdery, B.E., under the supervision of Professor Warren, with the object of ascertaining not only the relative hardness of the different varieties of timber under examination, but also of comparing the different methods of determining hardness.

Comparison was also made of the hardness of three planes relative to the directions of the fibre and the annual rings.

The tests applied were:—(1) The cross-compression test on a 100,000-lb. machine, (2) the Brinell-ball test with an apparatus forcing a ball of 0·78 in. diameter into the wood under a pressure of about 1 ton, and (3) the cone-pressure test with an appliance forcing a steel cone into the timber under a pressure of about 880 lb.

For detailed results our readers are referred to the complete Report.

8. Torsion Tests

As the stress of the surface of a specimen subjected to pure torsion is a shearing stress, it was considered desirable to conduct tests of this kind for examination of the results with those furnished by the tests for direct shear.

While the relative shearing resistances of various timbers tested in this manner by torsion are probably more accurate than those given by direct shear tests, owing to the absence of bending moment, the values are higher in all cases, and are not applicable as data for ordinary structural computations.

9. Abrasion Tests.

These interesting tests, conducted by Mr. J. M. Royle, B.E., under the supervision of Professor Warren, were undertaken for the purpose of gauging the resistance of timber to wear when employed in flooring and paving.

10. Impact Tests.

The machine used for these tests was of the falling-weight type, comprising hammers of various weights arranged so as to fall from an height up to 13 ft.

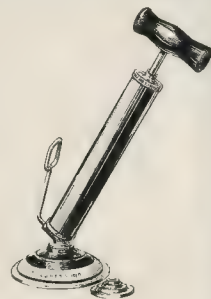
The tests were conducted on beams 2 in. square in cross-section with a 24-in. span, their object being to determine the capacity of the various kinds of wood for resisting sudden shocks in practical construction.

Table IX gives the principal results of nearly 150 tests, and includes a column where the order of merit of the various timbers is indicated by numbers. It will be noticed that stringy wood, such as mountain ash, gives high results, while brittle varieties, such as turpentine and colonial teak, show low average values.

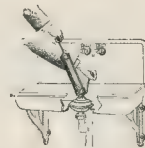
**APPLIANCE FOR CLEARING
OBSTRUCTIONS FROM
SINKS, LAVATORIES, ETC.**

THE Little Giant Lift and Force Pump, patented by Hector Macfarlane, of 317, High Holborn, London, W.C., is a cheap and simple appliance for clearing obstructions from sinks, lavatories, water-closets, etc. Its weight is less than 2 lb., and it measures about 14 in. over all; the barrel is 9 in. long by 1½ in. diameter. With it are supplied two rubber washers, the smaller having a stepped conical face to fit various sizes of lavatory and sink

wastes, and the larger being a force cup for use in water-closet and similar larger outgoings. The barrel is of brass and the piston is fitted with cup leathers, the whole construction being strong and easy to keep in order. Full printed instructions are supplied with each pump, and



The Little Giant Lift and Force Pump.



CERESIT.

THIS is a waterproofing material in cement, etc., much used by the German State and other authorities. It is a light-coloured paste, about the consistency of butter, and may be made into a milky emulsion with ten to twelve parts of water. With the milky fluid, instead of with water, the dry mixture of cement and sand is worked into a plastic state.

The proportions run about one sack of 50 kg. (= 110 lb. of cement) and three of sand to 2½ kg. of the cersit. Four cubic metres (141·2 cubic ft.) of wet mortar to about 25 kg. (55 lb.) of cersit are needed or, reckoning on the amount required to cover a given surface to a given thickness we have:—

Per square metre, 2 cm. thick,	0.5 kg.
" 3 "	0.75 "
" 4 "	1 "
Per square yard, 0.5 in. thick,	1.1 lb. av.
" 0.75 "	1.65 "
" 1 "	2.2 "

The mortar is handled and applied just like any other of the same consistency and for the same purpose.

When it is required to keep out ground water the sole—i.e., the concrete or other surface covering of the whole area—must be strong enough not to be displaced by the weight of the building. The best material is a concrete of gravel or coarse pebbles; but where the water pressure and volume are not very great rolled broken brick will do as well. It is laid in the centre, and several layers of brick-breaking joint may be used.

The bricks should be laid in cement mortar or, if there is much water, in cessit mortar being thoroughly wetted down just before laying. The requisite thickness of sole depends on the pressure and volume of water, and on the size of the cellar, say, on an average for a compartment 4 x 5 metres, and 1 metre water pressure, a concrete sole 20 cm. thick made of one part cement, two of sand, four to five of gravel or fine broken stone.

the foundation walls must be thick enough to take cracking impossible.

Waterproofing the walls for average pressure 25 cm. to 3 cm. (1 in. to 1 1/2 in.) thick of plaster is sufficient. The plaster should be thoroughly cleaned before plastering (any old plaster should be removed), the mortar joints scratched out and wetted. The plaster is then applied in several layers, well trowelled together, and finished by dusting with dry cement or

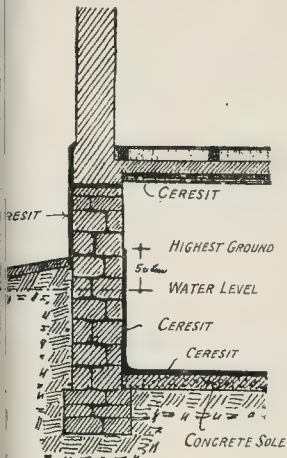


Fig. 1.

being with very thin cement mixed in milk. When the water pressure is considerable then the plaster may be 1 1/2 in. thick below and thinned as it goes upwards. This plaster should extend about 20 in. above the highest possible water level (Fig. 1).

The floor is to be treated with ceresit, 3 cm. to 5 cm. (1 1/2 in. to 2 in.) thick, and, as the wall plaster was, in several trowelled layers. Before applying the ceresit the sole should be thoroughly cleaned, wetted, and then swabbed with cement milk. All corners and joining places of wall floor should be rounded.

During the work of waterproofing, and for six days after (day and night), may be flowing must be kept. As a rule, a hole in the concrete sole, which the water can collect, and from

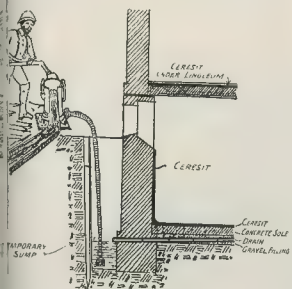


Fig. 2.

it may be pumped, will suffice. When an important building it is best to have a regular drainage (Fig. 2).

boiler-rooms, smoke passages, etc., the sole should be protected from the heat. It is best done by two layers of tiles (Fig. 3).

The insulating layer should not be penetrated by any iron parts, as hooks, hinges,

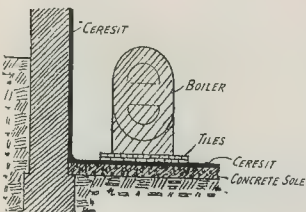


Fig. 3.

Solid stairways should not be built until the floors and walls below them have been treated with the ceresit mortar. The steps should not go through the insulating layer.

Where the ground water is very slight in quantity, and it is only a matter of protection against dampness from the earth and air, it will be sufficient to give the sole only about 3 cm. (1 1/2 in.) and the walls about 2 cm. (0 8 in.) of insulating plaster. When it is an old building the old mortar coat must be removed (or at least roughened) to give the new one a good hold; and the wall should be well cleaned before the insulating layer is applied.

On the weather side the walls should be protected inside and out, else there will be danger of fungus, mildewed wallpaper, scaling off of the plaster, etc. A thickness of 1 1/2 cm. to 2 cm. (0 6 in. to 0 8 in.) of 1 : 3 concrete mixed up with ceresit suffices. The plaster should be laid on in several layers and well worked in.

The ceresit permits the use of colouring materials, and even oil paint, after a very short time.

Where exterior plaster is out of the question, as in ornamental brickwork, etc., of course, the waterproof layer must be internal only, of the same thickness as for the outer side, but with a fat lime plaster layer about 3 mm. to 5 mm. (0 12 in. to 0 2 in.) thick to take up any moisture of condensation. Old lime plaster should be first removed.

When there is filled-in wooden framing the

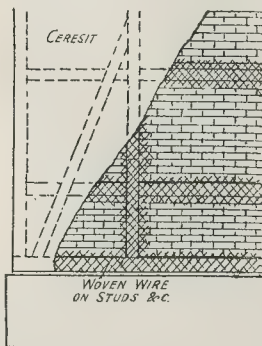


Fig. 4.

wooden portions should be covered with woven wire (Fig. 4).

For insulation of horizontal surfaces from moisture it is claimed for ceresit that, in the first place, ordinary masons can make and apply the protecting material without calling in the help of workmen skilled in asphalt work, with their special plant; and, in the second, that the insulation can be effected, if necessary, a little at a time, just as fast as the masonry is completed; and, in the third place, that the ceresit, in contrast to asphalt slabs, etc., makes a firm bond with the masonry, and the strength of the latter is in no way lessened, as is the case where the foundation and the upper work are separated by asphalt paper. It suffices to use 2 cm. to 3 cm. (0 8 in. to 1 2 in.) of the ceresit mortar in the proportion of one volume of cement and three of sand, mixed up with the ceresit "milk."

For terraces and balconies there must be sufficient provision for allowing the water to flow away. This can be done by giving the concrete surface itself slope, or by making the layer of ceresit mortar thicker at that side from which it is desired that the water shall flow; 3 cm. (1 1/2 in.) is the proper thickness to be applied to roughened and cleaned surfaces and well smoothed. The mix can be 1 : 3 with ceresit "milk." Meeting points of floor and wall are to be well rounded out; and it is better to carry the cement up about 8 in. from the floor. As soon as the laid layer is to be covered hand high with sand, which is to be let stand a week and damped down every day, then removed. This is to prevent too rapid drying and consequent cracking.

LABOUR IN THE COLONIES.

FROM the *Supplement to Circulars* issued from the Emigrants' Information Office, 34, Broadway, Westminster, S.W., we learn that in Sydney and suburbs, *New South Wales*, the furniture and iron trades have been fairly well employed, and competent men in these trades and strong railway labourers can get work. There is a good demand at Orange and Young for carpenters, bricklayers, painters, and plumbers. In *Victoria* competent mechanics will have little difficulty in securing employment. In *South Australia* work of nearly all kinds is plentiful, and a large amount of money is being spent in public works. There is a good demand for plasterers, cabinet makers, masons, galvanised iron-workers, carpenters, joiners, brickmakers, cooper-smiths, sheet-metal workers, brass-finishers, and boiler-makers. In *New Zealand* the engineering, wood-working, building, and unskilled labour have been fairly busy, and are likely to improve at this season. The building trades of *Johannesburg* continue to be active in most branches, but the supply of labour is quite sufficient; there is no improvement in the engineering trades. There is no demand for more labour at *Pretoria*. At *Cape Town* there is no demand except for a few skilled plumbers, cement workers, and furniture makers. At *Durban* the only demand is for a few good plasterers, tilers, and plumbers.

THE TRADES DISPUTES ACT.

THE annual general meeting of the Glasgow Building Trades Exchange, Ltd., was held in the office, 37, Hope-street, on the 25th ult. Colonel Robert J. Bennett presided.

The Executive Council's nineteenth annual Report—for the year ending September 30—stated that the Council had continued to afford the Employers' Parliamentary Council every assistance in their power in their endeavour to force legislation in the direction of suppressing or limiting picketing, subjecting all unions to the ordinary law of the land, and suppressing as unlawful combinations federations of unions for the purpose of "paralysing the country" by means of a general strike. To this end the Executive, having with other associations signed the memorial to the Prime Minister, thereafter addressed a communication to him urging him to receive a deputation on the subject. The Prime Minister up till now had declined on account of pressure of business, and it was undoubted that the Government have sufficient business on hand to occupy them for some time. The Council had been approached urging that items should be introduced into schedules to cover the increased cost of workmen's compensation, insurance and insurance under the National Insurance Bill. The matter was fully discussed in connexion with the revision of the regulations for measurement of mason-work, and it was resolved that these charges must be treated as oncost in the same way as office rent, wages, etc., that they must be taken into account by the contractor in quoting, and that no special item should be introduced into schedules to cover same. The following members of Council who retire at this time were re-elected:—Messrs. Robert J. Bennett, Matthew Henderson, William Howatt, John Keppie, James Goldie, James A. Ferguson, and R. A. MacGillivray.

On the motion of the Chairman, seconded by Mr. Matthew Henderson, the Report was adopted.

ACCIDENT AT KINGSWOOD.

A builder's scaffolding in front of a new picture palace, which is being erected at Kingswood, near Bristol, suddenly collapsed and threw fourteen workmen on to the ground. Some of the men had limbs broken and others were found suffering from internal injuries.



Fig. 1. Balustrade in Wrought-iron and Bronze, New Wesleyan Hall.

THE WESLEYAN HALL, WESTMINSTER.

THESE illustrations depict typical details of interest. Nos. 1 and 3 show examples of the ornamental metalwork in the interior of the building, the last-named representing one of the handsome lamp standards which occur in the entrance hall. These are executed in iron and bronze, and are placed on shaped Roman marble bases attached to the wall, and they are extremely effective. The above illustration shows a portion of balustrading occurring on the staircase landing, and this is executed in iron with bronze enrichments. The detail is exceptionally good, and the execution exhibits workmanship of the first class, which will bear very close inspection.

The illustration in Fig. No. 2 shows one of the four large trophies which occur at the base of the dome, these measuring 24 ft. 6 in. by 13 ft. 6 in. They were executed in lead, and cast from models prepared by Mr. H. Poole from the architects' designs, and carried out by Messrs. J. W. Singer & Sons, of Frome, who also executed the ornamental ironwork mentioned above. The lead trophies are very happily placed on the dome, and must be considered very successful both as regards general composition and also as regards detail.

TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

Allen & Norris v. London County Council.

On October 24 the Tribunal of Appeal under the London Building Act sat at the Surveyors' Institution, Westminster, to give their decision in the appeal of Messrs. W. G. Allen & H. G. Norris, builders, against the certificate of the Superintending Architect of Metropolitan buildings defining the general line of buildings on the western side of the street known as Fulham Palace-road, between Queensmill-road, for the building known as 205, Fulham Palace-road. Mr. Courthope Munroe appeared for the appellants, and Mr. Daldy for the London County Council.

The facts of the case, as reported in the *Builder* of October 11, showed that the appellants are developing a building estate on the western side of Fulham Palace-road, and first erected four shops, of which one is No. 205.

The Superintending Architect defined the general line of buildings in such a way that it would have cut off a portion of these shops, and thereupon the builders appealed, and the Tribunal found there was no general line of buildings in that portion of the street, but said that the presence of the four shops might possibly form the building line in the future. The appellants, without applying to the Superintending Architect to fix a general line, proceeded to build a number of other shops, which were the same distance from the edge of the curb as the four shops, but owing to the contour of the road they were set some 2 ft. behind the first shops. The Superintending Architect subsequently fixed the general line of buildings by taking a certain length of

the road, the effect of which would be to cut off a portion of the last terrace of shops.

Mr. Hudson (Chairman of the Tribunal) now said the Tribunal felt it desirable to call the parties together, not merely to listen to their decision, but to see if they could indicate for the future what ought to be the general line of buildings with regard to the road, so as to avoid those constant appeals to them which did not seem to be worthy of the time and trouble they involved. With regard to the present appeal they had come to the decision that there was no general line at all. They had tried in every way to fix a general line, and had failed to come to any general conclusion. The Superintending Architect made a very good try, but the Tribunal did not like it, and they had come to the conclusion that there was no general line with regard to this particular part of the road. They made no order as to costs. What they desired to indicate as to the future was that the general line of buildings should be the continuation of the line from the south-eastern end of the new buildings. This in effect would mean a line parallel with the Fulham Palace-road to Silverton-road. They were not prepared, however, to say that was the general line. Having indicated that much, they thought that Messrs. Allen & Norris ought to apply to the Superintending Architect to define the line. The Tribunal could only indicate what would be the probable line they would find, and, having done that, the parties ought to be able to settle what the general line was without difficulty. Mr. Daldy would say that it was undesirable to have these constant appeals. The Superintending Architect had shown a perfectly conscientious desire to fix a line, but it was not a general line, and the Tribunal could not find it so. The new buildings could be made the basis on which a general line might now be fixed by the prolongation of the south-eastern end up to

Silverton-road. They recognised there was some difficulty in settling the general line of buildings between Silverton-road and Crabtree lane, because the church stood further back from the road.

Mr. Courthope Munroe said he took it the Tribunal meant the prolongation of the existing buildings as such—taking what the appellants said was the front.

The Chairman said a block of buildings was at present shown on the plan of the Superintending Architect, and if they took from the south-east end they would find there was a straight line.

Mr. Courthope Munroe: You are taking your straight line from the front of the shop windows.

The Chairman: We have nothing here to indicate what is the front.

Mr. Courthope Munroe said there was a question as to whether the front of the shop windows or the main wall was to be the front, and he did not want any misapprehension.

Mr. Daldy said he hoped the Tribunal would not decide that the shop window was the effective front.

The Chairman said it cut both for and against Mr. Daldy. If he took the front of the window it cut the main building, back.

After further discussion the Chairman said what the Tribunal meant was that no brick and mortar should be put beyond the line that had marked on the plan as indicating what they thought might be the general line of buildings.

WESTMINSTER CITY COUNCIL.

At the fortnightly sitting of the Westminster City Council on October 24 the following matters were dealt with:—

Engineer's Estimate.—It was decided that in future, as far as practicable, estimates by the Council's officers of the cost of supplies and works to be supplied or executed for the Council by contractors be not made public before tenders have been obtained.

Poland-street Workhouse Site.—The Housing Committee reported that they were engaged in the preparation of a scheme, pending the result of an inquiry by the Local Government Board, for the erection of working-class dwellings on this site.

Housing Scheme.—The same Committee reported that their attention having been drawn to a possibly available site in the vicinity of the City of Westminster dwellings, Regency street, suitable for a housing scheme, they had directed that preliminary negotiations be entered into with the owner.

Exhibition-road.—In connexion with the recent purchase by the Royal Geographical Society of Leinster Lodge and the proposed rebuilding of the premises, the Improvement Committee recommended the expenditure of £2,350, for the acquisition of land to round off the corner of Exhibition and Kensington roads.—Agreed.

Piccadilly "Dip."—In regard to the proposal for doing away with the "dip" in Piccadilly, which was before the Council at its last sitting, it was agreed to urge the London County Council to sanction the rebuilding of the Sutton Estate property to a height of 81 ft., as had been suggested, so that any further scheme for raising the roadway should not be prejudiced.

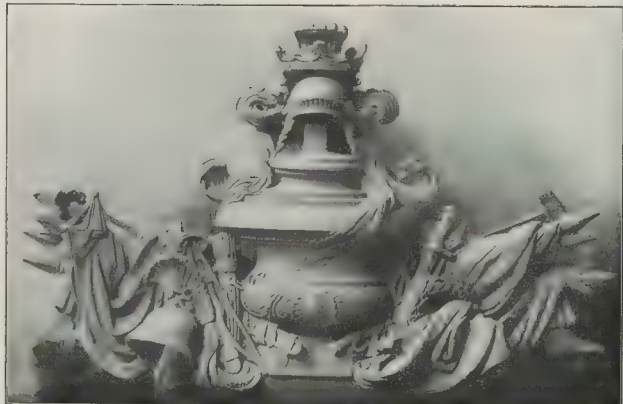


Fig. 2. Sketch Model for Lead Trophy at the Spring of Dome, New Wesleyan Hall.

LAW REPORTS.

COURT OF APPEAL.

(Before the MASTER OF THE ROLLS and Lords JUSTICES FARWELL and HAMILTON.)

Eastbourne Right of Way and Trespass Action: White and Another against the Grand Hotel, Eastbourne, Ltd.

THE hearing of this case upon the plaintiffs' appeal from a judgment of Mr. Justice Joyce was concluded on October 28.

The plaintiffs, Mr. F. A. White, J.P., and Mr. Thomas Fenn, brought the action to restrain by injunction the defendant company from permitting any part of a private road (the soil of which belonged to Mr. White) leading from Southcliffe-mews to Silverdale road, Eastbourne, to be used as a means of access to and from the defendants' motor garage, St. Vincent's Lodge, and for an order upon the company to reinstate a wall dividing the property of the parties, which the defendants had interfered with, into its former condition, the plaintiffs alleging that it was a party wall, which, however, the defendants denied. Mr. White, as the owner, and Mr. Fenn, as the tenant of Nos. 1, 4, 5, 6, and 7, Southcliffe-mews, complained that the defendants were using the road in question in such a way as to constitute a nuisance, but this the defendants denied. Mr. Justice Joyce held that, by reason of an agreement made between the predecessors in title and the parties, a general right of way was granted to the defendants for their vehicles along the road, and that there was no express restriction or limitation of that right of way. He also held that upon the other issues in the case the plaintiffs had failed to substantiate their claim, and dismissed the action with costs, and from this decision the plaintiffs now appealed.

At the conclusion of the arguments of Counsel, their Lordships held that the defendants had a right of way over the road in question without restriction or limitation, and dismissed the appeal on that part of the case. They, however, held that the wall, being a party wall, which was owned by the parties as tenants in common, the defendants had no right to pull it down or to alter the position and size of the gateway, and they accordingly

made an order upon the defendants to reinstate the wall to its former condition. Upon this part of the case, therefore, the appeal was allowed. Plaintiffs were awarded the costs of the trial, except so far as they had been increased by the claim upon which they had failed and half the costs of the appeal.

KING'S BENCH DIVISION: DIVISIONAL COURT. (Before the LORD CHIEF JUSTICE and Justices CHANNELL and AVORY.)

A Sea Wall Dispute.

THE Court on the 24th ult. heard an interesting dispute about the liability of the Holme Cultram (Cumberland) Urban District Council to pay Mr. John Dawson, a builder and contractor, for "extras" in connexion with his contract to build a sea wall at Silloth.

The matter came before the Court on a case stated by an arbitrator, and it appeared that in 1908 Mr. Dawson, who carries on business at Whitehaven, secured a contract to build the sea wall for 4,695*l*. The work was commenced on August 10, 1908, and it was a clause of the contract that no extras were to be done without the order, in writing, of the Council. In September, 1908, unusually high tides caused damage to part of the wall which was completed, and this necessitated the carrying out of extra work to protect the wall. In consequence of a decision arrived at by the contractor and Mr. Bell, of Carlisle, who at that time was nominated as arbitrator, and Mr. Armstrong, of Carlisle, the surveyor, Mr. Dawson was empowered to lay down a large quantity of bags of cement to prevent the sea washing more of the soil away. These bags formed an "apron," and the cost of the work was 540*l*. for materials and 75*l*. for labour. Later in the month further high tides caused more damage, and soil from the wall to the extent of 200 yds. was washed away, and the foundations of the wall were laid bare in some places. A lot of stones and cobbles were placed at the foot of the wall, the cost of that being 120*l*. Both these jobs were done at the order of the surveyor. Later, Mr. Armstrong verbally ordered a new road, for which he gave a certificate for 60*l*. That sum had been paid, together with the contract price of 4,695*l*., but the claim for extra work had been disputed by the Council, who raised the defence that the contractor had received no written order for them to carry out the work, and also that, each item costing over 50*l*., a written order should have borne the seal of the Council as stipulated by the Public Health Act.

After hearing Counsel for both parties, the Lord Chief Justice said the case raised an important point, and the case would go back to the arbitrator with instructions to reconsider it. If the work carried out extra to the contract was, in the opinion of the arbitrator, in the nature of alterations or additions to the contract, then the absence of a written order was fatal to the claim, but if they were not alterations and additions the absence of a written agreement would be no bar to the claim; but then the second question arose, viz. the absence of the seal of the Council. If when the orders were given it was in the contemplation of the parties that the extras would cost more than 50*l*., then the seal should have been affixed to a written order of the Council. If, on the other hand, the work was given out as day work, it would not come within the section which required the seal of the Council.

Justices Channell and Avory concurred, and the case was sent back to the arbitrator.

Contractor's Claim against Corporation: A Sewage Undertaking.

MR. JUSTICE PHILLIMORE, in the King's Bench Division, sitting without a jury, heard on Saturday, October 26, and on Wednesday, October 30, an action brought by Mr. J. Riley, contractor, of Rose Cottage, Gloucestershire-road, Cheltenham, against the Corporation of Sutton Coldfield, claiming about 5,000*l*. in respect to work done and damages for alleged breach of contract in connexion with a sewage undertaking at Sutton Coldfield. The defendants denied that the plaintiff was entitled to the amount claimed.

For the plaintiff Mr. Hudson, K.C., appeared, and Mr. Sankey, K.C., represented the defendants.

Mr. Hudson, in opening the plaintiff's case, said that Mr. Riley's contract with the Corporation in regard to the sewage works was dated August 16, 1909. The work comprised the building of a sewer about 6½ miles in length. In March, 1911, Mr. Riley was proceeding with the work, and was engaged on the last section.

During the progress of the work an immense number of alterations were made, in respect to which the plaintiff contended that he should

Heavy Claim by and against Contractors: J. Aird & Co. v. the Tanjong Pagar Dock Board.

THE hearing was resumed of this case last week in which the plaintiffs claim from the defendants 500,000*l*. as damages for alleged such of contract in connexion with the construction of a wet dock at Singapore. Plaintiffs, who are the well-known contractors, allege that the defendants misrepresented the conditions under which the contract was to be carried out, and therefore that they were entitled in repudiating the contract. Defendants denied these allegations, and served notice on the executors of the late Sir John Aird, who in his lifetime was a member of a plaintiff firm and a party to the contract, asking a claim against his estate of about 100,000*l*. as damages for breach of contract.

Mr. Upjohn, K.C., Mr. Macassey, K.C., and Mr. Schwann appeared for the plaintiffs; and Mr. Finlay, K.C., Mr. Gerson, K.C., Mr. Bomer, K.C., Sir Hugh Fort, K.C., Mr. Atcheson, and Mr. Hull for the defendants.

Mr. Upjohn, continuing his opening address on behalf of the plaintiffs, having dealt with the issue of alleged misrepresentation by the defendants, so as to induce the plaintiffs to enter into the contract, said that the engineers had wholly miscalculated the quality of the mud to be dealt with, and its effect upon the piers they had designed. Every part of the piers they had designed were really impossible performance, because they estimated that the mud was stable—a more or less solid mass—whereas it was admitted that where the mud was one and a half to one, they must consider it as having at least an angle of three to one, and in some places an angle of six to one, and even in parts twelve to one at the greater depths. They had admitted the correspondence that several walls were unstable, and what was true of the walls was *a fortiori* true of getting through this mud in operation of sinking a timber trench. When they admitted that the walls were not stable they really admitted that the whole design was not capable of performance. If the plaintiffs were right in their submission to the contract, on its true construction, was to sink a trench timbered in runners and stringers, there could not be the slightest dispute that the work would be impracticable.

The question of the impossibility of the construction of the walls under the contract was very important. The contractors found that places where the contract walls were to be it was impossible to get down to the "hard" even by employing the heaviest timber known to engineers. Plaintiffs did not think from incurring enormous expense, trust implicitly to the reputation of the engineers as a fair and honourable firm, and that they would see that the contractors were paid and honourably paid for the work done. Having explained in great detail the difficulties the plaintiffs experienced owing to action of the mud and the impracticability of constructing the walls of the dock under the terms and conditions imposed by the contract, and the impossibility of doing the work except at an enormously increased expense, learned Counsel referred to other issues raised in the action, and said that the plaintiffs' case, broadly speaking, was that the contract was so different in character as to be wholly outside the contract. The plaintiffs were rather disappointed that the defendants had not put in a counterclaim, as they would have liked to have threshed out the matter altogether.

Mr. R. Finlay said that the counterclaim was not framed yet, but he thought there did not be another action, as the result of the present case would probably decide the matter.

Mr. William H. J. Stacey, the engineer of the plaintiff firm, was the first witness. He gave evidence that he had received instructions to prepare drawings for submission to Mr. Aird, the resident engineer, showing the method of timbering it was proposed to adopt for the trenches. He said there was no defect in the timbering or workmanship, and no error on the part of the contractors. All the work used was suitable for the sheet piling, and the frames were put in directly as excavations were made. So far as he knew, the work did not suffer from want of proper supervision. The case had not concluded as we went to see.



Fig. 3. Standard in Iron and Bronze, New Wesleyan Hall.

receive written orders. Plaintiff said that in February and March, 1911, he was still pressing for these written orders, and ultimately he informed the Corporation that he would not proceed with the work until he received those orders. The Corporation said they would carry out the remainder of the work themselves, and the plaintiff issued a writ asking for an injunction to prevent them from doing this. The Court ordered that the plant, etc., belonging to the plaintiff should be valued by Mr. Wilcox, of Birmingham, before the Corporation took the work over. In an affidavit by the plaintiff, read by Counsel, plaintiff said that all through the work the specifications were altered by the Corporation's Engineer, Mr. Clarry, this leading to much extra work being done. Plaintiff also said he had evasive replies when he applied for written orders for the work, and he said he had always been ready to carry out the contract, but he was not bound to carry out extra work without the written order of the Corporation.

Mr. Hudson went on to say that there was an affidavit by Mr. Clarry, in which he maintained that any extra work executed by the plaintiff had been measured and paid for by the Corporation. He also said that the alterations and additions were of a simple character, that they had been made for the plaintiff's convenience, and he denied that when asked for orders in writing he gave evasive replies, as alleged. Counsel further stated that there was a counterclaim by the defendant Corporation for alleged breach of contract by the plaintiff. The plaintiff was entitled to 10,145*s.* as affecting the contract work completed. A sum of 8,865*s.* had been paid, and the Corporation had kept 1,000*s.* retention money, and plaintiff's claim was for extras done.

The plaintiff complained (said Counsel) that owing to the alteration of the specifications he had to contend with extra difficulties, and when he asked for written instructions the answer was sent to him: "Keep to your contract."

At this point the Court adjourned, and when the hearing was resumed on Wednesday Mr. Justice Phillimore asked Mr. Hudson to explain exactly what relief he (plaintiff) wanted, pointing out the fact that the case was one of complexity.

Mr. Hudson said that plaintiff asked for damages in respect to the wrongful taking possession of the works by the Corporation, and such damages should cover the payment for work done.

Mr. Sankey, K.C., then submitted that the plaintiff could not recover for alleged breach of contract, as this was committed on March 25, and the writ was dated March 6.

Counsel's contention led to a long discussion, and eventually a consultation took place between the parties, which resulted in the case being settled. The terms were judgment for the defendants, who withdrew their counterclaim, each party to pay its own costs, the defendants, "as a matter of grace," to pay the plaintiff 500*s.* out of the retention money, the settlement to be in mutual and final satisfaction of all claims between the parties, the plaintiff withdraws all imputations against the defendant and Mr. Clarry, and the defendants make no charges against the plaintiff.

His Lordship signified consent.

CHANCERY DIVISION.

(Before Mr. Justice NEVILLE.)

Pumping Operations and the Stability of the Hôtel Métropole:

The Attorney-General against the London Electric Railway Company.

THIS case came before the learned Judge on Friday, October 25, upon a motion which had previously come before the Vacation Judge, in which the Attorney-General, at the relation of the Gordon Hotels, Ltd., asked for an interim injunction to restrain the defendant company or its contractors, etc., from pumping or making use of similar modes of removing water from the works of the defendants at the present time being carried on in connexion with the defendants' undertaking situated in the Parish of St. Martin-in-the-Fields, in alleged contravention of the provisions of the London Electric Railway Act, 1911, which gave the defendant company power to construct an underground tube railway to extend and connect their Charing Cross and Hampstead Railway, and their Bakerloo Railway at Charing Cross, with the underground station at Charing Cross of the Metropolitan District Railway. The plaintiffs' case was that the continuous pumping of the water, which the defendants met with under the ground, if allowed to proceed would prejudicially affect the stability of the Hôtel Métropole in Northumberland-avenue, which belonged to the relators, and

that what the defendants were doing was expressly forbidden by the Act of 1911.

Mr. Felix Cassel, K.C., and Mr. B. B. Pensonby appeared in support of the motion; and Mr. Bramwell Davis, K.C., and Mr. L. Mossop for the defendant company.

During the course of the discussion it transpired that the defendant company had done no pumping at the point in question since October 21, and that any pumping that had been done since that date was done by the Metropolitan District Railway, under, as it was alleged, their statutory powers.

In the result it was arranged that the motion should stand over till the trial, the defendants giving an undertaking not to resume pumping operations without giving seven days' previous notice in writing to the plaintiffs.

OBITUARY.

Mr. W. J. Laidlay, LL.M., R.B.A.

MR. William James Laidlay, F.R.G.S., of Circus-road, St. John's Wood, Drumore, and the Oxford and Cambridge Club, who died at Freshwater, Isle of Wight, on October 25, aged sixty-six years, was a son of the late J. W. Laidlay, of Seaciff, Co. Haddington, and Drumore, N.B. He was educated at Loretto and Peterhouse, Cambridge. He was called to the Bar by the Middle Temple, and after six years' practice as a member of the Faculty of Advocates, Scotland, he went, in 1879, to Paris, where he studied in the École des Beaux-Arts, and was a pupil of Bouguereau and Carolus Duran. He was a frequent exhibitor, 1881-86, at the Royal Academy and the Salon, and, 1888-1904, at the New Gallery; in 1888 he took a prominent part in the founding of the New English Art Club, and in 1902, became a member of the Royal Society of British Artists. He was the author of "The Royal Academy: Its Uses and Abuses," 1898; "Lena Laird," 1901; "The Origin and First Two Years of the New English Art Club"; and "Art, Artists, and Landscape Painting."

LONDON COUNCILS.

Acton.—It has been decided to take under consideration the prevention of flooding other than by the construction of a northern relief sewer. The Council is to press for a by-law to provide for 500 ft. super. air space at the rear of buildings.

Barking.—The tender of Messrs. Parsons & Parsons, Ilford, has been accepted at 62*s.* for constructing roads at the Ripple School. The Surveyor has been instructed to proceed with the making-up a trial section of Wilmington-gardens with tarred slag macadam, subject to the owner giving an undertaking to bear the cost. The following plans have been passed:—Mr. George Clark, six houses and one shop, Suffolk-road; Mr. W. Stewart, cinematograph theatre, Broadway; Messrs. Gross, Sherwood, & Heald, Ltd., offices and laboratory, Jenkins-lane.

Chiswick.—For making-up Grantham-road the tender of Mr. J. Ball, Chiswick, has been accepted at 1,237*s.*

Greenford.—The open-air bath at South Norwood is to be lengthened to 75 ft. and roofed in by the County Council at an estimated cost of 4,000*s.* The scheme also provides for additional dressing-boxes, clubrooms, lavatories, first-class slipper-baths, and a new laundry. Land is to be purchased in Grange Park-road, Thornton Heath, and plans, specifications, and estimates prepared for the erection of baths thereon. This scheme provides for a bath 75 ft. in length, with galleries, lavatories, and laundry. A new road is to be constructed connecting Crowther and Richanger roads, at an estimated cost of 620*s.* The following plans have been passed:—Mr. A. Bagge, Galford, four houses, Melfort-road, Norbury; Mr. W. B. Coomber, 65, Pemdevon-road, eleven houses, Leander-road; Mr. A. W. Dawson, Teevan, three houses, Zernatt-road; Mr. E. Bates, London, E.C., four houses, Highbarrow-combe-avenue, and fifteen houses, Addiscombe-road; Mr. D. Waightman, 78, North-end, two houses, Christchurch-road East, and five houses, Godstone-road; Mr. P. Richardson, 20, Addiscombe-avenue, seven houses, Pollard's-hill North, one house, Pollard's-hill East, also mission hall, Suffolk-road, South Norwood.

Finchley.—The Local Government Board is to hold an inquiry on November 5 into the application of the Council for authority to prepare a town-planning scheme. The following plans have been passed:—Mr. J. Stonnell, four shops, ten houses, and one orchard, Squires-lane; Mr. T. Osborne, six houses, Woodlands-avenue; Mr. S. W. Tod, motor garage, Nether-

land, Holly Park-gardens; Mr. C. W. Scott, four houses, Arden-road; Messrs. Hamilton, four houses, junction of Holly Park and Widdowes-avenue; Mr. F. W. Walker, four houses, Finchley-way. Plans have been lodged as follows:—The Co-partnership Tenants, Ltd., twelve houses, Addison-way; twenty-eight houses, Denman-drive; the Manor Farm Dairy, Ltd., dairy and offices, High-road, East Finchley; Mr. W. T. Howard, nine houses, Finchley Park; Mr. A. P. Joyce, additions to factory, King-street, East Finchley; Mr. E. J. Abrahams, buildings, rear Cambridge and Wisbech Houses, Great North-road, East Finchley.

Finbury.—Portions of Lever-street and Dingley-road, St. Luke's, are to be improved and widened at respective estimated costs of 495*s.* and 109*s.*

Ham.—Estimates are to be prepared by the Surveyor for the erection of artisans' dwellings.

Hanwell.—Instructions have been given to the Surveyor to prepare plans and estimates for kerbering and paving with artificial stone a portion of the footway on the south side of Uxbridge-road. The tender of Messrs. Heene & Proude, Ltd., has been accepted, at 1,333*s.* for the erection of a two-cell dust-distributor.

Hemel Hempstead.—Plans submitted by Messrs. John Dickinson & Co. have been passed by the Rural District Council for the erection of an addition to their mills at Apsley.

Heston and Isleworth.—The General Purposes Committee report that the plan prepared by the Surveyor, showing a suggested route through Heston and Isleworth for the proposed new western approach road to London, was submitted to the Road Board for their consideration at a recent interview with representatives of the Council. At this interview it was intimated that the Board had come to the conclusion that the construction of a by-pass road through Brentford would be inadvisable, preferable to the widening of the existing road, and that in those circumstances the Board would not be prepared to contribute towards the widening of the Brentford High-street. Generally the Council's scheme was approved, and it was agreed that the route suggested would not be detrimental to the Board's original proposals, though the advisability of adopting the proposed entry to the new road from the Chiswick High-road was questioned. If the scheme is adopted, the Committee state the Board will not contribute more than one-half of the cost of carrying it out, which cost is estimated by the Surveyor at 250,000*s.* It was resolved to urge the Middlesex County Council and other influential bodies and owners of land on the route to support the scheme. The following plans have been passed:—Messrs. A. & P. Baars, Ltd., building at Orchard Works, Isleworth; Mr. W. Hogbin, six houses, Standard-road, Hounslow; Messrs. H. Somerford & Son, entertainers' hall, Gumley House, Isleworth; Mr. H. W. Nicholls, four houses, Church-road, Isleworth.

Ilford.—The following plans have been passed:—Mr. E. T. Dunn, cinema theatre, Ilford-lane; Messrs. Rawlins, Culver, & Co., motor garage, Eversley-terrace; Mr. C. W. Duly, eleven houses, Haslemere-road; Mr. G. S. Valentin, cinematograph theatre, Cameron-road, Seven Kings.

Shoreditch.—The tender of the Improved Wood Pavement Company, Ltd., has been accepted for laying wood-paving in Baring-street and New-street, between New North-road and Rosemary Branch Bridge, at 7*s.* 9*d.* per yard. The approximate area to be paved is 1,400 yds. super.

Walthamstow.—A portion of Greenleaf-road is to be coated with bituminous material, and the tender of Messrs. H. V. Smith & Co., Ltd., has been accepted for supplying same, at 27*s.* 6*d.* per ton. Directions have been given to the Engineer to prepare plans, specifications, and estimate for making-up Sylvan-road and completing the making-up of Beech Hall-road; also for the erection of conveniences in Higham-hill Recreation Ground and St. James Park. A scheme prepared by the Engineer has been approved for providing a large artificial island in Beech Hall-road, and six houses to be passed for Messrs. Allen Brothers for the erection of three houses in Malvern-avenue; also for Mr. A. G. Barton for a warehouse in Hale End-road. Plans have been lodged by Mr. A. J. Robinson and Mr. T. D. Baker, for seventy-nine houses in Beech Hall-road, and six houses in Shakespeare-road, respectively.

West Ham.—The Public Health Committee report that they are of opinion that it is desirable that a separate sanatorium should be provided for the Borough, and they have directed the Borough Engineer and the Medical Officer of Health to make inquiries as to a suitable site for a permanent building. Plans and estimates by the Borough

(Continued on page 525.)

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vii. viii. x.; Public Appointments, xviii.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not and themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

NOVEMBER 1.—**Ottawa.**—MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa, by November 1. Particulars from the Public Works Department, Ottawa, p. 174, August 9.

NOVEMBER 4.—**London.**—REGENT'S QUADRANT.—Committee appointed by the Lords of the Treasury to consider the design for completing the Regent's Quadrant, and the authors of the designs are asked to forward them to the Architect, London, S.W., by November 4. See advertisement (page iv.) in issue of October 25 for other particulars.

NOVEMBER 25.—**Newcastle-on-Tyne.**—SCHOOLS.—Assessor, Mr. Alex. N. Paterson, A. Premises, 601, 304, and 254. Particulars from the Town Clerk, City Chambers, Newcastle-on-Tyne.

NOVEMBER 30.—**Batham.**—SWIMMING-BATH.—Wandsworth B.C. invite designs. See advertisement in issue of August 16. Particulars from the Batham High-road, S.W.

NOVEMBER 1.—**Sofia.**—DESIGNS FOR A ROYAL COURT AND LAW COURTS.—Particulars from the Central Intelligence Branch of the Board of Education, Sofia, see p. 173, August 9, and p. 250, September 27.

NOVEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS.—Particulars from the City Surveyor, 26, Market-street, Carlisle.

NOVEMBER 20.—**R.I.B.A. Competitions.**—All for the Studentship and Prizes, 1913, must be sent before 5 p.m. on November 9. Conducted by the R.I.B.A.

MAY 1, 1913.—**Dublin.**—MUNICIPAL BUILDINGS.—Assessor, Mr. Albert E. Murray, A.R.H.A. Particulars from the City Treasurer, Dublin, 21, St. James's-street.

MAY 20, 1913.—**Rome.**—BRITISH SCHOOL AT SCARLEIGH IN ARCHITECTURE.—2000, per cent for three years. Particulars from Mr. J. H. Shaw, 54, Victoria-street, S.W.

NOVEMBER 3.—**Eastcote.**—SCHOOL.—The Regate Education Committee invite designs for a Council school in Slipston-road. See advertisement in this issue for further particulars.

NOVEMBER 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings, Honoraria of 3000, 3000, and 1000, respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

NOVEMBER 1, 1913.—**Winnipeg.**—CITY HALL.—Particulars from Mr. A. Waugh, City Hall, Winnipeg, see page 509.

DATE.—**Dursley.**—WORKMEN'S DWELLINGS.—The Parochial Committee of the Dursley Parish invite designs for about thirty workmen's houses. See advertisement in issue of October 25 for further particulars.

DATE.—**Jordanhill.**—GLASGOW.—PROPOSED COMPETITION NEWS.—December 1, page 635.

DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. J. H. Motherwell, 601, 304, and 254.

NOVEMBER 5.—**Swindon.**—ALTERATIONS, ETC.—For alterations and additions to Olive House, Swindon. Plans by Mr. K. J. Boswick, M.S.A., Swindon.

NOVEMBER 6.—**London.**—DEMOLITION.—For demolishing 155 and 157, Peckham-rd., London, S.E., for the Metropolitan Asylums Board. Drawing and specification by Mr. W. T. Hatch, M.Inst.C.E., M.Inst.M.E., Engineer-in-Chief, Office of the Board, Embankment, E.C. Deposit of 11.

NOVEMBER 6.—**Slough.**—BUILDINGS, ETC.—For erection of buildings, furnaces, boilers, and chimneys, etc., at the Council's pumping-station at Chalvey. Plans, specification, quantities, and form of tender at the Town Surveyor's Office, Wilton, Slough. Deposit of 11.

NOVEMBER 6.—**Winchester.**—ADDITIONS.—For alterations and additions to the Soldiers' Home, Hyde Close, Winchester. Drawings and specifications with the architect, Mr. B. D. Cancellor, 12, Jewry-street, Winchester.

NOVEMBER 7.—**Sheffield.**—EXTENSION. Alterations and extension of the Technical School of Art, Arundel-lane. Drawings and conditions of contract seen, and quantities and forms of tender from the City Architect, Town Hall, Sheffield. Deposit of 11.

NOVEMBER 8.—**Holmfirth.**—ADDITIONS, ETC.—For alterations and additions to Holmfirth Hinchliffe Mill Council School, Plane seen, and specifications, with quantities, from the Education Architect, Council School, Wakefield. Deposit of 11.

NOVEMBER 8.—**Hoyle.**—ADDITIONS.—For additions to Hoyleland Elsecar Council School. Plans seen, and specifications, with quantities, from the Education Architect, Council School, Wakefield. Deposit of 11.

NOVEMBER 9.—**Bolton.**—COTTAGE. Erection of the park-keeper's cottage at the New Park, Green-lane, Great Lever, Bolton. Drawings seen, and quantities from Mr. E. L. Morgan, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Bolton, on deposit of 11.

NOVEMBER 9.—**Bolton.**—PAVILION, ETC.—Erection of a consumption pavilion and an extension to the administrative block, at the Eastern Fever Hospital, Bolton. Drawings seen, and quantities from Mr. E. L. Morgan, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Bolton, on deposit of 31.

NOVEMBER 9.—**Goole.**—ADDITIONS, ETC.—For the additions and alterations to Workhouse Hospital and other buildings. Plans and specifications seen, and quantities from the architect, Messrs. Thorp & Turner, Carlisle-street, Goole.

NOVEMBER 11.—**Ardrara.**—HOUSE.—For erection of a market-house at Ardrara, Co. Donegal. Plans and specifications from the Board's Office, 23, Rutland-square, Dublin.

NOVEMBER 11.—**Birmingham.**—STARTLING.—For the erection of a factory, etc., at the destructor works, Nethills, and also stabling, foreman's house, loose boxes, smithy, etc., at the destructor works, Lifford-lane, King's Norton. Drawings seen, and quantities from Mr. W. E. Ballard, M.Inst.C.E., District Office of the Department, Council House, Sparkhill, on deposit of 11.

NOVEMBER 11.—**Margate.**—WATER-TOWER.—For repairs to the water-tower at Woodlands, near Wingham. Specification seen, and particulars from the Borough Engineer, 18, Grosvenor-place, Margate. Deposit of 21.

NOVEMBER 11.—**Richmond.**—EXTENSIONS.—For extensions to the Public Baths, Parkhill, Richmond. Plans, specifications, and conditions of contract with Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond, on deposit of 11.

NOVEMBER 12.—**Bridlington.**—VILLA.—For erection of a villa residence on the Belvedere Cliff-terrace, Bridlington. Messrs. W. S. Walker, F.R.I.B.A., Son, architects and surveyors, 77, Longgate, Hull.

NOVEMBER 12.—**Dublin.**—GALLERY, ETC.—For erection of a gallery and circular staircase at the National Library, Dublin. Plans and specification at the Office of Public Works, Dublin.

NOVEMBER 12.—**Hull.**—OFFICES, ETC.—For erection of a dockmaster's house, and offices for Customs Surveyor at the Hull Joint Dock. Plans and specification seen, and quantities from Mr. William Bell, architect, North-Eastern Railway, York.

NOVEMBER 12.—**York.**—COTTAGES.—Erection of thirty cottages in Alma-terrace, Fulford-road, York. Plans and specifications from Mr. F. W. Spurr, City Engineer, Guildhall, York. Deposit of 21.

NOVEMBER 13.—**Woolwich.**—CONVENIENCES.—For erection of sanitary conveniences in the Royal Victoria Gardens, and fronting High-street, North Woolwich. Drawing, specification, and form of tender from Mr. J. Rush Dixon, M.Inst.C.E., Borough Engineer, Town Hall, Woolwich. Deposit of 11.

NOVEMBER 14.—**Eastbourne.**—WALL.—For the construction of a coal bunker retaining wall at the electricity works. Specification and plan from the Borough Electrical Engineer, Electricity Works.

NOVEMBER 14.—**Haileybury.**—SCHOOL.—The Committee of Haileybury College, Herts, invite tenders for New Big School, etc. See advertisement in this issue for further particulars.

NOVEMBER 14.—**Rugby.**—BLOCK.—Erection of a discharge block at Infectious Diseases Hospital, Harborough Magna. Plans, specifications, and quantities from Mr. T. W. Willard, architect, Market-place, Rugby.

NOVEMBER 14.—**Wandsworth.**—EXTENSION OF THE WANDSWORTH GUARDIAN.—The Wandsworth Guardians invite tenders for alteration and extension of boiler-house at Workhouse, Swaffield-road. See advertisement in this issue for further particulars.

NOVEMBER 15.—**Chartham.**—STORE.—Erection of a new store in connexion with the farm buildings and other works at the Asylum. Drawings and specifications from the architect, Mr. W. J. Jennings, 4, St. Margaret's-street, Canterbury.

NOVEMBER 18.—**Birmingham.**—SCHOOL.—Erection of a Council school in Brook-lane, Wedgate, Bartley Green. Forms of tender and quantities, on deposit of 21, at the office of the architect, Messrs. Crouch, Butler, & Savage, of 39, Newhall-street, Birmingham.

NOVEMBER 21.—**Cleethorpes.**—SCHOOL.—Erection of a new Council school at Cleethorpes. Quantities and form of tender from Messrs. Scorer & Gamble, architects, Bank-street-chambers, Lincoln. Deposit of 21.

NOVEMBER 21.—**Thornton-le-Fen.**—ALTERATIONS.—For alterations to the Council school at Thornton-le-Fen. Quantities and form of tender from the Secretary, 286, High-street, Lincoln. Deposit of 11.

NOVEMBER 21.—**Upper Clapton.**—BRANCH LIBRARY.—The Hackney B.C. invite tenders for the erection of a Branch Library. See advertisement in this issue for further particulars.

NOVEMBER 25.—**Chorley Wood.**—SCHOOL.—The Herts C.C. Education Committee invite tenders for new County Council school. See advertisement in this issue for further particulars.

NOVEMBER 25.—**Newmarket.**—WATER-TOWER.—For carting, excavating, and laying of about 5 miles of 8-in. cast-iron pipes, including fixing of valves, hydrants, etc., and the erection of brick water-tower. Plans and specifications seen, and quantities and form of tender from the engineers, Messrs. Sands & Walker, Milton-chambers, Milton-street, Nottingham. Deposit of 31.

DECEMBER 1.—**Longford.**—LIBRARY.—Erection of a library and gymnasium at St. Mal's College, Longford. Plans and specifications with Mr. T. F. McNamara, architect, 192, Great Brunswick-street, Dublin.

NO DATE.—**Blackburn.**—BAKERY.—Erection of new bakery in Crossfield-street, for the Grimshaw Park Co-operative Society, Ltd., Blackburn. Mr. F. E. L. Harris, architect, Co-operative Wholesale Society, Ltd., 1, Ballon-street, Manchester, 11, is for quantities.

NO DATE.—**Elton Hall.**—HALL.—Erection of the new hall. Plans and quantities with Mr. C. P. Burton, architect, Shipping-chambers, George-street, West Hartlepool.

NO DATE.—**Larkbeare.**—HOUSE, ETC.—Erection of a house and buildings at Larkbeare, near Mamhead. Plans with Messrs. E. H. Harbottle & Son, architects, County-chambers, Exeter.

ENGINEERING, IRON, AND STEEL.

NOVEMBER 6.—**Atherton.**—TRANSFORMER.—For the supply of one 250-kw. single-phase transformer. Particulars from Mr. C. T. Astbury, Resident Engineer.

NOVEMBER 6.—**Dundee.**—PILING.—For the reinforced-concrete piling and foundation work for extension of generating-station at Carolina Port, Dundee. Plans seen, and specifications at the head office of the department, Dudhope Crescent-road.

NOVEMBER 8.—**Southampton.**—HEATING.—For the installation of low-pressure hot-water apparatus at Alton Council School. Plans, specification, with conditions of contract, and information from Mr. A. L. Roberts, Architect to the Education Committee, The Castle, Winchester. Deposit of 21.

NOVEMBER 8.—**Swinton.**—ENGINE, ETC.—For pumping machinery, consisting of one gas-engine, duplicate well pumps, and one set of surface pumps. General condition and form of tender and specification from Mr. H. Birks, Engineer and Surveyor, Council Offices, Swinton, Yorks, on deposit of 11.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, be sent in.

NOVEMBER 2.—**Font.**—HOUSE, ETC.—Erection of a house, shop, and out-offices at Sandy Way, Font, Essex. Plans and specifications at Mr. J. H. Pott, architect, Chesham, Bucks-on-Trent.

NOVEMBER 2.—**Maidenhead.**—ADDITIONS.—For one to the engine-house buildings at electric-station in Brickwork-road. Plans seen, and quantities from Mr. P. Johns, High Surveyor, Guildhall, Maidenhead.

NOVEMBER 2.—**Willington.**—COTTAGES.—Erection of twelve cottages at Willington, for the Womers' Homes Committee. Plans and specifications at Engineer's Office, Brancepeth Works, Willington.

NOVEMBER 3.—**Clockheaton.**—VICARAGE.—Erection of a new vicarage for St. Barnabas's ch. Hightown. Plans seen, and quantities from Messrs. Howorth & Howorth, architects, Bank-chambers, Clockheaton.

ENGINEERING, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 8.—**Uxbridge**.—BRIDGE.—For taking down the existing wooden footbridge and the construction of a reinforced concrete footbridge over the River Colne at West Drayton. Plans seen, and specification, with form of tender, from the Surveyor, Mr. John Wm. Harrison, Corn Exchange, Uxbridge.

NOVEMBER 9.—**Manchester**.—ECONOMISER.—For the erection at Davyhulme sewage works, Urnston, of one 96-tube fuel economiser in sections of six tubes each. Specifications from the Secretary of the Rivers Department, Town Hall, Manchester.

NOVEMBER 11.—**Forehill**.—RESERVOIR.—For the construction of a storage reservoir at Forehill. Drawings and general conditions of contract seen, and specification and quantities, on deposit of 11. 1s., from Messrs. Walker & Duncan, civil engineers, 3, Golden-square, Aberdeen.

NOVEMBER 13.—**Seaton Sluice**.—RAILWAY.—The North-Eastern Railway invites tenders for the construction of railways at Monkseaton, the widening of a portion of the Avenue branch, and a new railway to Seaton Sluice. Plans, specification, and schedules of quantities at the office of the Company's Chief Engineer, Mr. Charles A. Harrison, Forth Banks, Newcastle-on-Tyne.

NOVEMBER 16.—**York**.—RAILWAYS.—Construction of about 12 miles of light railways. Conditions, plans, specifications, and quantities, on deposit of 6l., from Mr. H. Craven, Town Clerk, Guildhall, York.

FURNITURE, PAINTING, MATERIALS, etc.

NOVEMBER 1.—**Ashton-under-Lyne**.—PAINTING.—For the painting of Lennox House, in Henrietta-street, Ashton-under-Lyne. Mr. J. Dixon, A.M.Inst.C.E., Water Engineer, Town Hall-chambers, Ashton-under-Lyne.

NOVEMBER 4.—**Pengam**, etc.—PAINTING.—For the painting of the joint bridges over the Rhymney River at Pengam, Barroed, Brithdir,

and Tirphill. Forms of tender and particulars from Mr. Jas. P. Jones, F.I.S.E., Council Offices, Hengoed, via Cardiff.

NOVEMBER 5.—**Aberaman**.—PAINTING.—The Aberaman Workmen's Cottage Building Club invites tenders for painting eight houses at Valley-view and Cobden-street. Aberaman. Committee of the Club, Penylan Inn, Aberaman.

NOVEMBER 5.—**London**.—PAINTING, etc.—For painting and decorating at the Leytonstone Public Library, Granleigh-road, Leytonstone, and the Central Library, High-road, Leyton. Specification, with forms of tender, from Mr. Ernest H. Essex, A.M.Inst.C.E., Engineer and Surveyor to the Council, Town Hall, Leyton.

NOVEMBER 5.—**London**.—PLUMBING.—For plumbing work at Bromley Asylum, Devon's-road, Bromley-by-Bow, London, E. Particulars from the Engineer at that Asylum. Forms of tender and specification from Mr. Walter R. Pickett, Clerk to the Board, Board's Offices, Devon's-road, Bromley-by-Bow, London, E.

NOVEMBER 16.—**Cardiff**.—FLOORING.—For the provision of terrazzo flooring at Cardiff Workhouse. Specification, with form of tender, from Mr. Arthur Harris, Clerk, Union Offices, Queen's-chambers, Cardiff.

NOVEMBER 16.—**Cardiff**.—PAINTING.—For painting sundry schools. Specifications seen, and forms of tender from Mr. J. Lord, M.Inst.C.E., Borough Engineer, Town Hall, Cardiff. Deposit of 5l.

NOVEMBER 19.—**East Ham**.—SCHOOL FURNITURE.—The East Ham Education Committee invite tenders for supply of school furniture for Victoria-lane Council School. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

NOVEMBER 4.—**Auckland**.—STREETS.—For the making of private streets. Plans and specifications seen, and particulars from Mr. Charles Heslop, Sanitary Surveyor, 9, Cradock-street, Bishop Auckland.

NOVEMBER 4.—**Durrington**.—DRAIN.—For laying a 9-in. stoneware drain at Littlehampton-road, Durrington. Specification with the Surveyor, Mr. C. W. Leney, at Angmering

NOVEMBER 5.—**Baling**.—ROADS.—For making up Haslemere-avenue and York-road. Drawings and specifications seen, and forms of tender with quantities, from Mr. C. Jones, M.Inst.C.E., Borough Engineer, Town Hall, Baling. Deposit of 10s. 6d.

NOVEMBER 5.—**London**.—ROADS.—For making up South-grove, Tottenham. Plans seen, and general conditions, specifications, quantities, and forms of tender from Mr. W. W. H. Frost, M.Inst.C.E., Engineer to the Council, at Council-buildings, The Green, Tottenham. Deposit of 10s. 6d.

NOVEMBER 5.—**Walsstone**.—GRANITE.—Supply of 800 tons of granite, broken to 2 in. gauge, and 120 tons of granite chipping. Samples to Mr. H. Walker, C.E., Surveyor, Walsstone.

NOVEMBER 6.—**Clacton**.—FLINTS.—For supply of 1,000 cubic yds. of flints, and 900 cu. ft. of 1½-in. granite. Specification and form of tender from Mr. D. J. Howe, Surveyor to the Council, Town Hall, Clacton-on-sea.

NOVEMBER 6.—**Haying**.—TIMES.—For the laying of about 300 yds. of 2-ft. concrete tubs together with manholes, at South Haying, Plymouth. Specification and form of tender from the Surveyor of the Council, West-street, Haverhill, Devon.

NOVEMBER 9.—**Conkermouth**.—SEWAGE.—For works of sewerage at Bells View, Faircliff, Devon. Particulars from Mr. J. B. Wilson, A.M.Inst.C.E., Grecian Villa, Conkermouth.

NOVEMBER 9.—**Colton**.—SEWAGE.—For the construction of manholes, etc., at Colton. Particulars from Mr. H. C. Wood, Sanitary Surveyor, Tadcaster.

NOVEMBER 9.—**Hastings**.—STONE.—For supply of 1,200 yds. of best unbroken blue stone. Forms of tender from the District Surveyor, 2, Daine, Stoneyknock Farm, Fairlight, Hastings.

NOVEMBER 11.—**London**.—PAVING.—For making-up and paving of that part of South-croft-road, Streatham, which lies between Mitcham-lane and Nos. 15 and 16 (including Southern-road, Wandsworth). Specification drawings seen, and forms of tender from Borough Engineer, Mr. E. Dodd, M.Inst.C.E., at the office of the New Streets Department, 56, East-hill, Wandsworth, S.W. Deposit 5l. 5s.

NOVEMBER 19.—**Belfast**.—SEWAGE.—For construction of an outlet sewer. Drawing specification, and tender forms from the City Surveyor, on deposit of 2l. 2s.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDING MATERIAL—On the Site	Chas. Sparrow & Son	Nov. 1
*BUILDING MATERIAL—On the Site	Veppard & Yates	Nov. 2
*PRINTS, COLOURS, VARNISHES, Etc., 68, ST. JOHN ST. WEST, E.C.—On the Premises	Fryett, White, & Co.	Nov. 2
*PLANT, STOCK, MACHINERY, Etc.—On the Premises	C. D. Levy	Nov. 13
*FREEHOLD BUILDING ESTATE, WALLINGFORD—At the Mart	Debenham, Tewson, Richardson, & Co.	Nov. 13
*FREEHOLD LAND, CHISWICK—At the Mart	Tyler & Co.	Nov. 13
*MASON'S & JOINERS' MATERIALS, CHEYNE HOUSE, CHELSEA—On the Premises	Douglas Young & Co.	Nov. 20
*BUILDERS' REMISES, BATHMES—At the Mart	Horne & Co.	Nov. 20
*FREEHOLD BUILDING SITE, NOTTING HILL GATE—At the Mart		Dec. 10

LONDON COUNCILS—continued from page 524.

Engineer, amounting to 270l., 350l., and 1,200l., have been approved for improvement works in West Ham-lane and Church-street, and making up Densham-road respectively. Plans have been passed for Messrs. C. Watkins and E. Bothwell for alterations and additions to the Y.M.C.A. buildings in Woodgrange-road, Forest Gate; also for Mr. R. C. T. Gordon for alterations to Nos. 348 and 350, Green-street, Upton Park. The following plans have been lodged:—Mr. F. W. Waggett, conversion of hall, Roshet-road, Upton Manor, into cinematograph theatre; Messrs. J. & P. J. Groom, cinematograph theatre, Forest-lane, Forest Gate.

Wood Green.—The Surveyor has been authorised to confer with a firm of consulting engineers with respect to the preparation of a scheme for extending the heating apparatus, hot-water supply, and electric lighting plant in connexion with the proposed additions to the slipper-baths. A Committee has been appointed for the purpose of considering all matters required to be done in connexion with the Council's application to the Local Government Board for the preparation of a town-planning scheme. Tenders are to be invited for laying sewers in three roads at an estimated cost of 885l. A plan has been passed for Mr. H. Jones for the erection of six houses in Clifton-road; as has also a plan submitted by Mr. J. Farrer on behalf of Mr. J. Ives, for seventeen houses in Woodside-road.

Woodwich.—For foundation steelwork required in connexion with extensions now in progress at the Globe-lane Electricity Works the tender of Messrs. Dorman & Long, Ltd., Middlesbrough, has been accepted at 257l. 8s. 7d. The following plans have been passed:—Mr. F. H. Baen, 12, Woodlands-Hutchings, six houses. Blunts-road, Eltham; Messrs. Lovegrove & Papworth, 574-576, Old-

street, E.C., on behalf of West's Brewery Company, Ltd., rebuilding Three Crowns public-house, High-street, North Woolwich, E.; Mr. L. A. Stanton, 110, High-road, Lee, S.E., on behalf of Mr. F. Hare, five houses, Blunts-road, Eltham.

PATENTS.

APPLICATIONS PUBLISHED.*

17,230 of 1911.—Douglas Harold Brownfield and Frederick Beech: Composition for use in making fire-resisting bricks, quarries, tiles for fireplaces, and the like.

21,516 of 1911.—Alexander Ernest Bunge: Rubbish burning apparatus combined with kitchen ranges.

22,951 of 1911.—Ernest Alfred Ward: Appliances for cleaning or removing obstruction from drain and other pipes, flues, and the like.

23,694 of 1911.—Henry Frank Berry: Apparatus for heating, drying, and otherwise treating stone and other materials for use on roads and like surfaces.

25,219 of 1911.—Maria Giese (*née* Michenfelder): Process for the manufacture of hollow floors and ceilings.

25,273 of 1911.—James Darnel Prior: Domestic firegrates.

25,970 of 1911.—Mark Heaton Robinson: Method of constructing piled wharves, piers, and the like, and apparatus therefor.

26,170 of 1911.—Heinrich Wegmann: Lock for doors and the like.

27,830 of 1911.—Edward Frederick Stimson: Stoves.

28,649 of 1911.—Fred Tom Altham Riley: Domestic firegrates.

*All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

5,380 of 1912.—Arthur Reginald Groom: Weather excluders for doors, casements, & the like.

6,201 of 1912.—The Trussed Concrete Steel Company (Julius Kahn): Ferro-concrete construction for floors and the like.

6,287 of 1912.—Charles Taylor (Birmingham) Ltd., and William Kennedy: Attachment "stirrup" or the like to the carrier reinforcing concrete.

9,809 of 1912.—John Dougan: Ventilating frieze for blinds.

11,007 of 1912.—James Johnstone Fraser: Manufacture of articles wholly or partly of artificial stone or marble, and a composite therefor.

12,596 of 1912.—Joseph De Mars and Anthony James Walker: Sash-lock and anti-rattler.

SOME RECENT SALES OF PROPERTY

ESTATE EXCHANGE REPORT.

October 10.—By KNIGHT, FRANK, & RUTLEY: Box Villa, Part of Ashley Manor Estate, 883 a. 0. 37 ft. F.g. rents 12l. 12s.

October 21.—By CROCK: Knockholt, Kent.—The First and 5 a. 3 r. 18 p. 1.

By S. WALKER & SON: Clapham.—Park-cres., f.g. rents 20l., reversion in 37 yrs.

Fulham.—Broughton-rd., f.g. rents 22l. 10s., reversion in 69 yrs.

Wandsworth.—Crownford-rd., f.g. rents 52l., reversion in 71 yrs.

By WARE & CO: Manor Park.—Ruskin-av., f.g. rents 24l. 16s., reversion in 84 yrs.

Forest Gate.—Trumpington-rd., f.g. rents 27l., reversion in 73 yrs.

Clapton.—Bus more-rd., f.g. rents 34l. 10s., reversion in 76 yrs.

Oxford-street.—Newman's - yd., factory premises, n.t. 14 yrs., g.r. 273l. p.

OILS, &c.		£ s. d.
Raw Linseed Oil in pipes.....	per gallon	0 2 9
" " " in barrels.....	"	0 2 10
" " " in drums.....	"	0 2 11
Boiled " " in barrels.....	"	0 2 11
" " " in drums.....	"	0 3 2
Turpentine in barrels.....	"	0 3 7
" " " in drums.....	"	0 3 9
Genuine Ground English White Lead, per ton		31 0 0
Red Lead, Dry.....	"	27 0 0
Best Linseed Oil Putty.....	per cwt.	10 10 6
Stockholm Tar.....	per barrel	1 12 0

VARNISHES, &c.		Per gallon.
Fine Pale Oak Varnish.....		0 8 0
Pale Copal Oak.....		0 10 6
Superfine Pale Elastic Oak.....		0 12 6
Fine Extra Hard Church Oak.....		0 10 0
Superfine Hard-drying Oak, for seats of Churches.....		0 14 6
Fine Elastic Carriage.....		0 12 0
Superfine Pale Elastic Carriage.....		0 12 0
Fine Pale Maple.....		0 10 0
Fine Pale Durable Copal.....		0 18 0
Extra Pale French Oil.....		1 1 0
Eyeshell Flaking Varnish.....		0 18 0
White Pale Enamel.....		1 4 0
Extra Pale Paper.....		0 12 0
Best Japan Gold Size.....		0 10 6
Best Black Japan.....		0 16 0
Oak and Mahogany Stain.....		0 9 0
Bruswick Black.....		0 8 0
Berlin Black.....		0 16 0
Knottling.....		0 10 9
French and Brush Polish.....		0 10 6

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the author.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any communication to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiered Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. T.N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100l., unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

ANGLESEY.—For erection of the new Council school at Menai Bridge, for the Anglesey County Education Authority:
R. & J. Williams, Bangor..... £4,731

KEIGHLEY.—For erection of a bakery in Greengate-road, for Keighley Industrial Co-operative Society, Ltd. Messrs. J. Haggas & Son, architects, Keighley.

Quantities by architects:
Messrs. E. Turner, Keighley
Joiners: Keighley Industrial Co-operative Society, Keighley
Slater: W. Thornton, Bingley
Plasterer: J. Booth, Keighley
Plumber: F. Lodge, Keighley
Iron and Steel: Redpath, Brown, & Co., Manchester, etc.
Reinforced Floor.—Indented Bar System T. Cordingley & Sons, Bradford

KENDAL.—For house in Old Memorial Hospital grounds, Kendal. Mr. John Stalker, architect, 37, Highgate, Kendal.
Builders, etc.: J. Hine & Son, Lowther-street, Kendal (six tenders)..... £198 0 0
Joiners, etc.: J. Allen, Willman-street, Kendal (five tenders)..... 138 15 0
Plasterer, etc.: R. Anderson, Queen's road (three tenders)..... 19 19 6
Plumbers, etc.: W. Jackson & Co., Lowther-street, Kendal (four tenders)..... 57 0 0
Painter, etc.: T. Robinson, Kent-place, Kendal (six tenders)..... 16 17 0

KINETON (Warwick).—For alterations and additions to Diana Lodge, Kineton. Mr. C. M. C. Armstrong, architect, Warwick:
T. Fleming..... £295
J. G. Fincher & Co..... 275
J. S. Kimberley, Banbury..... £208

LONDON.—For additional room, etc., Guardians' Offices, Poplar, 45, Upper North-street, for Poplar Guardians. Messrs. J. & W. Clarkson, architects, 136, High-street, Poplar, E. 1:—
Griggs & Son, Millwall..... £250

LONDON.—For enlarging the Brixton-hill Industrial School, for the London County Council:—

Structural Work:
Bovis, Ltd..... £1,645
H. H. Hollingsworth & Co., Ltd..... £1,298
Fosterfield & W. Bailey..... 869
English Trices & Sons..... 379
W. Downs..... 1,563
Holliday & Greenwood, Ltd..... 1,530
W. V. Heath & Son..... 915
H. Dragg & Sons, Ltd..... 792

LONDON.—For the heating work at the Mantua-street School, Battersea, for the London County Council:—

Wright Bros..... £1,393
Palowick & Sons..... 1,170
Brightside Foundry & Engineering Co., Ltd..... 1,063
J. Boyd & Sons..... 1,075
G. Davis..... 1,025
W. G. Cannon & Sons, Ltd..... 990
G. & E. Bradley..... £915
J. Grundy, Ltd..... 897
J. & F. May..... 896
J. G. Christie..... 859
J. Yetton & Co., Ltd., 4, Carr-street, Limehouse..... 855

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LONDON.—For iron staircase at the Brixton Industrial School, for the London County Council:—
Hayward Bros. & Co. & Peirson & Co..... £150
Bekstein, Ltd..... £330
Wilmer & Sons..... 167 0

RAUNDS.—For erection of a new public elementary school, for the Northamptonshire County Council Education Committee. Messrs. Blackwell & Ridd, architects, Kettering. Quantities by Messrs. Blackwell & Ridd:—
T. Dickman & Sons..... £7,168 0
C. R. Pettitt..... 6,669 0
Smith, Edmunds, & Co..... 6,600 0
Smith & Bunting..... 6,479 0
Smith & Son..... 6,347 0
Bardsmore & West..... £6,390
Hacksley Bros..... 6,189
W. Packwood..... 6,173
R. Marriott..... 6,167
J. G. Fullen & Sons, Northampton..... 5,921

TOTTENHAM.—For the construction of a station at Tottenham. Mr. J. Dixon, utler, F.R.I.B.A., Surveyor to the Metropolitan Police District, Northampton. Quantities by Messrs. Thurgood, Son, & Chidgey, 8, Adelphi-terrace, Strand, W.C. 2:—
Knight & Son..... £14,239
Stanley & Sons..... 13,914
Hall, Bedall, & Co..... 13,707
Goodall & Son..... 13,636
C. Wall & Co..... 13,608
Ferry & Co..... 13,400
Pattinson & Sons..... 13,361
Saber & Son..... 13,377
Godson & Sons..... 13,290
Fairhead & Son..... 13,270
Willmott & Sons..... 13,200
A. E. Symes & Co..... 13,131
Dova Bros..... 13,098
Grover & Son..... 13,061
Pattinson & Sons..... 13,061
Fothergill & Son..... 13,061
G. W. Rowley..... 12,974

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3640.

NOVEMBER 8, 1912.

ILLUSTRATIONS.

UNIVERSITY COLLEGE, DUBLIN. PROPOSED NEW BUILDINGS.
ACCEPTED DESIGN BY MESSRS. DOOLIN & BUTLER.
LINCOLN FREE LIBRARY.
MR. REGINALD BLONFIELD, A.R.A., F.R.I.B.A., ARCHITECT.

BIRMINGHAM COUNCIL HOUSE EXTENSION:—
VIEWS OF EXTERIOR AND INTERIOR.
MESSRS. H. V. ASHLEY & WINTON NEWMAN, ARCHITECTS.

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SCHOLARLY ARCHITECTURE.

THE frequent and somewhat indiscriminate use of the word scholarly in architectural criticism is suggestive of questions not without importance in the development of a consistent modern architecture, and in professional education to that end. It is a mere question of a pedantic purism; the constant use of the word is, in other things, significant of a certain kind of feeling with regard to architecture, common at present both amongst architects and others capable of bringing unduly appreciated to the criticism their work. To say that it is clearly an academic term indicative of an academic phase of architecture may be true, but it is not enough, for unfortunately the word academic also is ordinarily used in a loose, indeterminate sort of way, suggestive of what appears to some as a highly desirable state of architectural and to others, whose opinions are equally worthy of consideration, as the reverse.

It might be said that any high degree of attainment in the varied knowledge necessary to the modern architect competent

to deal successfully with all branches of professional work in itself amounts to scholarship; but we must use words in their ordinary sense. In that sense it applies to distinguished learning, literary—especially in the ancient or classical literatures—historical, archaeological. Scholarship is one thing, art is another, and architecture is art. The profession contains men for whom, without doubt, the qualification scholarly has a sound and well-deserved application: men who are scholars as well as artists capable of producing good architecture. But it is an open question how far their work owes its high quality to their scholarship or to something else. As the handmaiden of art, scholarship may render excellent service; yet it would not be difficult to instance buildings of high merit that come short of the highest, as architecture, by reason in part of this very scholarship.

Without in any way detracting from whatever of real suggestive value for architecture such words as scholarly and academic may contain, their want of appropriateness as critical terms of a creative executive art is perhaps more clearly felt in their application to other

arts. Take a few instances at random: The "Ode to the West Wind"; the "Ode to a Grecian Urn"; "Abt Vogler"; a sonnet of Wordsworth or of Michelangelo; the works of Shakespeare, or even of Milton; and beyond mere irrelevance is there not even a faint sense of derogation in saying of either, or of the poet's work in general, that it is scholarly? The same is also true of the painter's art, and in a painting of Botticelli or Raphael, of Turner or Watts, or Millais, it is not scholarliness we appraise or that appeals, however it may be implicit. We might, as high praise, call Lessing's critical treatise on the Laocoön scholarly, but who would use it of that famous group itself? Returning now to architecture, would it not be mere pedantry to say of the masterpieces of Athens and her colonies or of the great Mediaeval period that they were scholarly? We do not call the men who thus could build scholars, but masters. These were the great original styles, in that, after the universal law of creative life, they were evolved from what went before them by a long series of natural and logical changes, and the introduction of new elements

true to the threefold expression of structure, purpose, and of the soul of the peoples who made them. Works of art they were in the noblest and truest sense of that sadly-abused word, but not of scholarship in our present sense of that term.

But with the Renaissance we come to something essentially different. That great spontaneous resurgence of joyous vitality and energy in all departments of human life did not arise in the conscious application of definite guiding principles. No academic rules could contain or confine it. Its animating spirit of criticism, emancipation, and individualism, unexhausted and indeterminate even now, was fraught with many inconsistencies and contradictions.

In the land of its birth its passion for beauty and art, its enthusiasm for learning, especially for the ancient literatures of Rome and Athens, were naturally linked with a revived interest in their archaeological remains. In architecture this showed itself in two ways: first, in a revulsion of feeling against the long neglect and reckless destruction of the ruins of Imperial Rome, their use as quarries and the burning of their statuary for lime; and secondly, in the study and adaptation of the antique styles to their modern buildings; and from this time the motive spirit in architecture was changed, it became imitative in a way it had never been before. If the change was more swift and complete in Italy than elsewhere it was also more natural, in being the revival of a native style that long ago had been developed in the same geographical and climatic, and, if not in the same social, political, and religious, at all events in the same racial conditions. Its broad defect as architecture, shared with humanism, its contemporary scholarship, was that grace and beauty were aimed at independently of character, that the thing to be expressed, the structure, the purpose, the emancipated modern spirit became of less importance than that the manner of expressing it should be a correct imitation of the antique. The counter reflection may be noted that even so architecture was but expressing what was taking place as the result of the movement in religion, politics, philosophy, science, the extravagance of reactions, and the spirit of experiment and adventure in all things.

Yet even in Italy it is interesting, *à propos* of our subject, to note how the adaptation of the antique architecture to their modern uses was carried out from the first in two quite different spirits with divergent aims and results. The works of Filippo Brunelleschi and Leon Battista Alberti, two of the most distinguished of the earlier architects of the movement, may be compared in illustration of this. Both studied the antique with enthusiasm and patient carefulness, and both applied what they learned in their after work: the first applied the main principles and copied the details of Roman construction and architecture, adapting them with originality and freedom, according to his own ideas in solving the modern problems he was faced with. But Alberti had in his buildings and details far more scholarly regard for the precedent of his Roman models; and, beautiful though his works

are, he laid the foundation of that school in which architecture appears to aim at abstract beauty with a freedom of expression detached from construction and fitness for purpose, and applies the classic orders and details as ornament even where they can have no structural meaning. Alberti may be said to have been the first of the scholarly architects. A distinguished humanist—*i.e.*, a scholar as we still understand the term, he was, beyond that, one of the most versatile and many-sided men of an age prolific of such, with distinguished natural gifts and attainments ranging from music and poetry over a wide field to mathematics and mechanics. A writer on many subjects, his great book on "Building" was the first of a series of great works such as those by Vignola and Palladio and others, which, based upon an assumption that the absolute canons of architectural art had been revealed to Athens once and for all, have had so powerful an influence—such is the inconsistency of the Renaissance—in subjecting architecture to academic rules and formulas, encouraging the fatal idea that all that is required in the architect is an artistic faculty to copy and adapt from recognised original types and standards.

Our modern schools may be free from the pedantic extravagances of the later Renaissance Academies, but they share with the latter the common error of ignoring the true limitations of architectural art, of aiming at beauty detached from the proper character of the subject dealt with, and of assuming that architectural beauty has reached its zenith for all time in the classic styles. They produce men who are certainly often accomplished artists, exhibiting a wonderful beauty and facility of draughtsmanship, gifted with a fancy prolific, versatile, and scholarly, within the limits of a memory stored and trained in all the accomplishments of classic art; but less distinguished for that broader creative imagination which, trained not only in the principles and forms of the great architecture of the past, but also in all the science and industry and requirements of the present, is thus able not only to deal originally and characteristically with its special problems, but to foresee and prepare for future possibilities.

Evolution, as is recognised in Biology, is not necessarily progressive. While in Italy the Renaissance was a return, more or less, to the purity of an ancient native style, to the more Northern nations in which, as especially in France and England, the Romanesque—itsself derived from the Roman as that had been from the Greek—had passed up by a long process of orderly and logical development into the pure style so wrongly named Gothic, the Renaissance came at first simply as a new element and influence gradually assimilated; but proving later, and especially through the publication of the writings and drawings of Palladio and others, to be a transition and reversion to the classical type.

It would appear that, as men's minds became more and more occupied with the immense and ultimately beneficent advance of the physical and mechanical sciences and of their utilitarian applications, itself one of the deeper results of the Renaissance, they lost the instinct

and faculty for creative art. They looked to knowledge and scholarship of the ancients to supply them with consistent modern architecture. The antique and Renaissance authors were searched, new books and measured drawings were published and studied with the idea that the old styles, that owed their greatness, as architecture, to the fact that they so perfectly expressed the life of their own time and place, could be fitted upon a civilisation quite different and without precedent in history, that architecture can, in fact, be studied, understood, or developed apart from the rest of contemporary life.

We do not think we express unfairly the limitations of and the danger of futility that is implicit in academic and scholarly architecture.

The words, however, undoubtedly do also imply a purpose that is both desirable and quite practicable.

The architecture of the future will be in a broad sense, academic in that it will be subject to certain clear principles, universally recognised, but which are not as yet completely formulated nor accepted. It will be scholarly in a living progressive sense, expressing both practical efficiency and character. For anything like a complete realisation of such a consistency in the architecture of the past, of the ideal aimed at by the terms we discuss, we must go back to what is the chief source of all subsequent Western architecture. We must go back to the antique Greek, not by any means assuming it to be the best possible, a pattern to be copied literally; not because, as is so often said in justification of the prevailing classic fashion, our present life is more like that of old Greek or Roman than to that of our mediæval ancestors, for indeed its ruling ideas—religious, social, political, industrial, scientific, etc.—are very different from all these; but simply that we may, if possible, realise the causes of that complete unity of Greek life, its perfect correspondence with and expression in their art.

Scholarly we may say their architecture certainly was, but with a scholarship showing little of that concern with past cultures which forms so large a part of ours, and much more with their own actual busy competitive life. It was a living progressive scholarship, a knowledge of life in all its living aspects, which, combined with high instinct and faculty for fitness and beauty, found expression in the most perfect sensual and intellectual art yet achieved. Compared with those of Roman, mediæval, and modern times, their buildings were but simple structures; but their simplicity was an epitome of practical precision of line and form, logically worked out in every detail with the utmost subtlety of æsthetic refinements. It was in complete unity with, an exact expression of Greek life whose atmosphere of keen emulation and competition and breezy public criticism in all arts and activities tended to the highest efficiency and the most complete development of personalities. This it is which gives it such value for us, and not as so many have, perhaps pardonably, assumed, that the intrinsic beauty of its forms justifies the use of a Greek temple as a model indifferently for church, town hall, summer-house, etc., or

a Greek column in all or every position which it can be applied in use or ornament.

To repeat what we said at the outset, do not discuss these terms in a pedantic or pedantic spirit, but, as we think, solely in the twin interests of literary and critical English and art.

The old Greek language, itself as beautiful and perfect an instrument of expression as any created by their plastic genius, gave us our title architect. Here also we find ancestors both of "cholar" and of "art"; of the first suggesting the leisure and quiet breathing, that was yet far from idleness, of the lives of the Academia, or later in the crowded cloisters of monastery and university; of the second more suggestive of the busier activities of the life of towns and the country outside; the ranging, contriving, preparing, and doing together.

Of great and enduring value is the gift Athens to the world! In the slow upward progress of our race her name descended from a Sanskrit ancestor, which survives to-day less altered in form, more like in sound, and identical in meaning in our word dawn:—

"Let there be light!" said Liberty.
And, like sunrise from the sea,
Athens arose!"

She was one of the cities of the dawn. But, while we bear in mind the freshness and beauties of the dawn, should we not look forward with confidence, and work on the full noonday which is yet to be?

NOTES.

The Temple Church. CERTAIN works of restoration have recently been carried out at the Temple Church, and the usual psalm of praise is gone up from the daily Press voicing the ideas of that large section of the public which likes to see its old buildings made as good as new. The parts affected appear to have undergone a very drastic process of renovation, and how far this was necessary for their preservation is certainly questionable. The turret, for instance, which stands at the junction of the rotunda with the choir on the north side, has been entirely refaced, if not rebuilt, and the southern and the two free-standing piers which carry the porch is now, including its capitals, a mere replica of what stood there before. The northern one appears to have been renovated at an earlier but still recent date, and the same stone is not been used in both cases. The beautiful Transitional doorway, which the porch shelters, with its receding orders variously enriched shafts and architraves, has been thoroughly tidied up, before the work began, this elaborate structure had all the appearance of ancient masonry long subjected to the influences of the London atmosphere. Its surface was crumbling in places and stained, white on the exposed faces and black in the hollows. It was supposed that it was in danger of perishing altogether, and it was thoroughly cleaned. In the course of this process the curious discovery was made that the whole surface had at some unknown

period been thickly coated with an alien substance. This has been for the most part removed by the application of a chemical preparation, and the stone now appears in its original colour, except for the places where the black substance has refused to part company with it. The doorway now looks new, but spotty, and has lost all its agreeable bloom of age. The beauty of the carved ornament, which is of extraordinary refinement for its period, was appreciable before, while the lack of the broken portions which have now in some cases been replaced was not noticed. In one point, however, there is distinct gain. The quaint realistic little half-length figures of monks and royalty which crown the enriched members of the jambs and shelter under the spreading capitals of the intervening shafts are now more clearly discernible and attest the humorous outlook and remarkable technical accomplishment of the unknown XIIIth-century sculptor whose work they are.

Lift Fatalities.

ON Monday, the 28th ult., an inquest was held by Dr. Waldo, the City Coroner, upon the death of a clerk who was killed by falling down a lift well. The verdict was "Accidental death," but Dr. Waldo, in mentioning that this was the forty-ninth case of this kind during his experience of eleven and a half years as Coroner, expressed the view that many of these deaths were preventable. In the case under consideration the well was protected by collapsible gates, and two of the five attendants who alone were authorised to work the lift stated that the lift could not be moved if a single gate happened to be open. It was also against the rules to use this lift for passenger service. But it appeared that the deceased had opened the gate with a lift key in his own possession and had, in the darkness, stepped into the well, believing that he was stepping into the lift. A similar recent case was mentioned by the Coroner, in which a barmaid opened a lift gate with a hairpin and was killed by falling down the well. A considerable proportion of the lift fatalities coming before the Coroner are due to falling down the lift wells, and in many cases the "accidents" arise from such tampering with safety gear as is above mentioned. The difficulty of protecting people of certain classes against themselves is very great. Workmen will clean running shafting and put belts on to revolving pulleys by hand at the imminent risk of death, although their employers may put up conspicuous warnings against such recklessness and may also provide proper and safe means of doing the work. We cannot help feeling that "accidental death" is scarcely an accurate way of describing such incidents as we refer to. It is eminently desirable that lifts should be, whenever possible, arranged with gates that can only be opened when the cage is at rest at the level of the particular gate operated, but at the same time we think it should be made an offence punishable by fine or otherwise to tamper with gate locks or in any similar way to contravene rules made by owners of lifts to prevent

injury to persons. Many people are in the habit of expecting to be looked after in these matters like children, and it would seem desirable, in addition to taking all reasonable mechanical precautions, to endeavour also to instil some sense of responsibility into people who from ignorance or carelessness, or both, are only too often a danger to others as well as to themselves.

The Fatal Fire at Kensington.

THE disastrous fire at Messrs. John Barker & Co.'s premises on the 3rd inst., when four young women were killed and several others injured (one of whom is since dead), has again shown that even with carefully considered means of escape some risk often remains. The external iron staircase was not used, as the girls were cut off from it before they knew their danger, and the modern fire appliances in the building were also not brought into play. Happily this was the occasion of another demonstration of the promptness and efficiency of our Fire Brigade, and it seems certain that all the dead women but one would be alive now had they not jumped to the ground from the cornice 60 ft. above. In doing this one missed the jumping sheet and struck the pavement directly, and two others most unfortunately jumped simultaneously, and therefore, though they fell into the sheet, the impact of the two bodies together was too violent to be safely met. We see with regret that a member of the Brigade, Fireman A. G. Ayres, had to be taken to hospital suffering from severe burns to face and hands after most gallantly saving one of the women.

Flood Protection in Paris.

UP to the present nearly a million sterling has been expended in making good the damage caused by the disastrous floods of January, 1910, but very little has been done in the way of works for the prevention of floods and the protection of the city. The scheme which has been agreed upon by the Paris Municipal Council and the French Government includes the general raising of quays and parapets along the Seine within the city boundaries, the widening of the river at the Monnaie, and the deepening of the river between Suresnes and Bougival in order to facilitate the passage of flood waters. After these works have been executed the river will be dredged between Paris and Rouen as a further aid to the flow of water. It is satisfactory to learn that the two authorities concerned are about to vote the sum of nearly two and a half millions on account of the first instalment of the works, the execution of which ought to be no longer delayed in view of the serious risks to which the city is exposed in its present unprotected state.

Richmond Bridge.

THE Richmond Council have applied for the imposition of a five-mile speed limit for heavy motor traffic over the bridge, and we learn that there will be an inquiry by the Local Government Board in respect of the application. We fear, however, that any such method of dealing with the present difficulty

will be of very doubtful value. As we pointed out in our issue of July 26, the bridge owes its situation entirely to the interests of a few people of a century ago, and the present generation is paying for the errors of those preceding it. Lest, therefore, we leave a similar debt, it would be well for the Council to face the facts squarely and to seek for some lasting solution of the difficulty. In our opinion the only really satisfactory way is the construction of another bridge and the widening of the lane at the foot of George-street. This would avoid the existing dangerous corners and the awkward series of varying gradients which are responsible for the present state of affairs. In any case, to do any lasting good a considerable sum of money must be expended, and the Council, realising this, would be wise to seek the best means of doing so to obtain a satisfactory return in the shape of a fitting continuation of one of the highways of Greater London.

Reinforced Concrete and the L.G.B.

A LONG-STANDING grievance of reinforced concrete specialists against the conservative action of the Local Government Board is once again being ventilated, this time by correspondence in the *Times Engineering Supplement*. Although in some isolated cases the Board have allowed terms of twenty and thirty years for the repayment of loans in respect of works to be executed in reinforced concrete, their general policy is restrictive, and has the effect of imposing a needless obstacle in the way of an important and perfectly reliable branch of architectural construction. Some time ago Mr. John Burns was urged by a deputation to remove the embargo placed by his Department upon reinforced concrete, but after consultation with his professional staff decided against such a course. The fact is that some of the engineering inspectors of the Board still retain the prejudice formerly felt by many British engineers against a comparatively new structural method. Prejudice of the same kind has now virtually disappeared. The Institution of Civil Engineers, who declined to appoint representatives on the R.I.B.A. Committee because the Council thought that such action would imply the support of the Institution to an "untried" method of construction, have long ago changed their attitude, and it is to be hoped that the old-fashioned engineers who seem to control the policy of the Local Government Board will not be allowed to continue a course of action that is not only unfair to an important branch of industry, but is in many instances opposed to the public interest.

The New President of the Institute.

THE R.I.B.A. session opened on Monday evening last with an address by the new President, Mr. Reginald Blomfield, M.A.Oxon., A.R.A., F.S.A., F.R.I.B.A. As was to be expected, the address took the form of an able and well-reasoned exposition of principles affecting the policy and well-being of the profession, but dealing primarily with the position of the Institute, the position of the architect, Registration, and last, but by no means

least, with education. The address is printed *in extenso* elsewhere in our columns, and will be read by all with interest and welcomed for the ideals it fosters. Mr. Blomfield was elected A.R.A. in 1904 and Professor of Architecture shortly afterwards. He is Chairman of the Board of Architectural Education, R.I.B.A., and, as a representative of the Institute, is a member of Council of the new British School at Rome. Our issue of July 28, last year, contains an illustrated article upon his chief architectural and literary works, while a review of his latest book will be found in this issue. Of his most recent designs we may mention the Carnegie Free Library, Lincoln, to which we devote a Plate this week. Mr. Blomfield has more than once acted as assessor in important competitions, and he is on the Committee appointed to consider the question of the rebuilding of the Regent's Quadrant.

ARCHITECTURAL DRAWINGS AT THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE opening meeting at the Royal Institute of British Architects on Monday evening provided occasion for an exhibition of drawings from the Institute collection. The occasion was, however, altogether too brief for the purpose, as the time allowed for viewing the drawings after Mr. Blomfield's speech was scarcely sufficient for more than a glance at the subjects on the walls, which had to be removed immediately subsequent to the meeting, as the gallery was required for other purposes.

The exhibition in question was not formed from a vicarious selection of the Institute's considerable collection of original drawings—it represented an individual and independent collection, only second in interest to the Burlington-Devonshire group of drawings in the possession of the Institute. Regarded from the point of view of architectural draughtsmanship and not architectural history, they possess even a greater variety of interest. Like the Burlington-Devonshire collection, the drawings had been gathered together by a distinguished amateur collector, in this case, Sir James Drummond Stewart, of Grandtully, Dunkeld, who died shortly after their presentation in 1838. The President read a letter from Sir Charles Barry to Professor Donaldson, in which he makes the presentation, on behalf of the Scottish baronet, of certain of the drawings to the Institute, and refers to earlier gifts from the same hand. Until recently the drawings were pasted in a folio album, which no doubt formed part of the original gift, to which those received later were added and attached after the same manner. This inference is borne out by the fact that several pages of the album carried drawings pasted on each side of the sheet, not precisely an ideal way of preserving them, but which no doubt seemed to the librarian of that day as the best method of providing for their security and for retaining the unity of the collection, and, as it happens, they have survived the ordeal remarkably well.

The collection, therefore, on view on Monday night forms one of the earliest gifts to the Institute after its foundation, and one of the most interesting in its history so far as its collections in this respect are concerned. The album, however, provided neither adequate means for the inspection or for the proper verification of the drawings. It has, therefore, been thought well to have them detached and placed in sunk mounts, and they appeared in their new dress for the first time at the inaugural

meeting. The collection consists altogether of 119 examples, which are largely the work of Italian and French masters of the late XVIIIth or early XVIIIth century, representing names of the first importance so far as architectural draughtsmanship is concerned, if not so far as architecture itself is concerned. Many of the drawings are signed, and are of undoubted authenticity. There are others whose authorship can be placed by connoisseurs beyond any reasonable doubt; there are a few of conjectural attribution, and there are still others—not the least interesting part of the collection—to which as yet no artist's name has been assigned. In the course of time no doubt the authorship of all the drawings will be identified or approximately identified. The President of the Institute has published several of them in his recent book, and has cleared up some doubtful points. But their individual character makes, perhaps, subsequent verification only a matter of intelligent interest and time.

Sir Charles Barry, in the letter already referred to, alludes to the drawings as being the work of Bibiena and others, and certainly those by Giuseppe Galli da Bibiena (there are also two drawings by his father, Francesca Galli) form the largest number of drawings by one artist in the collection. The scope of the Bibiena talent suggests in a measure the general artistic atmosphere, both from the point of view of draughtsmanship and architecture of the collection as a whole. There are, of course, some exceptions. Many of the drawings, apart from those by Giuseppe Galli, were designed for the scenic purposes of the theatre, elaborated with something of the delight in the problems of perspective which was characteristic of the Bibiena family, or, if they deal with the invention of architectural subjects for other purposes than the theatre, the style employed is that of the rococo. The numerous members of the Bibiena family devoted themselves with remarkable consistency to the same artistic tradition, and their influence extended outside their own country. It might not be uninteresting to attempt to trace the extent of this influence (chiefly perhaps that of Giuseppe) on the development of the rococo style in the various centres which they visited for the exercise of their artistic and decorative skill in the production of theatrical scenery or in the arrangement of spectacle for Court festivals, or even at times in actual building. Architecture and the stage were more nearly allied in those days than they are now. It is recorded that Brunelleschi provided the scenery for a masque; Palladio's setting in the theatre at Vicenza still remains, and many other instances could be cited. The Bibiena drawings are of undoubted authenticity. So are those of Panini, of which a few bear his signature, the two drawings of his pupil, Jean Nicholas Servandoni, and the four by Mauro Tesi.

Other examples by Italian artists of the late XVIIIth or early XVIIIth century remain unidentified; among these we should be inclined to include the drawing of a candelabrum attributed to Cellini. Next in importance to the drawings of the Italian school are those of the French artists. The sketch of the decorated prows for barges, ascribed to Nicholas Poussin, requires further verification. But there can be no doubt about the veracity of the pen-and-ink drawing signed by Puget, or of the scene of an interior by Delafosse, which is characteristic of the somewhat wild compositions of this famous ornamentist. A pen-and-ink drawing for the decoration of the return angle of a ceiling is ascribed to Le Brun, and certainly its bold design and turbulent grouping suggests his manner, although it was probably not the final working out of his composition. Oppenordt, a French architect, and of the same period as Le Brun, who studied for some years in

ne, is represented by a vigorous pen-
wing of a fountain, with rococo archi-
tural features, figures, vases, etc., in the
inner of architectural arrangement then
wing into vogue. A restrained and
fully-elaborated design of a public
ding, by Henri Marlet, is of con-
rably later date (the drawing is
tently wrought for the purposes of
aving), and, according to its inscription,
emporté le prix à l'Académie de Peinture,
pture et d'Architecture de Dijon, en
1777). Paul Decker's florid interior of a hall
ides an example of German draughts-
ship (the artist was born at Nuremberg
1677); while Isaac Moucheron (who was
the same period as Decker), in two charm-
pen-and-ink drawings, represents with
nelius Schut, an earlier artist, said to be
upil of Rubens, the art of drawing of
pays bas. Not the least interesting
of the collection is a set of tiny
ettes depicted with a light and sure
ph, and with a charming feeling for
position.

For the first time, probably, since its
entation by Sir Charles Barry, a President
the Institute has associated the donor
to the collection which will no doubt in
be definitely connected with his name.
James Drummond Stewart's taste and
ollections as a collector are sufficiently
eated by his choice of subject, and we
e no doubt that the desire which he
ressed through Sir Charles Barry, that
new possessors of the drawings should
e as great a care for them as he would
self, will be fulfilled to the letter.

UNIVERSITY COLLEGE BUILDINGS, DUBLIN.

HE designs submitted in competition for
proposed new Dublin College, to be
ected in connexion with the National
iversity, are, on the whole, of a high
dard, the planning being perhaps more
ormally successful than the elevations.
is result is no doubt partly due to the
racter and restricted area of the site and
carefully-detailed conditions published by
governing body, which tended respec-
ely towards the evolution of plans on set
s, and prevented serious errors of judg-
nt in the allocation of the rooms and
ions. It must not be understood, how-
er, that the problem before the competitors
is an easy one. The sections for which
vision had to be made were scheduled
the conditions as:—Administration;
ents' general accommodation; arts;
sciences, chemistry, physiology, and pathol-
ogy; heating apparatus; examination-
hall, library, large theatre, and seven rooms;
atomy, biology, geology, and architect-
ure; public health, materia medica, and
cellaneous; the required total floor area
which amounts to well over 100,000 sq. ft.
but one-third of this accommodation,
bracing the fifth and a large proportion
the seventh sections, is not for the present
to be erected, the existing buildings on the
being utilised until funds are available
for the completion of the scheme. This
dition, while it was not permitted to
igh with the assessor in considering the
ns on their general merits, must neces-
sarily have hampered the competitors in
their work. The site was, as already stated,
severely restricted in area, being quadri-
lateral in shape, with a frontage of 260 ft. to
Earlsfort-terrace, on the east, and of 250 ft.
Hatch-street, on the south. The possi-
bilities of future building on the northern and
western boundaries necessitated a consid-
erable recession on these sides to obtain un-
interrupted light and air, while a further
wing back of the street frontages was
desirable to gain entrance forecourts and to
avoid the inconveniences arising from the
traffic. The cost of the entire scheme is
fixed at 160,000*l.*, excluding fittings, furni-
ture, and equipment, and of this inadequate
sum 95,000*l.* is to be expended on the first

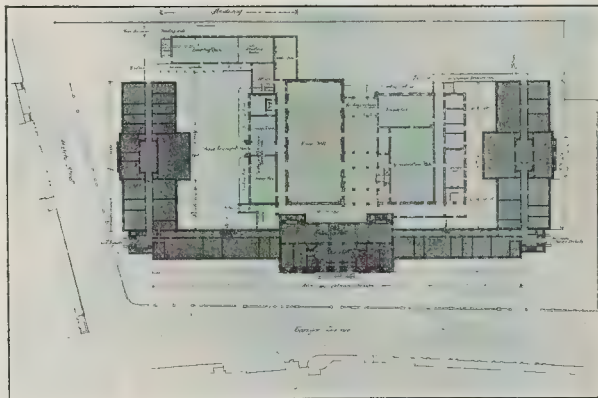
portion. These serious limitations are to be
regretted in a project for collegiate buildings,
destined to be a centre for national education,
and also one of the few examples of early
XXth-century architecture which Dublin is
likely to possess.

A design submitted by Messrs. Doolin &
Butler (No. 10), of which firm Mr. R. M.
Butler, F.R.I.B.A., is the surviving partner,
has been placed first by the assessor, Mr.
H. T. Hare, F.R.I.B.A. Recognising doubt-
less the difficulties to be faced in providing
one large central quadrangle, a method
adopted by many competitors, the author of
this design has grouped his buildings around
two courtyards, each of which will be about
half an acre in extent. The simplicity of the
lay-out is immediately discernible from the
axial arrangement of the plans. The main
entrance is situated in the centre of the
Earlsfort-terrace wing, which is devoted to
arts and administration. From this entrance
access is obtained to a large central hall,
with staircases on either side, and from the
western side of the hall one enters the
examination-hall, which, with the library to
the north and the lecture theatre to the
south, forms the division between the two
quadrangles, and is the central feature of the
plan. The corridors on either side of the
examination-hall afford the necessary exits,
and also give direct communication between
the eastern and western wings. The northern
wing is devoted to chemistry and physics, the
southern wing to anatomy, physiology, and
kindred subjects, while in the rear, or
western, block accommodation is found for
those sections, for which provision is for the
present to be postponed. This arrangement
allows the whole of the main enclosing
frontages to be at once proceeded with,
forming three sides of a rectangle, within
which a large proportion of the existing
buildings will be retained. When the scheme
is being completed the operations will be
entirely shielded from public view. The
winning plan alone embodies this disposition,
which has much to be said in its favour. The
entrances for male and female students are
situated at the ends of the Earlsfort-terrace
wing, with cloak-rooms and conveniences on
the ground floor and on the basement
respectively, while the common dining-room,
with the necessary kitchen and offices, are also
situated in the basement. The anatomical
section is somewhat awkwardly placed on
the ground floor, where the absence of roof
light will prove inconvenient. The position
of the mortuary and the heating chamber,
the latter being placed in the worst position
possible on the plan in point of view of the
prevailing winds, leave much to be desired.
The entrance-hall and parts of the main
corridors are rather deficient in light. With

these exceptions the plans fulfil the main
requirements of grouping and lighting, while
the absence of a basement, except in the
eastern wing, is a satisfactory feature of the
design. The author has, moreover, set back
his buildings some 40 ft. from the western
boundary—a safeguard which no other
competitor has fully managed to achieve.
The elevations to the public thoroughfares
are strikingly simple. The order adopted
only appears fully developed in the colon-
nade forming the central feature, with
slightly projecting wings surmounted by
twin pediments, and in the treatment of the
angle pavilions, which contain subsidiary
staircases. The remainder of the façades,
two stories in height, with main cornice and
attic story over, is of plain ashlar, the
ground-floor windows alone being accen-
tuated. This conception results in a digni-
fied, well-proportioned, and comparatively
inexpensive elevation, in keeping with the
XVIIIth-century style of architecture which
is traditional in Dublin, and escaping the
museum or municipal building-like appear-
ance noticeable in some of the other com-
petitors' work. The central feature over the
main entrance is not an integral part of
design, and opinions may differ as to its
necessity. Economy has dominated all else
in the treatment of the elevations to the
courtyards, which are being finished in
strictly utilitarian manner in cement. The
author doubtless regrets this necessity as
keenly as will any critic.

There is no question that, of all the schemes
submitted, Mr. Butler's is the one which can
be carried out with the closest approximation
to the funds available, and that he has
achieved this without prejudice to the
directness and roominess of the plan and the
dignity of the design. His appointment as
architect by the governing body has been
officially announced, and his sense of grati-
fication at his success can but be enhanced
by the general appreciation of the fairness
of the award which is expressed by his
professional brethren in Dublin.

The assessor has placed second a design
(No. 3) by Messrs. Arthur & H. H. Hill, of
Cork, which, while not so compact in plan
as the winning design, has much to commend
it. The two-court principle is adopted, a
main quadrangle some 208 ft. by 144 ft.
and a smaller medical court, around which
are situated accommodation for the sciences
cognate to surgery and medicine, a segrega-
tion which is one of the salient features of
the plan. The allocation of the various
sections is satisfactory, although a more
reposeful situation might have been found
for the library, which is placed in the
Earlsfort-terrace wing directly over the main
entrance. A feature has been made of the



Proposed University College, Dublin: Block Plan.

Design placed first, by Messrs. Doolin & Butler.

examination-hall by placing it in the centre of the northern wing, and effectively treating the elevation abutting on the large quadrangle. With the exception of a few chambers in the basement, and the attic stories over the dominant features of the design, the accommodation is confined to two floors, which greatly extends and elaborates the plan. The elevations to Hatch-street and Earlsfort-terrace are typically Neo-Greek, the entrance portico, with its Ionic columnar treatment, losing something in refinement by exaggerations of the style and a wealth of ornament which, in hard Irish limestone, would be costly to execute. The façades are flanked by pavilions, impressive mainly by their heaviness. Wings two stories in height are advanced 40 ft. to the pavement line on the south front to form an entrance courtyard. The façades to the quadrangles were intended to be treated with bricks 2 in. in thickness and dressings of cut stone, of which the effect, by its simplicity, would doubtless be very pleasing. A raised terrace with stone balustrade is shown around the main quadrangle, adding much to the dignity of the building, but the expense would be prohibitive, a factor which has been rather neglected elsewhere in this design.

Mr. T. J. Cullen, M.R.I.A., a young Dublin architect, whose design has been placed third, adopted the basic principle of one large quadrangle, entered from Earlsfort-terrace by a triple archway for vehicular traffic. The entrance to the administration block, which is also the main entrance to the buildings, is situated on the side of the quadrangle most remote from the street, while the somewhat meagre entrances for the students are also from this courtyard. The result is that some seclusion is obtained appropriate to collegiate conditions.

Unfortunately this principle on the confined site involves either wings two rooms in depth and an ill-lit central corridor, or a four-story building. The author has chosen the latter plan, and placed one-fourth of the total accommodation, including some laboratories in the basement, 12 ft. below street level. With this grave exception, the plans possess considerable merits, the corridors, entrance-hall, and the rooms generally being adequately lighted and conveniently planned, particularly in regard to the physics section. The position of the assembly, or examination hall, with its longer side on the Hatch-street façade, enables the latter to be effectively treated. The elevation to Earlsfort-terrace is rather impaired by the elaborate central feature which, with an Ionic colonnade, defines the main entrance. The additional story over this entrance tends further to destroy the harmony of the whole conception.

Although no official announcements have been made, it is generally understood that two designs have been highly commended by the assessor. No. 12, submitted by Messrs. O'Callaghan & Webb, bears a great similarity to the winning design in plan and in the broad treatment of the elevations, and highly deserves its commendation. The grouping around two quadrangles, the allocations of the sections, the central position of the examination-hall and library, the entrances for the students, the situation and amount of the basement accommodation are almost, in the narrowest sense of the word, identical, except that the anatomical section in this design is better placed for lighting purposes. The elevation to Earlsfort-terrace is very effective, the main entrance being marked by a Roman Doric portico, with the bases of the finely-proportioned columns placed at first-floor level. The façade terminates in projecting pavilions, with distyle treatment of detached columns deeply recessed. The detail is decidedly Neo-Greek, and elaboration is carefully avoided. The elevations to the quadrangles are shown in ashlar, and this fact, combined with the general internal and external design, may have militated against the success of this scheme on the score of expense. Architect-

turally, it is probably one of the finest conceptions submitted.

The second commended design, No. 18, by Messrs. Batchelor & Hicks, F.F.R.I.B.A., of Dublin, is a departure from the prevalent classical treatment, and consists of buildings in the Tudor style grouped round one large and four subsidiary quadrangles. A collegiate atmosphere has thus been attained by the authors, which is emphasised by the well-conceived entrance-gateway and tower marking the arched entrance to the main quadrangle, and utterly marred by a somewhat meaningless tower and spire placed at the junction of the Hatch-street and Earlsfort-terrace façades, which, by its height and character, overpowers the whole building. The planning is occasionally devious, although the grouping of the sections is in many respects excellent, and the setting back of the main frontage to form an entrance courtyard gives great depth to the building. The style adopted affords opportunities for design which have been fully seized by the authors, the assembly-hall being noteworthy in this respect.

Another Gothic design possessing many excellent characteristics has been submitted in No. 16, the elevation to Earlsfort-terrace, with a tower 100 ft. in height as central feature, being well conceived. The entrance is well defined and possesses a porte-cochère, while the main hall gives access to a block of buildings on the central axis, which affords a means of intercommunication between the front and rear wings on two floors, a convenience which has not been obtained in other plans, even where the two-quadrangle principle has been adopted. The author of this design has utilised the examination-hall to form a bold projection on the southern front, of which elevation it forms a prominent feature.

In design No. 20 may be found several features of interest, including two excellent elevations in the classic manner. The central entrance is emphasised by a flatish dome placed over the main hall, which, with the vigorous columnar treatment of the portico, gives an appearance of stateliness to the whole design. The examination-hall has been boldly thrown athwart the centre of the southern wing—these plans being based on the single-quadrangle principle—and the tetrastyle portico to this hall is made the chief feature of the Hatch-street elevation, balanced by the pavilions forming the termination of the eastern and western wings. The planning, otherwise good, has the serious defect of central corridors, lit for the major portion of their length by glazed screens in the walls of the rooms on either side. Such an imperfection is too weighty for even this, otherwise most-carefully designed building to overcome.

In design No. 15 the buildings are grouped around four rectangular courts, with their main axis running from east to west. This arrangement permits of excellent lighting to and intercommunication between the various sections, but the plans lose something in dignity. The elevations are not particularly striking.

One is curious to learn why the author of design No. 7 spoiled the uniformity of the large quadrangle by setting down in its midst the common dining-hall. The exterior of the hall is, without exaggeration, a charming conception in the Georgian style, but its presence is rather disturbing. This design embodies some original features which add greatly to its collegiate atmosphere, and in this connexion may be noted the almost isolated position of the examination-hall, marking, as it were, its importance in University life, and at the same time giving vigorous architectural character to the southern façade. The Georgian style, with its possibilities of combination of brick and stone, makes a powerful appeal when treated, as in this instance, by a master-hand, which has, however, fallen rather short of perfection in the external elevation to Earlsfort-terrace, by the introduction of some lumpy terminal pavilions of doubtful origin.

Design No. 9 is singular in the provision of the accommodation in six independent blocks, a treatment scarcely suited to the conditions appertaining to this competition and requiring more judicious architectural clothing than is discernible in this set of plans.

In this brief review it has naturally been impossible to deal with each of the twenty-one designs submitted, or even with all of the best of them. As far as possible those selected are typical of a class or of a principle. One feature of the competition, however, calls for remark, having regard to the fact that, with few exceptions, a new generation of architects is in practice in Ireland since the last opportunity of an equally important competition was afforded the profession. It is the influence of the Neo-Greek element which permeates so much of the work under review. It is quite clear that young Irish architects are again turning their attention to the careful study of classical examples, and are abandoning to a large extent the Gothic tradition which was followed for a large portion of the XIXth century, and which was caused doubtless by the era of church building in that period.

MISSOURI STATE CAPITOL COMPETITION.

JEFFERSON CITY, the Capitol of Missouri, located on the Missouri River between St. Louis and Kansas City, and the site of the new Capitol lies on a promontory visible for miles up and down the river and 100 ft. above its level.

A domed building with one axis on the main street of the city was called for, but the orientation was left to the competitor. The winning design, by Messrs. Tracy & Swartwout, architects, of New York City, takes the long axis of the building parallel to the river and fulfils the requirements of the programme in a thoroughly practical manner. In describing his plan, Mr. Swartwout emphasised three elements: (1) Complete circuit of offices on the outside; (2) uninterrupted circulation; (3) the relation of Senate and House and the vestibule and library. Furthermore, "the secondary stairs and elevators are in the four corners of the building, just off the circulation, and placed that members of the Legislature can get from either side directly to their coatrooms without passing through the lobbies."

A feature of the design not found in other State Capitols is the splendid opening up of the plan and section from the entrance portico and steps through a high vaulted stair hall to the dome.

We may mention that other buildings by the same firm include the Post Office, Denver, Colorado; Connecticut Savings Bank, New Haven, Conn.; Yale University Club Building, New York City; Home Club Building, New York City; Metropolitan Bank, Washington, D.C. We are indebted to our contemporary, the *American Architect*, for permission to reproduce the winning design, which we shall further illustrate next week.

HOUSING SCHEME, CHELMSFORD.

As the first instalment of their extensive scheme the Town Council have just completed the erection of thirty-eight workmen's dwellings. The Corporation bought the site of 6 acres ± 27½ per acre, and will build 140 cottages with gardens, to be let at rents of 6s., 5s., and 4s., according to the accommodation. The thirty-eight now built are of red brick with tiled roofs; they cost 5,310s., and the rental amount to 455s. per annum; there were ninety-six applicants for the first two that were built.

RE-INAUGURATION OF THE CHAPEL OF THE ORDER OF THE BATH.

Mr. Lionel Earle, C.B., C.M.G., the newly appointed Secretary to H.M.S. Office of Works, is nominated as a member of a committee who are charged with arranging for an installation ceremony in King Henry VII's Chapel, Westminster Abbey, in the autumn of next year. It is proposed to revive, as far as modern conditions will allow, the connexion of the Order of the Bath with the chapel wherein the last installation of Knights of the Order was held in June, 1812.



OPENING MEETING OF SESSION AND
PRESIDENTIAL ADDRESS.

THE first general meeting (ordinary) of session 1912-13 of the Royal Institute of British Architects was held on Monday, at 9, Conduit-street, W., the President, Mr. Reginald Blomfield, A.R.A., presiding. The minutes of the last meeting having been taken as read, and the announcement that the Council had admitted the Hampshire and Isle of Wight Association of Architects to alliance having been made, The President delivered the following address:—

It has become the custom of this Institute to look to its Presidential addresses for announcements on matters of serious interest to the profession, for the foreshadowings of policy, sometimes for sanguine anticipations of ideals that we should all like to see realised. You will collect the frankness of my predecessor in this chair, and the zeal with which he attacked the difficult problems which confronted him during his term of office. Many circumstances continually full of arduous situations. I who have to honour to succeed him do not look for a series of alarms and excursions. Rather, so far as I can see, the time has come for a steady consideration of our position and for a period of serious, if less brilliant, development on practicable lines. I hope I shall not disappoint you if I say that I have no heroic policy to offer you, no infallible panacea for the many difficulties that lie before us; but I shall ask you to follow me in the suggestions which I shall put before you as to the present position, and to help me on your part with your clear, unprejudiced, and close attention.

The Position of the Institute.

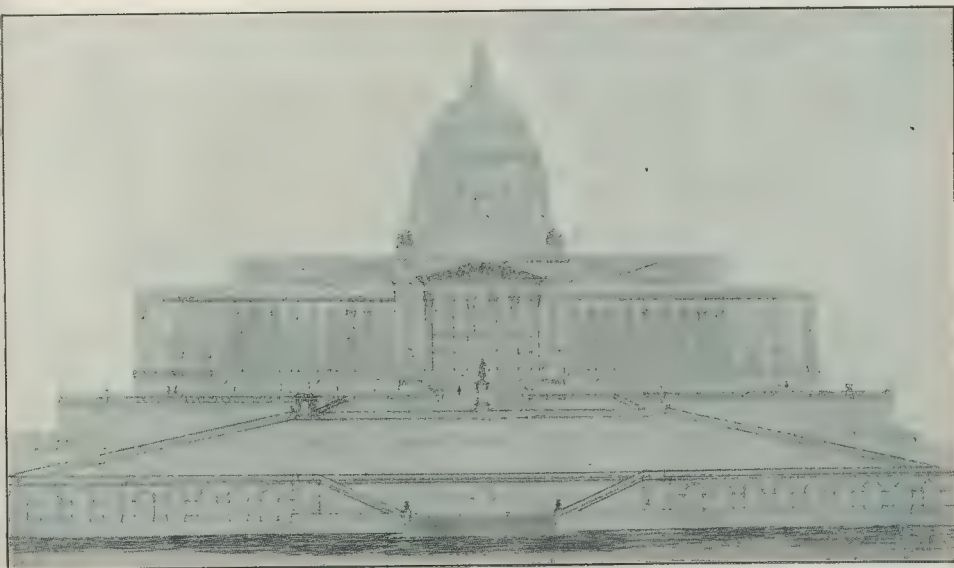
The points which I would ask you to consider with me to-night are: the position of this Institute, the position of the architect, Registration, and education. I will deal first with the position of the Institute.

We have in the last two or three years incurred a large expenditure, and this has induced some anxiety among our members in regard to the future. I think I can safely reassure any member who has an uncomfortable feeling of insecurity. As a body this Institute has never been so strong as it is to-day. The total of its membership, including Licentiates, amounts to some 4,700, in addition to the numerous class of probationers and students from whom the members of the future will be drawn: and I would remind those of the latter class to whom the Insurance Act applies that an Architects' and Surveyors' Approved Society under the Act has lately been formed by the Architectural Association, with the approval of this Institute and of the Surveyors' Institution. The net-work of allied societies, working in close relation with the central body, now covers not only the United Kingdom, but practically the whole of the English-speaking Dominions, and your Council has recently taken in hand the consideration of the relations of the allied societies *inter se* and to this Institute, in order that no district shall be without a representative body to assist the architects practising within its boundaries. The constant reference to the Institute in matters of public importance I need not touch on, because it is a matter of common knowledge to all of you. In regard to our financial position, as freeholders of these fine premises which have recently been enlarged and improved, the Institute is in a more secure position than it was two years ago, when it was merely the holder of a lease of half these premises with some fifty years to run. Such a serious undertaking has necessarily put a temporary strain on our finances. In the years 1909, 1910, and 1911 the Institute spent about 31,000*l.* on the purchase of these premises and their repairs and rearrangement, skilfully carried out by our Hon. Secretary, Mr. Hare. In addition to this, the Town-Planning Conference involved a capital expenditure of 2,235*l.* To meet these liabilities the Institute had in hand 21,095*l.* capital. The result was that during these years we had to borrow from our bankers the sum of 12,144*l.* But the soundness of our finances is shown by the fact that by the end of last year our indebtedness was reduced to some 9,000*l.*, and we have reason to believe that in this and following years an annual surplus of income over expenditure will enable us to reduce our debt by

at least 1,000*l.* a year. I need hardly say that the sooner the whole of this debt is wiped off the better, and this is the more necessary as there still remains to be dealt with the mortgage of 4,000*l.* which we took over with these premises from the Architectural Union Company. There is much that the Institute would like to do, and yet hopes to do in the future, which your Council do not feel justified in undertaking till this debt is cleared: our splendid architectural library, for example, perhaps the finest in this country, should be kept up-to-date by the purchase of the best contemporary publications, both in this country and abroad, but at present your Council is not always able to follow the legitimate representations of the Literature Committee for financial reasons. Then there is the pressing question of the payment of our examiners, long ago recommended by the Board of Architectural Education, but as yet unrealised for the same reason, and all that the Institute can offer to these gentlemen who place at its disposal their highly-skilled and valuable services is its platonism, if very genuine gratitude. I would remind you also that the promotion of Registration, whatever form it may take, must in any case mean the expenditure of money, possibly of a good deal of it. I venture to suggest one obvious means of adding to the sinews of war, and that is that those Associates who are qualified for the Fellowship should take up their Fellowship without further to-do. The status of a Fellow of the Royal Institute of British Architects is assuredly a distinction, and I suggest to you that all our Associates ought in due course to proceed to the Fellowship, and that the senior Associates should give a lead to their juniors by taking up their Fellowships at once. I appeal to you as good sportsmen to lend a hand in this very practical way, having regard to the facts that I have now laid before you. I would say again that our position is perfectly sound, but it is only common sense to deal with our existing liabilities before we embark on large enterprises, whose end, however desirable, must be to some extent problematical.

The Position of the Architect.

The position of the architect as a professional man has given ground for a good deal of anxious consideration in the last year or two. Adverse verdicts have been given in the Courts, which appear to saddle us with unfair and impossible responsibilities, and there can be no doubt that the position of a practising architect to-day is more difficult than it was forty years ago. He is expected to know a great deal more, and to do a great deal more for his money, than was expected of his predecessors in the halcyon days of the 'seventies. Applied science has developed



Missouri State Capitol: Rear Elevation. Winning Design, by Messrs. Tracy & Swartwout.

so fast and in so many directions that it is impossible for an architect to keep pace with every branch of it; and beside all this, he has his own art to master. For when all is said and done, the first business of an architect, that which differentiates him from other men, is his power and knowledge of design; and that, in the chaos of modern styles and the kaleidoscope of fashion, is not less but more difficult to acquire now than it was 150 years ago when everybody worked in one manner as a matter of course and every village builder knew the Orders. And it is more difficult than it was fifty or sixty years ago when hygiene was a negligible quantity, electricity as a commercial power unknown, and the builder was a man who really knew something of the practice of building. At the same time, I think there has been an unnecessary scare in this matter. We architects have, and have always had, our responsibilities to our clients, and, provided an architect knows his business, watches his work, and takes due care of his clients' interests, I do not think his position is one of greater danger than that of other professional men. The pressure of competition is keener than it used to be, and the standard of attainment is higher, but this is due in the one case to causes beyond our control, in the other to our own efforts; and what we have to do is, on our part, to qualify ourselves for our responsibilities, and to stimulate in the public a more intelligent appreciation of the services that an architect can and ought to render. If the public understood that an architect is an individual with the necessary limits of an individual, and not merely a wholesale *entrepreneur* on the one hand, or a building policeman on the other, there would be less of the regrettable misunderstandings that sometimes occur in the practice of architecture—but architects should not forget that the only effective passport to the appreciation of the public is the merit of their own personal work, and that if the profession of architecture is to receive a higher recognition in the State than it obtains at present it can only do so by ensuring a high standard of education and attainment among its individual members.

Registration.

This brings me to the thorny question of Registration. In this matter, if you will bear with me, I wish to explain certain developments that have formed part of the history of this Institute. Over twenty years ago I had the honour to be an Associate Member of Council, and about that time a move was made in the direction of Registration, which appeared to some of us, old as well as young, to be heading off architecture into a *cul-de-sac* of unmitigated professionalism. But since those days much water has flowed under the bridge. Free discussion has cleared away the misapprehensions of earlier days, the Institute has taken a very active and, if I may say so, in regard to its members, self-sacrificing part in the reorganisation of education, and there has grown up a fairly general consensus of opinion that Registration, in some shape or another, is desirable, not only in the interests of architects, but in the interests of the public. So far this Institute is pledged to the policy stated in the Report of the Committee of 1907, and your Council has for some years endeavoured to give effect to that policy. Your Council can hardly hope to produce a scheme that will at once satisfy all, or nearly all, shades of opinion, and also be within the range of practical politics—this last is important—for I think you will agree with me that, if you run a horse, you should run him for all he is worth, and that it is unworthy of serious men of affairs to waste time and money on mere *ballons d'essai*. We are after a practical scheme, one that will protect both the public and architects. Various solutions have been proposed. So far none of them have met with general acceptance, but it must not be supposed that the labours of the last few years have been wholly in vain. They have at least shown us some of the difficulties in the way, and have brought it home to thoughtful men that this is a very difficult and intricate problem not to be settled off-hand, and that if a real and satisfactory solution is to be found for it, that solution will have to be built up by careful and exhaustive consideration of the case in all its aspects; of what is required by the public, of what is due to the architect, and of the effect of any such scheme on other professional bodies whose interests may be affected. And if after this careful consideration it is found to be impossible to go quite so far as some of the more ardent of our Registrationists might desire, I would remind

them that half a loaf is better than no bread, and I would appeal to them, and indeed to all of our critics, to have patience and not to take the bit in their mouths and bolt. It is no use striking before the iron is hot, and it has become clear that there are many issues to this question, all of which must be dealt with before it will be possible to reach the psychological moment of solution. The conditions of modern society are so complex that it is impossible to deal with any of its problems in watertight compartments. What may appear to us as very clearly in the public interest may seem less convincing to our neighbours on the other side of the fence; and the experience of history is conclusive that drastic changes are not to be made *ad idem*. If such changes are to take their permanent place in the social organisation, they will only do so as the result of much previous effort, of anxious thought, of the slow attrition of those awkward angles which have split up many a well-meant scheme of reform. One of the first acts of your new Council has been to appoint a large and carefully-selected Committee to consider the whole question of Registration, and it has strengthened it by the addition of a number of representative members from the provinces. I would ask you to give this Committee time to deal with the question in all its bearings, and, before you, not to look for impossibilities, but to give it your careful consideration as practical men of affairs, and with an anxious regard to the future of architecture. For, after all, whether members of the Council or not, we are but trustees for the next generation, and it should be our business to hand on our inheritance, not tarnished or diminished, but greater and more splendid, because it is held on the terms of a higher standard of attainment. On one point I feel sure we shall all agree. The object of a Registration scheme should not be to make architecture a close profession, regardless of professional skill. We do not want to repeat the history of the Trade Guilds in their later days, when their object was to surround their members with a jealously-guarded ring-fence of monopoly. Our object is to put a stop to incompetence, and to establish and maintain a reasonable level of accomplishment, and to see that that level is reached by those who undertake the very responsible work of an architect. There is not a man in this room who would not say "*la carrière ouverte aux talents*," but what we insist on is that the "talent" should really be there, and that is the substantial issue to which Registration should be directed. It should be really and effectually the hall-mark of professional competence.

Education.

So, by this roundabout way, we come back to the vital question of education, or rather, as I should prefer to put it, a sound and thorough professional and artistic training as the basis on which any form of Registration must be founded. If we are to obtain public and formal recognition of the fact that architecture is not an art that can be practised by Dick, Tom, and Harry with advantage to the community, and that there is a difference in kind between the work of the trained designer and the architectural efforts of the gentleman who combines the practice of architect, auctioneer, and estate agent, we shall see to it, not only that our present standard is maintained by all who enter our ranks, but also that it is slowly and surely raised, so that there can be no question as to who is and who is not qualified to undertake the work that legitimately falls to an architect.

It is to this object that the Institute, through its Board of Architectural Education, has steadily applied itself during the last few years. Sir Aston Webb was the first and most admirable Chairman of that Board. I had the honour of succeeding him, and we can both testify to the unwavering sympathy and support which the Institute, through its Council, gave to that Board, and thereby enabled it to carry out the important and far-reaching reorganisation of the architectural training, which has been quietly going on for the last few years. The syllabus of training for architectural students has been thoroughly overhauled, and quite recently a serious attempt has been made to render our examination a more effective and intelligent test of architectural capacity, and also a real stimulus to the artistic enthusiasm of our students. Design, the adequate invention of buildings which are good to live in and to look at, is, after all, the essential object of our training. Many studies are necessary as subsidiary to this, but the aim of our training must always be to

make our students competent architects, artists to whom the methods and materials of building are as his canvas and colours to the painter, or his bronze and marble to the sculptor. The institution of a test in design, which is to some extent competitive, is an important step forward and a further development of that reorganisation of our methods of training which has been one of the most valuable constructive works carried out by the Institute during the last few years. And by design I do not mean scene-painting. Under modern conditions it is more than ever imperative that power of design and knowledge of construction should go hand-in-hand—that the architect should have the technical knowledge of building necessary to realise the flights of his imagination. Where the engineer stops at construction, the architect, as an artist, sees further possibilities of beautiful form and its combinations, and he should possess sufficient knowledge at any rate to start the realisation of these possibilities.

Architecture and Science.

At the meeting of the British Association in September last Professor Archibald Barr gave a very able address on the duty of the engineer to the community, and in the course of it called attention to the unfortunate severance of engineering from artistic design. The engineer, he said, takes a too exclusively utilitarian view of his calling, and architects have not sufficiently mastered the science of steel construction to be able to design in it freely. I think there can be little doubt that Professor Barr is right in this contention; and the conclusion to be drawn from it is that in the modern practice of architecture the necessity of the study of scientific construction becomes more and more urgent. That is a point that will not be lost sight of in our scheme of architectural training, and I may assure you that on this point our examiners are adamant. Yet there are one or two considerations which I venture to offer, to reassure the old-fashioned lover of bricks and mortar. I do not believe that the whole future of architecture rests with steel construction or reinforced concrete, any more than I can believe that the whole future of painting lies with the Post-Impressionists or the Cubists. Brickwork and masonry must always hold their place in building, and, though architects will do well to avail themselves of all the resources of applied science, that is no reason for throwing up their familiar tools and rushing headlong into methods, however brilliant their promise, which have not yet stood the test of time.

We artists have to live in an age of science, and science is steadily invading the territory of the arts; not content with brushing us aside as people of no account, it has stolen our one ewe lamb, it has annexed the term "beauty" for its own purposes, and misled the public by using it in a sense of its own. In consequence of this insidious misuse of the middle term, we artists wake up to find our work judged by irrelevant standards, and condemned accordingly. One hears the term "beauty" applied to subjects so diverse as St. Paul's or Westminster Abbey, to the steelwork of the Gare d'Orléans or to some complicated piece of machinery. Now, it is obvious that the same thing cannot be meant in each of these instances. In the case of the buildings, we mean that our sense of rhythm and proportion, our enjoyment of light and shade and the like are gratified; in the two latter cases that we derive intellectual satisfaction from the exact solution of a problem of construction or mechanical function; and it is only because we are lazy or careless of speech that we talk of "beauty" in the case of the steel roof or the steam engine. There is, of course, a borderland, where our pleasure is partly aesthetic and partly intellectual, such as the scale of a great dam or the lines in perspective of an ironclad. But from the point of view dealt with by Professor Barr I suggest that the term "beauty" as applied to steel construction means technical beauty—that is, that its appeal will be to the intellectual satisfaction given by perfectly efficient work, rather than to the aesthetic enjoyment to be derived from the "ordnance" of noble architecture. One is therefore, the less daunted, and I do not think that architecture is going to be stranded high and dry by the engineer; but I heartily endorse Professor Barr's appeal for more thorough study of construction and for closer co-operation between the engineer and the architect. The two should pull together and should do so from the first. It is no use asking an engineer to design a bridge, or even a shopfront as was recently suggested, and afterwards calling on an

architect to invest it with "artistic merit." Both architect and engineer will have their views on the main form and distribution, but they will have studied the problem from different points of view, and it is only by laying their different points of view together, before the treatment of the problem as a whole is decided on, that it will be possible to attain the unity of effect essential to monumental architecture.

The Universities and the Institute.

I would take this opportunity of expressing our appreciation of the admirable spirit in which several of the Universities have endeavoured to give effect to the Institute scheme in their schools of architecture. The control of the Institute over the training of architectural students has been placed on an efficient basis by the organisation of the system of external examiners. The Institute has been brought into satisfactory relations with the Universities, and is now recognised by them as the official centre of reference for questions concerned with the training of architectural students. We have our representatives in the schools of London University, the Architectural Association, Cambridge, Manchester, Liverpool, Sheffield, Glasgow, and Edinburgh; and finally, at the invitation of the Board of Education at Whitehall, the Institute has undertaken to conduct, next year, the examinations in architecture of candidates in the National Competition of Art Students. The horizon of the work of this Institute is steadily widening, and the part that it is called on to play in the training of architects becomes each year of greater importance, of vital importance, to the next generation of architects, and scarcely less so to the public and to our own members, because, as I have ventured to assert already, trained technical ability must be the basis of statutory recognition.

The New School at Rome.

In this branch of the work of the Institute prospects are very much brighter than they have been hitherto. The Jarvis Bequest has placed at the disposal of the Institute annually a scholarship of 200*l.* a year tenable for two years; and within the present year, through the generosity of the Commissioners of the 1851 Exhibition, the new School at Rome, long dreamt of by this Institute, has been established by Royal Charter; the first instalment of the building is already in hand, and a scholarship of 200*l.* a year tenable at this school for three years is to be awarded annually. The Institute has offered its hospitality to the Commissioners in regard to the examination for this scholarship, which will be the blue ribbon of the year. The jury will be the Faculty of Architecture, all of whom are members of this Institute. In these scholarships, and in the gold and silver medals of the Royal Academy, not to mention other scholarships and prizes, there are solid inducements to tempt the young man of genius out of his hiding. The importance of the scholarships tenable in the School at Rome will be obvious to all who recall their own days of studentship, those aimless and often solitary wanderings on the Continent, pleasant enough as a sketcher's pilgrimage in search of the picturesque, but of little value as artistic training, owing to the absence of intellectual discipline and authoritative guidance. Indeed, as a student of the development of architecture, I am sometimes tempted to attribute the weak points of the architecture of the last fifty years to the habit of indiscriminate and undisciplined sketching. I regret to admit that we have all of us done it—sometimes, it is but fair to say in self-defence, from the sheer pleasure of drawing some very drawable object—the sheer joy of draughtsmanship—more often I fear from a certain laziness and disinclination for the hard thought involved in the critical analysis of architecture. The results, alas, have too often been an unlicensed orgy of details snatched from every land and every style! But the sketching and measuring of actual buildings with a clearly realised object, and carried out with the aim of artistic analysis, becomes of inestimable value to the student, especially when checked by the free discussion of students working together. For the first time students will have the chance of working together, and in touch with their brethren the painters and sculptors, in that city which must always be the mother of the arts. The School at Rome may take years of patient effort to perfect, but we may look for great things from it in the next generation. One of the most serious difficulties in the modern practice of architecture is the absence of

tradition, the want of a common method and of a recognised standard of attainment. It is not too much to hope that in lapse of time it may be the privilege of the students at our School at Rome to restore this method and standard. That ideal is still far distant, and to complete our programme we must go further afield and enlist the help of all who care for our progress in the arts. I think the time has come when closer attention than it has hitherto received is due to the organisation of training in the arts in this country. Excellent work is done in our schools, but the schools are not sufficiently organised *inter se*, and there is need for further development both in regard to this and also in regard to the advanced stages of training in the arts. Our schools bring the students up to a certain point, and far ahead for the brilliant few there will be the artistic paradise of the School at Rome, but there is an interval between these stages to be bridged over, so that others, not among the brilliant few, yet good men too, may have the benefit of the most advanced training in design, with all the resources of a great establishment and the benefit of the skill and experience of the most competent artists. I believe that the want can be met by the development of existing institutions, but it is one that will require very serious and anxious consideration, in co-operation with such educational establishments as the Royal Academy.

Training.

In this short survey of the present situation of what I may call architectural politics I have endeavoured to indicate a certain unity of idea, and even of fact, that underlies the whole position. If the architect is faced by graver responsibilities than heretofore he must meet them by mastering his business and attending to it. This means more thorough training. If as a profession we are to succeed in effecting such further official organisation as will protect both the public and ourselves from the depredations of poachers, the foundation-stone of that organisation must be systematic professional training, and it is, and will always be, one of the most responsible duties of the Institute to see that that training is really sufficient and its standard steadily maintained. In saying this I do not for one moment imply that our present methods of training are not efficient. They are efficient, whenever they are properly applied. The mischief is that they are not universally applied, or, to put it another way, that they are not insisted on in the case of all who set out to practise architecture. The strength of a chain is its weakest link, and, however strong a profession may be in individuals, it is the minimum of excellence that determines its position with the public. Thus it is that, by insistence on this training, with its corollary of a widespread level of accomplishment, we may hope to build up in the mind of the public a real understanding of architecture. I fear that until that is done we shall continue to suffer from the unfortunate vicissitudes of art in this country, those failures of method and intelligence which result in constant disappointments, only relieved at rare intervals by some effort of individual genius or patriotism. I will not dwell here on the alarming architectural results that may arise from the bureaucratic instinct, that growing centripetal tendency in our State and municipal departments which deprives the public of the use of the best ability in the country, and so far hinders it from getting the best value for its money.

National Monuments.

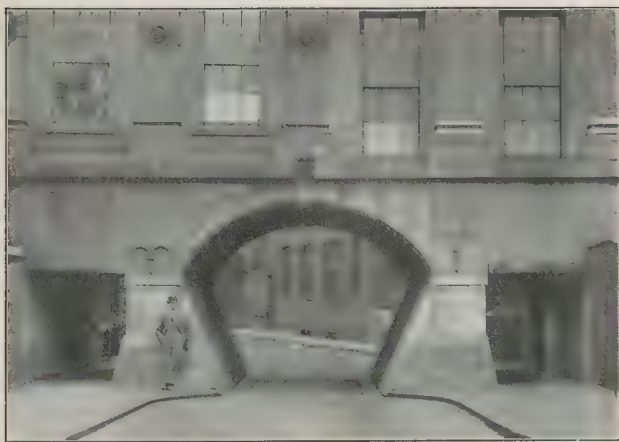
Nor need I enlarge on such matters as the lack of organised protection for our national monuments. A Bill for their protection is now being considered by a Committee of both Houses, and you will have fresh in your memory an astonishing piece of vandalism which was only rectified at the last moment through the munificence of a distinguished Statesman. Mistakes which are afterwards a source of the keenest regret seem to slip through by accident. In those far-distant days, when real ability and solid attainment will be the condition precedent to the practice of architecture, one may hope to see these evils remedied, because a sense of the place and value of architecture will be widespread among educated people. The serious importance of this art in the State will be realised, and with this keener sense of the gravity of the problems of architecture fuller trust will be given to those whose high calling it is to practise the art.

The Relation of the Architect to Himself.

Lastly—and this time it really is lastly—there is the relation of the architect to himself. So far I have been discussing his position in regard to the public. But more important than this is his own attitude to his career, the point of view from which he regards the work of his life. There is a real danger, in all this whirl of architectural politics, of our forgetting that first of all we are artists, and that the art which we practise is a very great and a very old one. The cares of business, the keenness of competition, the feverish haste of modern work are apt to reduce the lamp of art to the merest flicker if they do not put it out altogether. Those of us who have wide experience of practice know how difficult it is to keep that lamp alight, but here I am addressing myself not to my seniors and contemporaries, but to our younger members—to those who will take our places and carry on our work. Scholarship and research have always been among the best traditions of this Institute. I need only recall such names as Donaldson, Cockerell, and Penrose, and remind you that, whatever view one may take of the historical justness of the Gothic Revival, there can be no question of the intense enthusiasm that inspired the labours of such men as the younger Pugin, Street, Burgess, and Nesfield. If you turn over the pages of the earlier volumes of our *Transactions* you will find papers on matters of serious interest, marked by a learning and ability that give them a permanent value in architectural literature. I hope, and I do not doubt, that that tradition will be worthily maintained by the rising generation. Current politics may be fascinating, but they are the outside of the cup and platter, they are a very poor substitute for that patient forging and perfecting of your artistic armament which will enable you later to practise your art with the enjoyment that comes of real mastery. And to those that have enthusiasm this labour will be a perennial delight, the joy that is to be won from the study of past art. Who of us, after all, does not look back with vivid pleasure to those wrestlings with the mysteries of some great cathedral, quiet hours with pencil, note-book, and 2*ft.* rule spent in some exquisite chapter-house, long autumn rambles among the time-worn buildings of historic cities? These things are the privilege of the architectural student, and it is this touch with the past that gives to our work its abiding interest. You may recollect the old Greek game of the *Lampadephoria*, where runners took torches lit at the altars of Prometheus, Athens, and Hephaistos, and passed them from hand to hand till they reached the winning-post. That, gentlemen, is our position. It is our business to hand on the torch of architecture. Some of us may be getting old and stiff in the joints, and may have to content ourselves with painfully nursing the flame. It is for you of the younger generation so to train yourselves in your calling that, when the torch is passed into your hands, you may fan it to more vigorous life, and enable it to shine again with all the splendid brilliancy of the great ages of architecture."

The Earl of Plymouth,

in proposing a vote of thanks to the President for his address, said there was one subject on which he could say a few words—*i.e.*, ancient monuments. The President had reminded them that the Government had introduced a Bill into Parliament with the object of dealing with the preservation of ancient monuments, and a Committee was now sitting which had not yet reported, and so he could not say much on that occasion. But he could remind them that there were one or two difficulties which confronted them in dealing with the question. There were two extreme points of view in dealing with the question; one, the method that had rather been practised in this country hitherto of leaving alone those responsible for the protection of ancient monuments, whether they be trustees of more or less public bodies connected with such buildings, or private owners—leaving them alone in the hope that they would be alive to their responsibilities and would do their best to preserve these buildings in a proper way. Although there were interested bodies dealing with the preservation of ancient buildings, in this country they exercised such a limited control that it might be not unfairly said that we had hitherto gone to the extreme he had mentioned and had left matters alone. On the other hand, we had constantly quoted to us the practice of



Archway, Lincoln's Inn-fields. (Demolished.)

other nations in Europe in the matter, but he thought we ought to be very careful of taking such a practice as a guide to ourselves. He very much doubted whether in all cases the power which had been placed in the hands of Government departments or bodies appointed for the purpose had been so very successful in the treatment of ancient buildings in European countries. At any rate, let us profit by their experience, and let us not hurriedly adopt methods which we might find not only did not suit us in this country, but had not been completely successful elsewhere. He hoped and believed that the Government were approaching the question with care. There were a good many who desired to constitute some organisation which should assist those who had the responsibility and care of ancient monuments to get expert advice from those who had a real knowledge of the proper way to preserve and restore old buildings. One of the greatest difficulties was to set up an Advisory Ancient Monuments Board which should have the complete confidence of the country, and whose advice and decision would carry weight with those who were interested. Although there were representatives of archaeological societies and artistic bodies in this country who might well belong to such an advisory board, after all, it was to architects who had studied the construction and methods of buildings of ancient work to whom they had to look finally for the preservation of old buildings. Taste and knowledge had changed in the architectural profession, and in the whole country during the last half-century, and there was a general feeling that we had a duty to perform, and that we must take what means we could to preserve our ancient buildings, and it was to the Royal Institute of British Architects and its allied societies that one must finally turn for expert advice. We must proceed with care and caution and not be faddists in the matter.

Sir Aston Webb, C.B., R.A., seconded the motion, and said they congratulated themselves in having Mr. Reginald Blomfield as their President. They knew him as an architect of distinction; who had great literary gift, and who had written in a most useful and interesting way on English and French Renaissance. Their President had also taken a high University degree, and there was another side of his character which would appeal to the younger members of the profession, and that was that he was a good all-round sportsman; in short, he was a good all-round man. It was said that the practice of architecture made a man very one-sided, but in the case of their President they had a many-sided man, and if he had to describe him in technical language he would call him a "polygonal" President. He was glad to see Mr. Blomfield as their President, for he regarded him as a symbol of reconciliation and unity between the members of the profession; and the Institute would say "this our son was dead and is alive again, was lost and

is found"; and, having found him, they intended to keep him and make the most of him. The members of the profession were more or less united now, and he believed there was a determination on the part of those who had the welfare of the Institute at heart, whether they believed in Registration or did not, to try and put their heads together and hit upon some means which would satisfy those who did not desire Registration, and also the undoubtedly large number who desired to see some form of Registration introduced. They were all determined if they could to hit upon some scheme and talk it out and submit it to the Institute, and thus to stop a troublesome business which had gone on from year to year and which they were getting heartily tired of, and would like to see finished off, so as to leave the Institute free to take up those matters which would be of more advantage to architecture and the Institute. The President must look upon the education of architects as the principal object with which he was interested, and it was an object which he, the speaker, thought that the Institute could do untold good to architecture as well as to its members by attending to. They knew their President had largely helped to mould the scheme of education that was now gradually coming to a definite and organised form, and which, he believed, as it developed and was improved, would be of great use and advantage. The President had also adumbrated some advanced training which might take more or less the form of a diploma course; and he, the speaker, also hoped that something of the kind might be done, and he hoped that when the President retired after his period of office that that would be one of the things which had been accomplished. He did not think it was an impossible thing to do, and he thought it would be of very great use if the President could carry it out. The President mentioned the Royal Academy. He, the speaker, had no right to speak for that body, but he thought he knew enough of it to say that he believed that if it were approached it would give a very sympathetic hearing to the proposal, and would do what it could. The Royal Academy were far more ready to assist in schemes of the sort than some people seemed to suppose, and he was sure they would do all they could to assist. The work of the Institute divided itself into two divisions, and Lord Plymouth had indicated one when he referred to the case of ancient buildings. Another branch of the same division was the Architects' Benevolent Society, or the care of those who had fallen by the way, and in that connexion he might mention that the Society would be extremely glad to receive more help from members of the profession, as there were many more applications than there were funds adequately to deal with. The other division of the work of the Institute was education, about which there was reason to feel great hope—hope that they might be able by taking young men in hand to ensure that in the future there would be better trained architects than

there were at present. Our art was different from all others, for it meant what Ruskin called "the fraternity of toil," and they must work together and help each other. No great buildings ever were built, or ever would be built, except by men who helped and assisted each other, and so it was they must all try and help young architects to get a better equipment in their career than the generation of present-day practising architects had had.

The vote of thanks was then heartily agreed to, and

The President,

in reply, called attention to the interesting collection of drawings on exhibition that evening—i.e., the Drummond Stewart drawings—which had been the property of the Institute since the year 1838. He should like to read the following letter which their excellent Librarian, Mr. Dicks, had unearthed—a letter written by Sir Charles Barry to Professor Donaldson—

14th May, 1838.
Dear Donaldson,—I have the pleasure to forward to you another collection of original drawings and designs by Bibbeni and others, as a further donation to the Institute on the part of Sir James Drummond Stewart, who assures me that on account of their value in his estimation he should part with them with much regret if he were not persuaded that they will be fully appreciated by their new possessors.

The President announced that the next meeting will be held on the 18th inst., when Mr. J. L. Ball will read a paper on "Bath and Wells."

The meeting then concluded.

OLD HOUSES ON WEST SIDE OF LINCOLN'S INN-FIELDS.

It is interesting to note that history has a curious habit of repeating itself, especially in matters concerning architecture, and that early in the XVIIth century the need for controlling the development of streets and buildings was desired, just as it is required to-day. The gentlemen of the Inns of Court and Chancery and from the four parishes adjoining Lincoln's Inn-fields presented a petition early in the year 1617 to James I. asking "that the feildes commonly called Lincolnes Inn Feildes, being parcell of His Maties inheritance, might for their general Commoditie and health be converted into walkes after the same manner as Morefeildes are now made to the great pleasure and benefit of that City." The King, we are told, graciously approved of the matter, and the Privy Council in the same year issued a circular letter to the Lord Mayor and Aldermen, the Justices of the Peace for Middlesex, and the Benchers of Gray's Inn, Lincoln's Inn, Middle Temple, and "Inward" Temple, urging them to solicit subscriptions to meet the cost of "so worthe and commendable a worke." In 1618 a Commission was granted, and the Commissioners, among whom was the then Surveyor-General, Inigo Jones, were ordered to survey the Fields and obtain information concerning various nuisances then existing. An extract from the Patent Roll, James I., 16, reads:—"to inquire accordinglye of all other nuisances, inconveniences, and annoyances whatsoever whereby the ayre in those parts now is or in tyme may be corrupted or made unwholesome, and the same to demolishe, pull downe, and reforme," according to their discretion, and to take such order that "the said closes and grounds commonly called Lincolnes Inn Feildes according to [their] wisdomes and discretions may be framed and reduced both for sweetness and uniformitie and comelines into such walkes, partitions, or other plottes and in such sorte, manner, and forme both for publike health and pleasure as by the said Inago Jones is or shalbe accordinglye drawne by way of map or ground plott exhibited plained and sett out and approved by us."

The above information, culled from the London County Council's "Survey of London," Vol. III., clearly shows the connexion Inigo Jones had with the early arrangement of the Fields, but it is extremely doubtful if he were responsible for the design of the buildings. In other words, the Commission failed of its purpose, and by the year 1629 one William Newton, of Bedfordshire, acquired the lease of a portion of the ground, and in 1636 purchased from Lady Cornwallis another portion. By February 14, 1636, a licence had been granted

to Newton to build thirty-two houses. He appears to have been very successful in this enterprise, and by 1641 some of the houses on the west side of the Fields had been built, together with others in Great Queen-street (two of the latter are still in existence). The style and character of the buildings shown on the "Prospect of Lincoln's Inn Fields," probably by Hollar, and the picture at Wilton House, *circa* 1683, suggest the architectural influence of one well versed in the style exploited by Inigo Jones, and, although no direct documentary evidence exists to prove the authorship, it is more than probable that John Webb was the architect.

The houses forming the southern portion of Arch-row, and including Nos. 54 and 55, shown in the illustrations reproduced herewith, so called on account of the arches opening to Sardinian-square, formed part of William Newton's speculation, but they underwent considerable change and alteration during the years subsequent to their erection in 1639-41. The main portion of the basement stories and portions of the pilasters and bases can be taken to be part of the original work, but in the case of No. 55 the upper portion of the building suffered partial destruction by the fire which destroyed the Sardinian Chapel in 1759. If proof were required of this important fact, the absence of the bands decorating the pilasters of the other houses would confirm the partial rebuilding. The rate-books from the year 1700 to 1810 give the following list of occupiers for No. 54:—

1700. "Don Lewis Du Cunha."
1705 and 1708. Portuguese Ambassador.
Before 1723 to 1728. Sardinian Ambassador.
1739 to 1807. The Rev. Charles Julian.
1808-9. Dr. Rigby.
1810. The Rev. R. Broderick.

And to this list can be added from other sources of information:—

1641-1654. The fifth Earl of Bath.
1654-1690. Countess of Bath.
1693. Lord Holmes.
1687-8. The Order of Franciscans.

The occupiers of No. 55, from the same authority, were:—

1700. The Hon. Mary, Lady Dowager of Abercromby.
1702-1705. Richard Snow.
1715-1739. W. Guidot.
1740. Julius Beckford.
1742-1749. Jas. Walker.
1745-1767. Sir Thos. Denjaon.
1768-1779. Sir William Blackstone.
1780-1782. — Foulter.
1783-1794. Mrs. Adair.
1795-1807. J. R. Baker.
1808. Robinson John.

To the above list may be added the following:—

From date of erection to some time before July 1, 1667. Lancelot Leake, Henage, Fetherston, Humphrey Weld.
From some time before July 1, 1667, to at least 1675. Henry, Lord Arundell of Wardour.
1683. Lady Rider.

From a study of the picture of Lincoln's Inn-fields in the Wilton House Collection it is clear that the uniformity aimed at was not completely attained. Ralph drew attention to this in his "Critical View of the Public Buildings" (1739 edition), and he points out the discrepancy between the heights of the buildings at the centre of the west side.

Newcastle House, erected in 1636, further violated the uniform height of the buildings, and from this date until the closing years of the XVIIIth century, when many houses on the west side and practically the whole of those on the north side were in the process of rebuilding, uniformity in design was neglected. It is a matter for regret that new buildings have recently been erected, on each of the four sides of the square, without due regard to the harmony of the whole place. Even supposing that the exigencies of modern commerce need to receive first consideration, it should be possible to express such conditions in a quiet and dignified manner. To preserve the refined aspect of the west side of the Fields, it has been suggested that the existing façades to Nos. 57 and 58 and 59 and 60 be taken as a theme for the rebuilding. The extra height could unobtrusively rise behind such façades at a higher level than the existing cornice-line, and with the erection of new brick piers to correspond with the two now fronting the courtyards the grand character of the old work could be blended with the new.

GENERAL NEWS.

Professional Announcement.

Mr. Frank Lishman, A.R.I.B.A., of 12, Gray's Inn-square, London, W.C., has taken up the appointment of Consulting Architect to the Government of the United Provinces of Agra and Oudh, India, and his address will in future be "P.W.D., Allahabad."

Appointments: British Museum.

Mr. Arthur William Kaye Miller has been appointed by the Principal Trustees as Keeper of Printed Books, in succession to the late Dr. G. K. Fortescue, and Mr. William Barclay Squire as Assistant-Keeper, *vice* Mr. Miller, promoted.

The Elections.

In the recent Borough Council elections have been returned Mr. Doll (Holborn, unopposed), Mr. Pilditch (Westminster, unopposed), and Mr. Lorden (Wandsworth). For the City Guilds Mr. Charles Gasquet and Mr. Ernest Hepburn have been elected Masters of the Painters' and the Founders' Companies, respectively.

Ghent Exhibition, 1913.

The International Exhibition at Ghent next year will be notable for the general scheme of decoration. A rich ivory colour picked out with gold has been adopted for the buildings, and contrast will be obtained by the presence of leaded glasswork. Many of the larger windows will be as large as those of a cathedral, and all the windows will be of a size to make them play an essential part in the design of the buildings. The same colouring and design—that of the laurel-tree—runs through all this glass. It is interesting to know that the Palais des Fêtes, a permanent building, has been built partly upon the foundations of the fort constructed by Wellington at the time of the Waterloo campaign.

No. 34, Grove End-road, N.W.

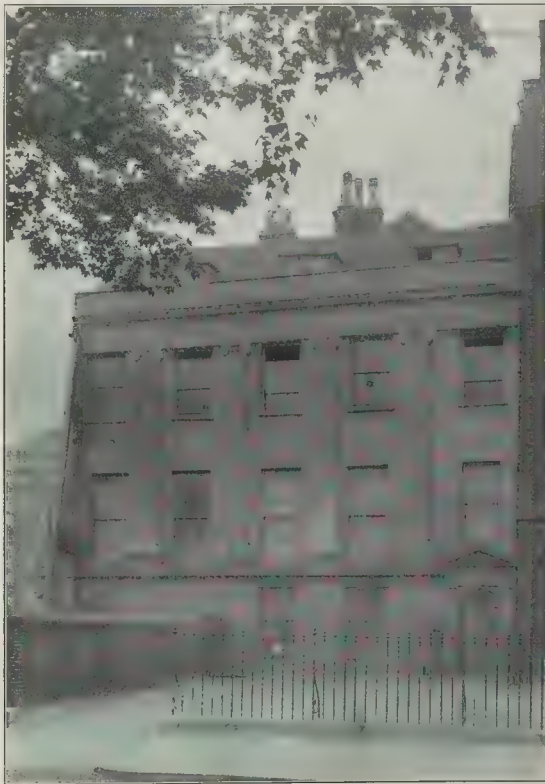
The house in St. John's Wood of the late Sir Lawrence Alma Tadema, O.M., R.A., will, by order of his executrix, be offered for sale at the Mart in the course of next month. The house, designed and beautified by the artist for his own occupation, is freehold, and has two studios—one in the garden and the other, known as the Byzantine Studio, with a gallery, indoors. There are also an atrium, Dutch-room, palm-house, billiard-room, etc.

Two New Books.

Mr. B. T. Batsford will publish in a few days Mr. L. A. Shuffrey's long-promised work on "The English Fireplace and Its Accessories from the Earliest Times to the Nineteenth Century." He will also issue "Old Houses and Village Buildings in East Anglia," by Mr. Basil Oliver, A.R.I.B.A., forming the fifth volume of his "Old Cottage" series. Both volumes will be fully illustrated by collotype reproductions of photographs of the most interesting examples, accompanied by numerous sketches and measured drawings.

Open Spaces.

A project is opened to acquire Ganton House and grounds, the late Sir Robert Hensley's residence, which Lady Hensley is willing to sell for 3,000*l.* as an extension of Wandsworth Park.—For the extension of Wandsworth Common, with the inclusion of the farm, Trinity-road, and the 20 acres which the Commissioners of the Royal Patriotic Asylum are about to sell, the Wandsworth Borough Council have agreed, conditionally, to contribute 3,000*l.*, and Sir Edward Davis Stern is prepared, when the local subscription is closed, to make up the whole amount required, 12,000*l.*—reckoning 6,000*l.* from the London County Council and 1,500*l.* from Battersea Borough Council—with a donation of about 500*l.*—Mr. Edgar Dudley, Local Government Board Inspector, has held an inquiry at New Malden



[Photo. by Whiffin.]

55, Lincoln's Inn-fields. (To be demolished.)

into an application by the Malden and Coombe District Council for leave to borrow 3,600*l.* for purchasing a strip of about 18 acres as part of the scheme for the preservation of Wimbledon Common.—In various Ward meetings, held during the last two weeks, the ratepayers of Brighton have carried resolutions in support of the proposed purchase of about 1,000 acres of the Downs to the east of the borough boundary; the land has been valued at 32,000*l.*, and the general feeling seems to be in favour of securing the land as an open space conditionally upon its not being appropriated for a large scheme of development—in the shape of, for instance, a garden suburb.—Lord Tredegar has given the Jews' Wood to Newport, provided that it be maintained in its present timbered condition, as a public recreation ground.—Lord Howard de Walden has presented an extensive piece of land for purposes of recreation to Chirk Village, Denbighshire, where the Castle is being repaired for his residence. Chirk Castle, originally built in 1011-3 and formerly the seat of the Myddeltons, was considerably altered and improved internally by Pugin.

BOOKS.

Architectural Drawing and Draughtsmen. By REGINALD BLOMFIELD, A.R.A. With 103 illustrations. (London: Cassell & Co., Ltd. Price 10*s.* 6*d.* net.)

WE are not surprised that a subject so attractive as architectural drawing should appeal to the author and illustrator of "A History of the English Renaissance," a book displaying an exceptionally masculine grasp of a great period of architectural development. The XVIIth century, and the XVIIIth, until nigh upon its close, when the Romantic revival burst upon it, was not characterised by evidences of imaginative power. It was an age of philosophies and of scholarly acquirements, and architecture, despite its notable achievements, attained these without that exuberance which accompanied the Renaissance in Italy and found relief in pictorial expression.

Mr. Reginald Blomfield makes it clear that, in his opinion, draughtsmanship and design must or should go hand in hand, and in this respect the present volume may be considered as a supplement to his former work.

Three kinds of architectural drawings are defined. Briefly they may be said to be: (1) geometrical drawings set out to scale; (2) drawings which are intended to suggest, rather than formulate, an idea, or those which present some purely abstract conception of the artist's mind; (3) drawings which have taken architecture as their subject in distinction to figure, scenic, or still life. It is not quite apparent what other division could have been made. Yet it presents its immediate difficulties. Geometrical drawing is heavily handicapped when put into comparison with the others. It is purely literary and documentary. Again, supposing the drawing to be a reproduction by an engraver, or even when the original draughtsman has employed the burin instead of pen or pencil, the result must be judged subject to the limitations and qualifications of engraving. A drawing possessing spirit may become a tame affair under the engraver's ruler, or one that is skilful hands. Whose shall be the praise or dispraise? A great many of the illustrations in the book arouse this question. The whole subject indeed might be treated, or subdivided at least, from the standpoint of methods of production or of reproduction. Engraving alone includes so many processes that it would be a matter of difficulty to distinguish a particular hand when translated by one and the other. An engraving is made upon a wood block or a copperplate. As the first, it may be confined to the display of little more than outline as in its earlier stages of development, or it may show the wealth of resource possessed by the engravers of the commencement of the last century. Copperplate engraving includes line engraving, etching, mezzotint, and aquatint; and lithography is yet another medium. All these methods have been employed in architectural draughtsmanship, and the success of achievement depends on the progressive conditions of these particular arts.

From lack of material, there is little to be said regarding architectural drawings previous to the Renaissance. The author cites Villand de

Honnecourt, and gives also an interesting drawing of German origin, belonging to the end of the XVth century. "It might," as he says, "be an interesting speculation to consider how far some of the qualities of mediæval architecture were due to the absence of organised working drawings: its informality, its habit of improvisation in detail, its irregularities and neglect of symmetry of design." Not until we reach the long line of Italian architects of the XVth and XVIth centuries do we find the examples we seek. Yet these have often to be judged as prints. Antonio San Gallo, Peruzzi, and Bramante were certainly draughtsmen. Bramante's fine engraving in the British Museum is evidence in his case that he was that, and skilled engraver besides. The frontispiece of the "Architettura" is given in support of Palladio. The illustrations in that volume are in the best style of wood block printing of the period—soft in quality yet firm in line, in every way an attractive instance of simple architectural demonstration. In the following century we meet with veritable masters in the art of portraying abstract conceptions. Mauro Tesi, Giuseppe Galli, and finally, Piranesi. We have here reached the "rarer qualities of selection, insight, and imaginative power" which the author demands. Yet neither one nor other of these Italians was an architect. Tesi and Piranesi were engravers, and Galli was a scene-painter.

Upon these, however, too much praise cannot be bestowed, and the work is of their own hands, executed in line and wash or upon the copperplate. In one regard, viz., by the range of his imagination, Piranesi stands alone. Yet he had, as we venture to think, a prototype in, and of, another century, although the author does not refer to him when dealing with the later topographical draughtsmen. We mean Meryon, who, beyond his unassailable prestige as an etcher, was an accurate and refined draughtsman of architectural detail, qualities which he at times illuminated with curiosities of imagination that rivalled those of Piranesi.

The chapter upon "French Draughtsmen of the XVIIIth Century" is not so successful in its claim upon our enthusiasm. Jean Lepautre was unquestionably a most accomplished engraver of architectural subjects, while to Della Bella we must feel gratitude for the relief he has afforded the mechanical productions of Marcot, by the addition of his inimitable figures. France suffered from philosophers and encyclopedists in a greater degree than ourselves at that time. Yet from the great school of French engraving inspired by Callot and ending with Wille, we expected to find further examples, besides Perelle, which would have appealed to the author. The Flemish engravers ran Italy very close in the early days of the art, but reference is made to these only in order that the style of examples selected may be avoided. Isaac de Moucheron was, at least, a topographical artist of note.

When we come to the consideration of our own contribution to the cause of architectural draughtsmanship we do not hesitate to say that Mr. Blomfield's outlook and estimate produce on us a sense of depression that we do not think the true facts of the case can justify. As he points out, towards the close of the XVIIIth century architectural draughtsmanship, *per se*, and topography, each went off on their own lines. Was not this in itself evidence that the desirability of the first-named of these was anxious to recognise its responsibilities, and, as events proved, was on the road towards creating a level of work that certainly had not hitherto been reached? It is admitted that "Blond drew his Gothic very well, and both the Cockercills were accomplished draughtsmen." This is a great stride from Robert Adam, "bad at the figure and inaccurate in perspective," while "of architecture, its aims and possible merits, he was blandly unconscious." Folios of architectural detail were produced, from Stuart's "Athens" to Pugin's "Examples" that were accurate and explicit. Mere documents if you will, but documents of importance. Information too readily acquired from such sources may or may not have been prejudicial to natural architectural development. We gather that in the author's opinion they were. Nevertheless, they were the inevitable creations of the taste of the times. In topographical representation the school of English engraving was destined to reach the highest order. Following upon the meritorious Hollar and the worthy Logan came, by the middle of the last century,

a whole army of expert engravers. Their work—varying in excellence, though some at least was of the highest—may be found in the numerous books that were published. Turner got together an expert group of engravers to translate his drawings. Berwick, Clennell, Brandard, and the two Cookes were doing remarkable illustrations upon wood. The list of folio publications is too numerous to name. "Picturesque Tours Through the Cities of London and Westminster," a series of fine aquatints, may perhaps be cited as an example, while the engraved work of the brothers Le Keux should not be passed by without adequate recognition.

We have recognised the many difficulties that of necessity beset an author in dealing with a subject of this kind. The available examples by draughtsmen who are at the same time architects are small in number, the types at least represented by the drawings of Tesi and Galli. Yet it is the architects to whom we should naturally look, and in their place we have to follow the ups and downs of a reproductive art, or enroll the assistance of the topographical painter. Robert Adam hoped much from the attainment of "vistas." It is rather in the relationship of masses and great architectural conceptions as achieved, a quality allied to pictorial composition. This is the appeal that is made to us by great draughtsmen, and it is one that "Architectural Drawing and Draughtsmen" will do much to further. Though necessarily limited in its scope it is a book which commands attention, and will be received with a generous appreciation.

Portfolio of Measured Drawings issued by the School of Architecture in Connection with the Victoria University of Manchester, the Manchester School of Technology, and the Manchester Municipal School of Art. Part I. (Published by the Municipal School of Art, Manchester. 1912. 3*s.* net.)

THIS portfolio contains but four plates—three consisting of measured drawings and one a perspective sketch—of Hall i'th Wood, near Bolton, all the work of Mr. W. J. Roberts, a former student of the School under Professor S. H. Capper. These plates are prefaced by a short historical account of the house, and we welcome such a monograph, brief though it is, and realise the incentive to students of having their work recorded in some such permanent form. The drawings are very good of their kind, but we should have liked a few more. The constructive detail in such a house as this, erected at different periods, and presenting in the earlier part genuine timber construction with walls of "wattle and daub," and in the later solid masonry with deep-set mullioned windows in the manner of the North Country, has much to tell of the influence of material upon detail, and a plate might well have been devoted to details, which doubtless the student has drawn out. The plan of the house, by reason of the whims of successive building owners, has become curiously irregular, and it would have been an advantage if the several building dates—which seem to be fairly well determined—had been differentiated on the plan by hatching or other means at the discretion of the draughtsman. Such a practice makes clear the history of the fabric at a glance, and we hope it will be adopted wherever feasible in the forthcoming portfolios of the series. We also note the omission of any north point on the plan. It is gratifying to know that such an interesting house, native to the soil on which it stands, is being taken care of and used as a museum, for, owing to the generosity of Sir W. H. Lever, it has been acquired by the Corporation of Bolton. The drawings have been excellently reproduced and printed, together with the text, by the Photography and Printing Crafts Department of the Municipal School of Technology.

English and Welsh Cathedrals. By T. D. ATKINSON. (London: Methuen & Co., Ltd. Price 10*s.* 6*d.*)

MR. ATKINSON has written something better than a popular handbook on this subject. We are far from saying that a demand for a popular handbook is not desirable. It establishes the fact that there is an interest appealing to the average intelligence, which should be met and fostered to the best of a publisher's ability. An appreciation of our monuments of architecture is, and may reasonably be, a welcome addition to the possible interests that belong to the holiday, or opportunities for sight-seeing, that come to the average person. But these

guides are, for the most part, written by the professional *cicerone*, or by one who can pretend to little or no training, whose eye cannot grasp the salient points presented by a building, and is therefore content to point out item by item, such features as every observant beholder may see for himself. Mr. Atkinson brings the trained mind to bear upon his subject, and in doing so he does not make it in any way the less interesting or the less capable of comprehension. Indeed these qualities are strengthened by his judicious and reticent handling. We could wish perhaps that the "three-colour process" illustrations had been less obviously pretty, since they seem to us at variance with the restrained style of the author. One must view them as independent conceptions of a capable water-colour artist.

BOOKS RECEIVED.

THE SCIENCE OF ILLUMINATION. By Dr. L. Bloch. (London: John Murray, 6s. net.)
MODERN FRET-CUTTING. By John T. Makinson. (London: Crosby Lockwood & Son, 1s. 6d. net.)

THE ARBITRATION CLAUSE IN ENGINEERING AND BUILDING CONTRACTS. By E. J. Rimmer. (London: Constable & Co. 2s. net.)

PRIMER OF SCIENTIFIC MANAGEMENT. By Frank B. Gilbreth. (London: Constable & Co. 4s. net.)

BUTTERWORTH'S WORKMEN'S COMPENSATION CASES. Vol. V. (London: Butterworth & Co.)

JOSEPH FARMERSON, A.R.A. By Archdeacon Sinclair, D.D. The Art Annual, 1912. (London: Virtue & Co. 2s. 6d. net.)

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring-gardens, S.W., Lord Chelmsford, Chairman, presiding.

Loans.—The Finance Committee recommended, and it was agreed, to make a loan of 3,800l. to the Islington Guardians for poor law purposes, and a loan of 600l. to the North Surrey School District Managers for poor law purposes.

New Chief Engineer.—On a recommendation of the General Purposes Committee it was unanimously agreed to appoint Mr. George William Humphreys, M.Inst.C.E., as Chief Engineer to the Council, at a salary of 2,000l., in succession to Sir M. Fitzmaurice, who is retiring at the end of the year. Mr. Humphreys has hitherto been the Deputy Chief Engineer to the Council.

Strand Improvement.—The Improvements Committee recommended, and it was agreed, that, subject to the Westminster City Council agreeing to contribute one-sixth of the net cost, powers should be sought in the next session of Parliament to widen the Strand between Adam-street and Durham House-street.

CORRESPONDENCE.

Rebuilding Piccadilly-circus.

SIR,—The accompanying plan indicates a scheme for the rebuilding of Piccadilly-circus. The existing leases of the Crown lands are now about to fall in, which circumstance, if taken advantage of, renders the commencement of the scheme such as is indicated possible.

The small scale plan, which is a tracing from the Ordnance Survey, shows the existing buildings and the position of the circles, which indicate the amount of land now vacant which would be utilised for buildings, and also the sites of existing buildings that would be thrown into the roadways. It will be seen that these are about equal in area, so that what building space is lost in one position is gained in another.

Most street improvements entail a tremendous outlay, and the benefit accruing thereby is very seldom of a monetary nature. By continuing the buildings right round the Circus, not only would the architectural design be emphasised, but a considerable annual income would also be gained. Assuming only four floors over the archways are built, this would give, approximately, an increased floor space as indicated of about 51,000 ft. super., suitable for restaurants,

offices, business, and other premises. This area could be increased by additional floors and by building the archways and the superstructure of larger dimensions in the length of the streets. The scheme lends itself to the control of street traffic, and the main lines of traffic are direct. "Islands" for pedestrians would be formed where shown, and also at both ends of the central piers carrying the arches at the entrance to each of the main streets.

The plan is only intended to indicate the scheme, and possibly by the planning of moving stairways at several convenient intervals, a colonnade of shops at a higher level could be worked in with an increased rental advantage. Provided the access is easy and the colonnade is of sufficient length to ensure a good variety of shops, it is submitted that there is no reason that such a plan should not be as successful in London as in the "Rovs" of Chester. The Shaftesbury Memorial could be refixed in the central position, or the centre feature could be a memorial to King Edward VII., with a statue of the late King on a base of suitable design surrounded by sculpture.

G. F. M. MERRIMAN.

LEGAL COLUMN.

Intimidation.

THE decision in the case, *Young and others v. Peck*, recently given in a Divisional Court, is one of some importance in view of disturbances arising out of labour disputes. Some thirteen persons were prosecuted by the police under the Conspiracy and Protection of Property Act, 1875, sect. 7, for intimidation.

The facts were that when a man in charge of a motor-wagon was leaving certain works the thirteen appellants, who at one time had been employed at the same works and were wearing white ribbons, were present when eggs were thrown at the carman, and there were cries of "Blacklegs!" "Dirty scabs!" Someone also struck the carman. The justices convicted, and on this appeal two points were raised by the defendants:—1. That the information could only be laid by the person intimidated and not by the police; 2. That the evidence showed that only two persons actually threw eggs, and the presence of the other eleven persons was not sufficient to render them liable to conviction for intimidation. The Court overruled both objections, and the convictions were confirmed.

Damages for Death of an Apprentice:

Taff Vale Railway Company v. Jenkins.

A case which has necessitated considerable litigation and given rise to a divergence in judicial opinion has now been set at rest by a unanimous decision in the House of Lords.

A young woman, near the end of her apprenticeship as a dressmaker, was killed by the admitted negligence of the railway company. Her father, suing on behalf of himself and her mother, obtained a verdict for 75l. In the Court of Appeal one Lord Justice was in favour of dismissing the railway company's appeal, another for allowing it, whilst the third considered there should be a new trial. The evidence was that, at the termination of the

articles of apprenticeship the deceased would have become able to earn wages in the same employ, and there was also evidence that she assisted her mother in the shop, and also made small sums in her spare time. The important point in the case, as it would apply to nearly all apprentices, was whether prospective earnings could be taken into consideration or whether damages could alone be given where actual earnings were proved, and the House of Lords unanimously held that the reasonable expectation of pecuniary benefit could be taken into consideration.

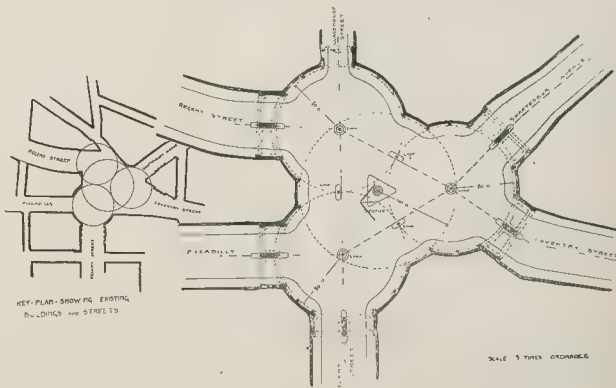
OBITUARY.

Dr. G. K. Fortescue.

WE regret to announce the death on October 26, in his sixty-fifth year, of Dr. George Knottfort Fortescue, Keeper of the Printed Books, British Museum, who, as we stated in our issue of October 11, was about to retire, as on October 31, after forty-two years' service. Mr. Fortescue (LL.D., Aberdeen) was a son of the Very Rev. E. B. K. Fortescue, Provost of Perth Cathedral. He was educated at Harlow College; when twenty-three years old he left the Royal Navy for the post of Assistant in the Library, British Museum, where in 1884 he was appointed Superintendent of the Reading-room, and in 1890 Assistant-Keeper, and in 1899 Keeper of the Printed Books. In 1901 he was elected President of the Library Association, and in 1909 President of the Bibliographical Society. Whilst the general course of Dr. Fortescue's official career does not come within our province, we may aptly recall that to him the public are indebted for the means by which he has greatly reduced the labour of research. Thirty-two years ago he originated the current subject-index of European books, including fresh editions of older works, received in the library. His first volume, for January, 1880—August, 1885, though not intended at first for publication, was printed with the Trustees' sanction in 1886. Other volumes have appeared from time to time; the complete series so far containing more than 417,000 references, with titles and press-marks, to modern works in the Museum. Dr. Fortescue was the author of "Napoleon and the Consulate," 1908, and a co-editor of "Romances of Royalty," thirteen volumes, 8vo—a personal history of France in the XVIIIth century as told by six of her most famous memoir-writers.

Mr. C. D. Szlumper, C.E.

THE death, on October 27, is announced of Mr. Charles David Szlumper, C.E., aged forty years. Mr. Szlumper, the eldest son of Sir James Weeke Szlumper, C.E., ex-Mayor of Richmond, was educated under Professor Grimley, of Aberystwith, and at University College, London. When in the service of the Great Western Railway he was employed in the conversion of the broad to the narrow gauge, and was resident engineer for the Rheidal Railway, and, in succession to his father, was engineer to the Manchester and Milford line. He was also employed as a railway engineer in South Wales, and, with Messrs. Szlumper & Szlumper, upon projected schemes to relieve, by means of tube-lines, the congested road traffic of London.



Sketch Plan for Rebuilding Piccadilly-circus.

ILLUSTRATIONS.

University Buildings, Dublin.



ESSRS. DOOLIN & BUTLER'S design for the proposed new buildings to University College, Dublin, was placed first by the Assessor, Mr. Henry T. Hare, F.R.I.B.A., in the recent competition, the result of which we announced last week. Reference is made elsewhere (p. 533) to the competition as a whole.

Carnegie Library, Lincoln.

This building, of which we give an illustration, reproduced from the drawing which appeared in the Royal Academy this year, will be built of Ancaster stone with local brick backing and Westmorland green slates. The dome and cupola will be covered with lead. The accommodation will consist of an entrance hall with news-room and reference library to right and left of the same, and lending library straight ahead, with librarian's room and staffroom on either side of the same; a ladies' reading-room, committee or students' room, book store, lavatories, etc., on ground floor, and a printroom on first floor over the entrance hall.

The architect is Mr. Reginald Blomfield, A.R.A., P.R.I.B.A.

Birmingham Council House Extension.

These illustrations are in connexion with the article beginning on p. 543, describing the construction of the building.

MEETINGS.

FRIDAY, NOVEMBER 8.

Royal Sanitary Institute.—Mr. Henry C. Adams on "Sewage Disposal." 7 p.m.
Glasgow Technical Club and Architectural Craftsmen's Society.—Debate: "Single v. Separate Contracting." Opened by Mr. A. Davidson, architect, and Mr. A. Smith, contractor. 7.45 p.m.

SATURDAY, NOVEMBER 9.

Aberdeen Architectural Association.—Mr. D. T. Byres, A.M. Inst.C.E., on "House Drainage." Illustrated. 7.30 p.m.

MONDAY, NOVEMBER 11.

Architectural Association.—Mr. J. A. Marshall on "Marbles used in Greek, Roman, and Byzantine Buildings." 8 p.m.

Bristol Society of Architects.—Paper by Mr. Graham C. Awbery, entitled "Some Practical Remarks to Pupils, Assistants, and Young Architects." 8 p.m.
Surveyors' Institution.—The President, the Hon. Edward Gerald Strutt, will deliver an opening address. 8 p.m.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Mr. Henry C. Adams on "Water Supply, Sources of Supply and Distribution." 7 p.m.
University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Gothic Architecture in Central Italy and Sicily." 5 p.m.
The Incorporated Clerks of Works' Association (Carpenters' Hall, London-only).—Monthly meeting. 7 p.m.

TUESDAY, NOVEMBER 12.

University of London (British Museum).—Mr. Kaines Smith on "The Age of the Dorians: Greece in the Making." 4.30 p.m.

Nottingham Architectural Society.—Fiftieth anniversary of the Society. Conversazione at the Exchange Hall.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Mr. Henry C. Adams on "Scavenging, Disposal of House Refuse." 7 p.m.

The Royal Sanitary Institute.—Discussion on "The Report of the Departmental Committee on Intercepting Traps and House Drains." To be opened by Mr. H. Percy Boulnois, M.Inst.C.E. 8 p.m.

The Institution of Civil Engineers (To be held at the Institution of Mechanical Engineers, Storey's-gate, S.W.).—(1) Mr. E. Hall Blyth, jun., on "The Construction of the New Dock at Melhill"; (2) Mr. W. Cleaver, M.Inst.C.E., on "Alterations and Improvements of the Port Talbot Docks and Railway During the Last Decade." 8 p.m.

WEDNESDAY, NOVEMBER 13.

Edinburgh Architectural Association.—Associates' paper: "Town Planner." by Mr. A. Lorne Campbell, F.R.I.B.A., lantern slides. 8 p.m.

Northern Architectural Association.—The opening meeting of the session. Mr. Wm. Milburn, F.R.I.B.A., the President, will deliver the opening address. 7.30 p.m.

Manchester Society of Architects.—A paper will be read by Mr. J. H. Worthington, M.A., A.R.I.B.A. 6.30 p.m.

THURSDAY, NOVEMBER 14.

University of London (British Museum).—Mr. Banister Fletcher on "The Architecture of the Greeks." 4.30 p.m.

Builders' Benevolent Institution.—Sixty-fifth annual dinner, Whitehall Rooms. Hotel Métropole, W.C. Mr. F. G. Minter presiding. 6.30 p.m.

University of London (Victoria and Albert Museum).—Mr. Kaines Smith, M.A., on "Decoration of Buildings: Woodwork." 3.30 p.m.

The Concrete Institute.—Presidential address, by Mr. E. P. Wells, J.E. 7.30 p.m.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.—Paper by Mr. F. H. Wrench, A.M. Inst.C.E., entitled "Some Notes on Surveying." A.M. Inst.C.E., entitled "Institution of Electrical Engineers." Address by the President, Mr. W. Duddell, F.R.S. Presentation of premiums. 8 p.m.

FRIDAY, NOVEMBER 15.

University Extension.—Visit to the Soane Museum, Lincoln's Inn-fields (Greek and Roman Antiquities). 3 p.m.

SATURDAY, NOVEMBER 16.

Edinburgh Architectural Association.—Forenoon visit of Associate Section to Messrs. Redpath, Brown, & Co., Ltd.'s works, Easter-road, (2) Afternoon visit of whole Association to (1) New Masonic Hall, (2) New Hall of United Free Church of Scotland, 121, George-street.

COMPETITION NEWS.

A list of current Competitions is printed on page 539.

Church at Winton, near Manchester.

A competition has taken place recently for a new church (to hold 600) at Winton, in the parish of Worsley, near Manchester. The Assessor was Mr. W. D. Caröe, F.R.I.B.A., and the conditions were drawn up by him. The award is as follows:—First premium (15*l.*), Mr. R. T. Beckett, A.R.I.B.A., of Chester; second premium (10*l.*), Mr. F. R. Freeman, of Bolton; third premium (5*l.*), Mr. F. P. Oakley, A.R.I.B.A., of Manchester.

Folkestone Band Pavilion.

At the last meeting of the Folkestone Town Council it was decided to erect a band pavilion on the less and cliff, and to invite competitive designs for the structure, the maximum cost not to exceed 20,000*l.* Premiums of 100 guineas, 50 guineas, and 25 guineas, are to be offered for the designs placed first, second, and third by the assessor; but if any one of these three designs be adopted, the premium is to be merged into the architect's fees. Instructions were also given the Town Clerk to draw up the conditions of the competition. The appointment of a suitable Assessor has been left to the Mayor, the Deputy Mayor, and the Mayor-Elect.

Society of Architects' Studentship.

The Travelling Studentship of the Society of Architects (25*l.* and Silver Medal) will be awarded in 1913 for the best design for a group of almshouses. The conditions and a plan of the site are published in the November issue of the *Journal of the Society*.

BRITISH SCHOOL AT ROME.

THE following is the scheme of competition for the Scholarship in Decorative Painting at the British School at Rome, offered by the Commissioners for the Exhibition of 1881:—

The scholarship will be of the value of 200*l.* per annum, and will be ordinarily tenable for three years. Candidates must be British subjects, and less than thirty years of age on July 1, 1913.

The competition, which will be conducted by the Faculty of Painting of the British School at Rome, will be in two stages:—A. An open examination. B. A final competition, open to not more than four candidates selected from those competing in the open examination.

A. The Open Examination.—Competitors in this examination must submit the following works:—1. Not less than four drawings of the nude figure from the life. 2. One painting of a head and one painting of a figure from the life in oil or tempera. 3. Two figure compositions in colour suitable for wall decoration (not larger than 30 in. by 22 in.). 4. Sketches of designs for decorative purposes, which should include some architectural studies.

B. The Final Competition.—This competition will be held in London from June 30 to August 23, 1913, and will be open to not more than four candidates selected from those competing in the open examination. The subject will consist of a design for a wall decoration, to fill a given space for a given purpose, and to a given scale. Eight weeks will be allowed for the execution of the design, and during that time candidates will be provided with studio accommodation and given an allowance of 2*l.* per week for models. The successful candidate in this competition will be recommended for appointment to the Commissioners' Scholarship.

The office of the British School at Rome is at 54, Victoria-street, London, S.W.

ARCHITECTURAL SOCIETIES.

Manchester Society of Architects.

At a meeting of the students of the Manchester Society of Architects, on November 6, Mr. Francis Jones, junr., in the chair, an interesting paper was read by Mr. Thomas Stott on "Tradition in Architecture." Mr. Stott traced the development of architecture on traditional lines, and strongly emphasised the necessity of a school free from all taint of passing fashions. During his remarks the lecturer pointed out that, apart from ecclesiastical architecture, the line of development was absolutely unbroken from the Greek, through the Roman and Italian Renaissance to the work of Jones and his immediate successors, and that it is desirable to continue this tradition in modern work. The conclusions of Mr. Stott, after a much animated discussion, were unanimously approved and carried by the meeting.

Royal Institute of the Architects of Ireland.

An ordinary meeting of the Council of this Institute was held at 31, South Frederick-street, Dublin, on Monday. The President, Mr. A. F. Murray, R.H.A., F.R.I.B.A., occupied the chair. There were also present Messrs. R. Caulfield Orpen, J. H. Webb, F. Batchelor, C. H. Ashworth, L. O'Callaghan, G. P. Sheridan, A. G. C. Millar, F. Hicks, F. Hayes, H. Allberry, W. Kaye-Parry, Professor Scott, and C. A. Owen, Hon. Secretary.

A great deal of correspondence was read and the House List of Officers and Council for the coming session was considered.

FIFTY YEARS AGO.

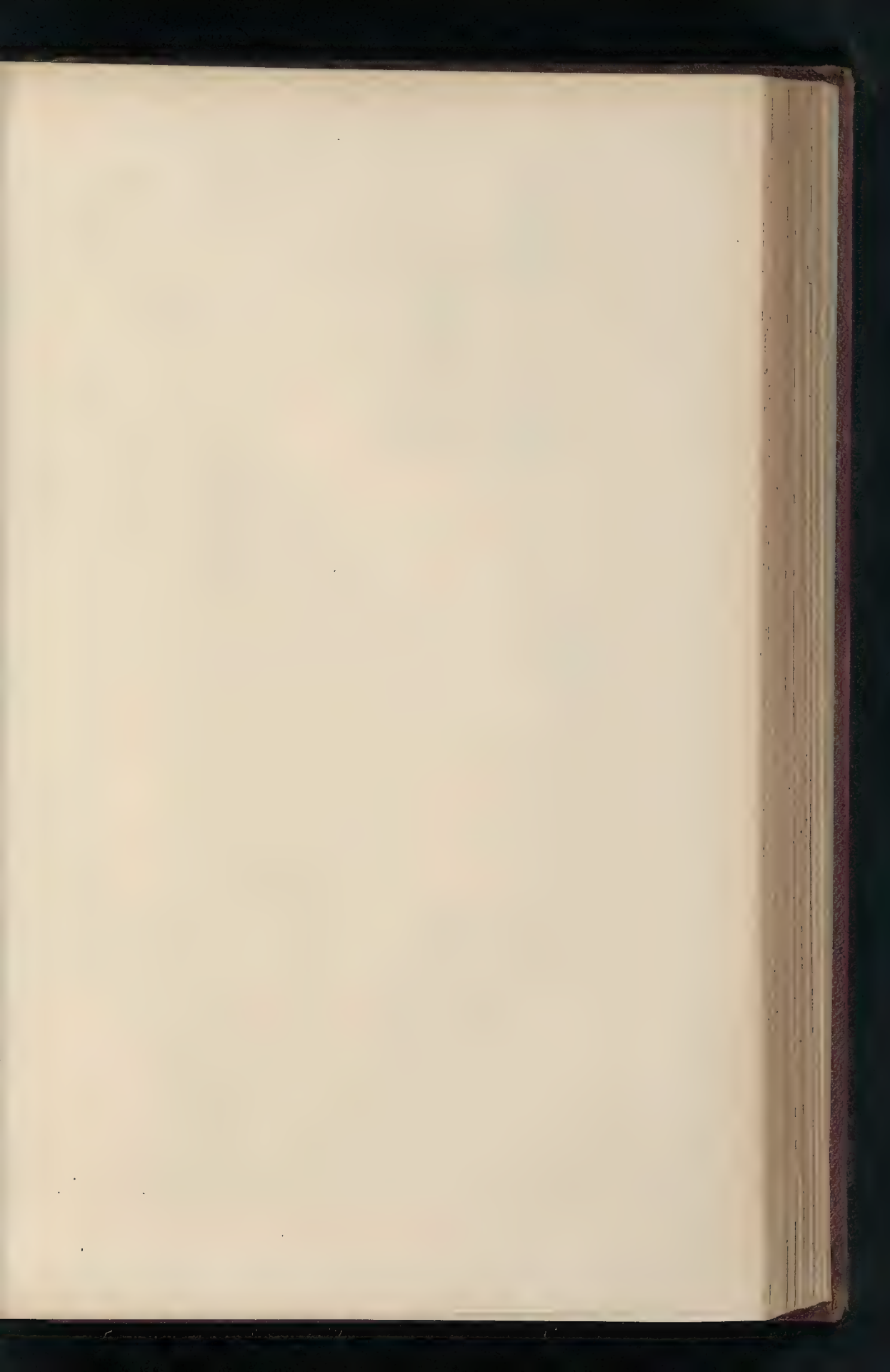
From the *Builder* of November 8, 1862.

Comfort for Pedestrians in Wet Weather.

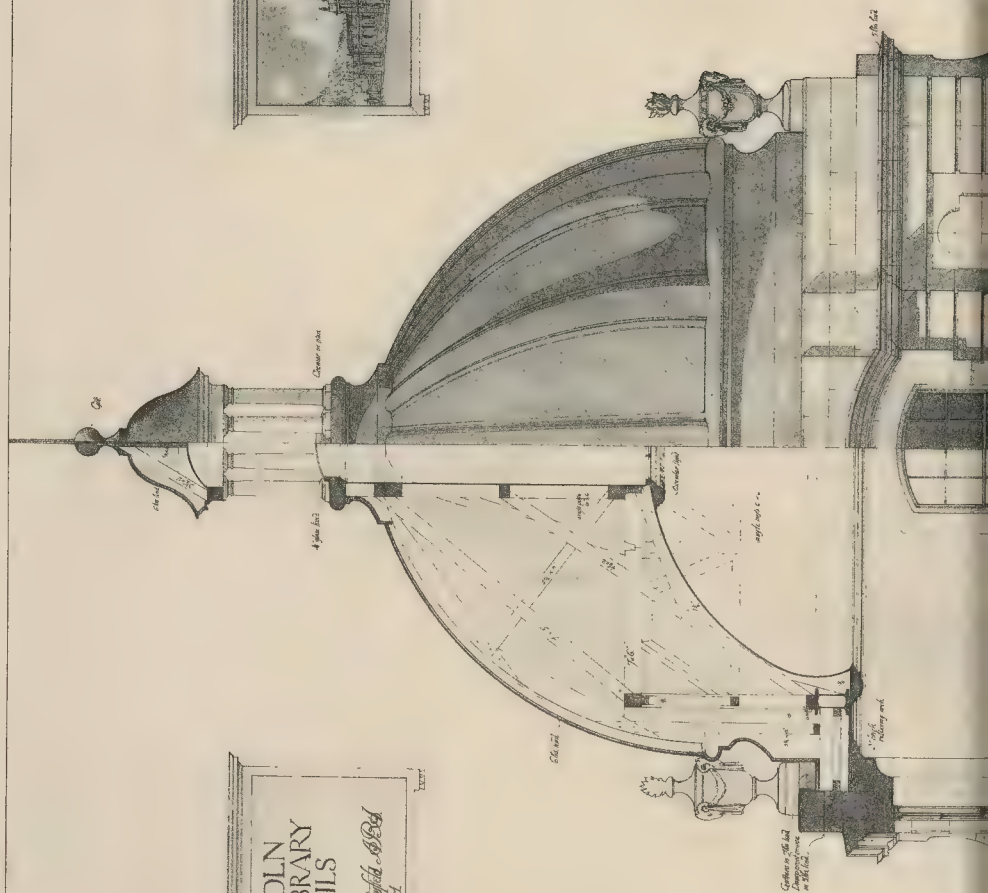
Is It Utopian?

It has been asked, "Why not lay on hot air to warm our dwellings as well as gas to light them?" On my road to the City this week I could not but envy the dryness of the pavement in front of the bakers' shops, owing to the heat generated by their ovens. Pondering upon this, the thought struck me, if iron pipes could be laid down beneath the pavement, and supplied with heated air from furnaces erected at convenient distances, what a great comfort it would be during the winter months to pedestrians of all classes to have a dry pavement to walk on; what a saving in the wear and tear of boots, shoes, clothes, etc. How many doctors' bills would be saved, as well as the many valuable lives that are lost solely through disease brought on by damp feet. Last, though perhaps not least in this money-making age, what an enormous increase of custom our tradesmen would derive from the circumstance of the ladies—the "spending power" in the community—being enabled to go out "shopping" every day in the week, instead of, as now, only once or twice a week. Surely for all the advantages I have pointed out—comfort, health, and increase of trade—our householders would not object to being rated to pay the expense incurred. There is nothing impossible in sanitary reform, provided man will but use his inventive faculties properly and for the benefit of his fellows; and I am in hopes some of your readers may be able to reduce my "theory" into some practical utility, if you will kindly grant space in your columns for it. Is it Utopian, or have I found the germ of a sanitary truth, requiring only practical heads to bring it out?

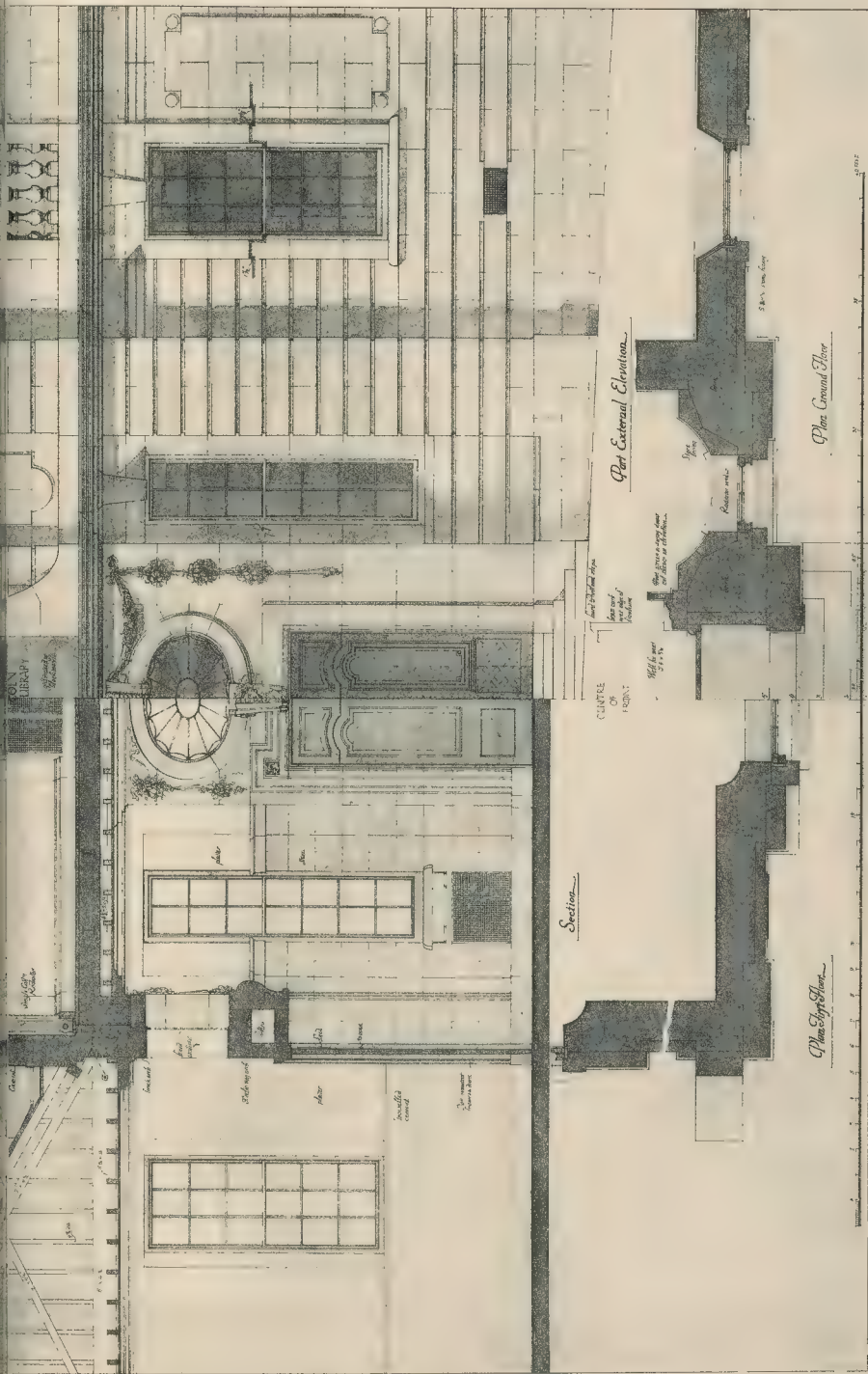
* * * We have been tempted to reprint this very human letter, since it gives such able expression to the sentiments of those who walk abroad take them over pavements greasy with a compound of fog and moisture peculiar to this season of the year. The appeal elicited no response, and we have by this time ceased to hope. Our correspondent of fifty years since is virtually pleading the cause of the street colonnade.—ED.



An engraving of the interior of St. Peter's Basilica, viewed from the entrance towards the altar. The large dome is the central feature, with its ribs clearly visible. The floor is covered with a pattern of light and dark tiles. On the right side, there is a long, low structure, possibly a tomb or a base for a statue. The background shows the distant altar area with a large cross. The entire scene is framed by a simple rectangular border.

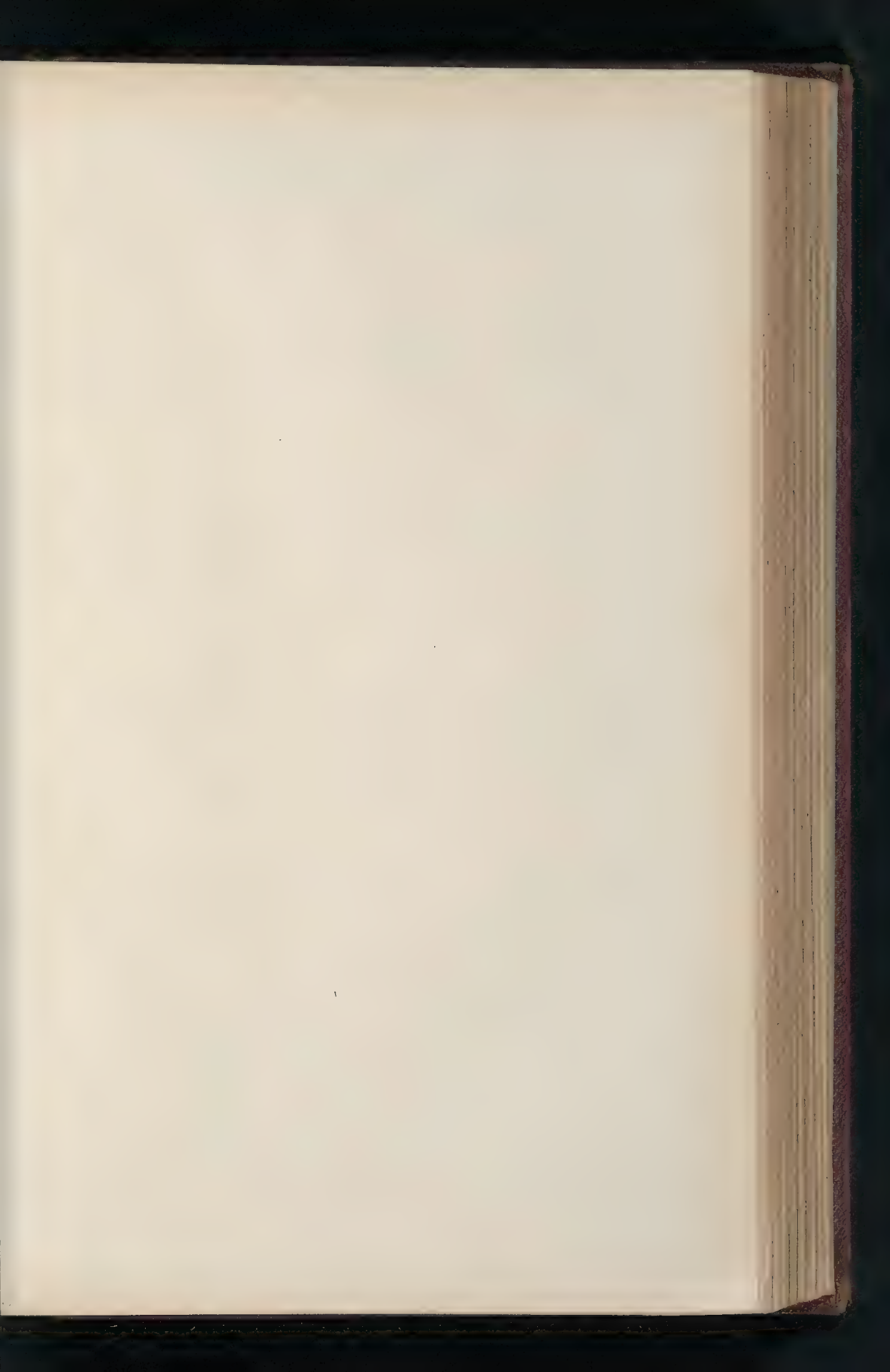
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DETAILS

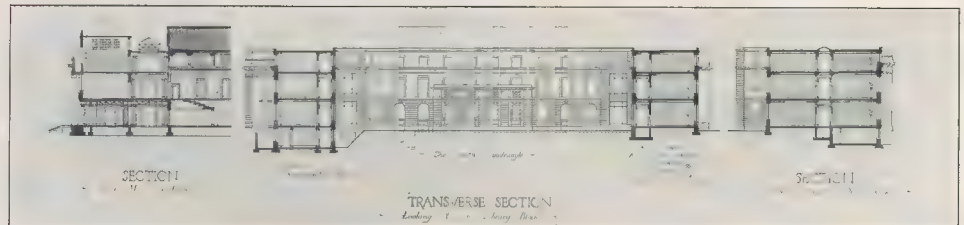
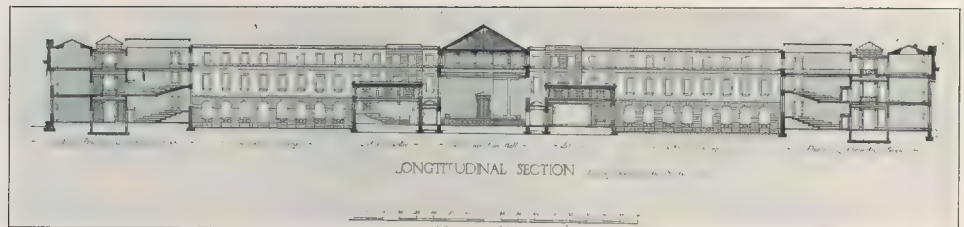
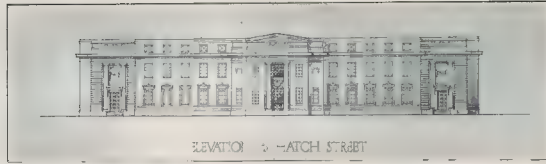
Reginald Blinfield A.B.
Archd.

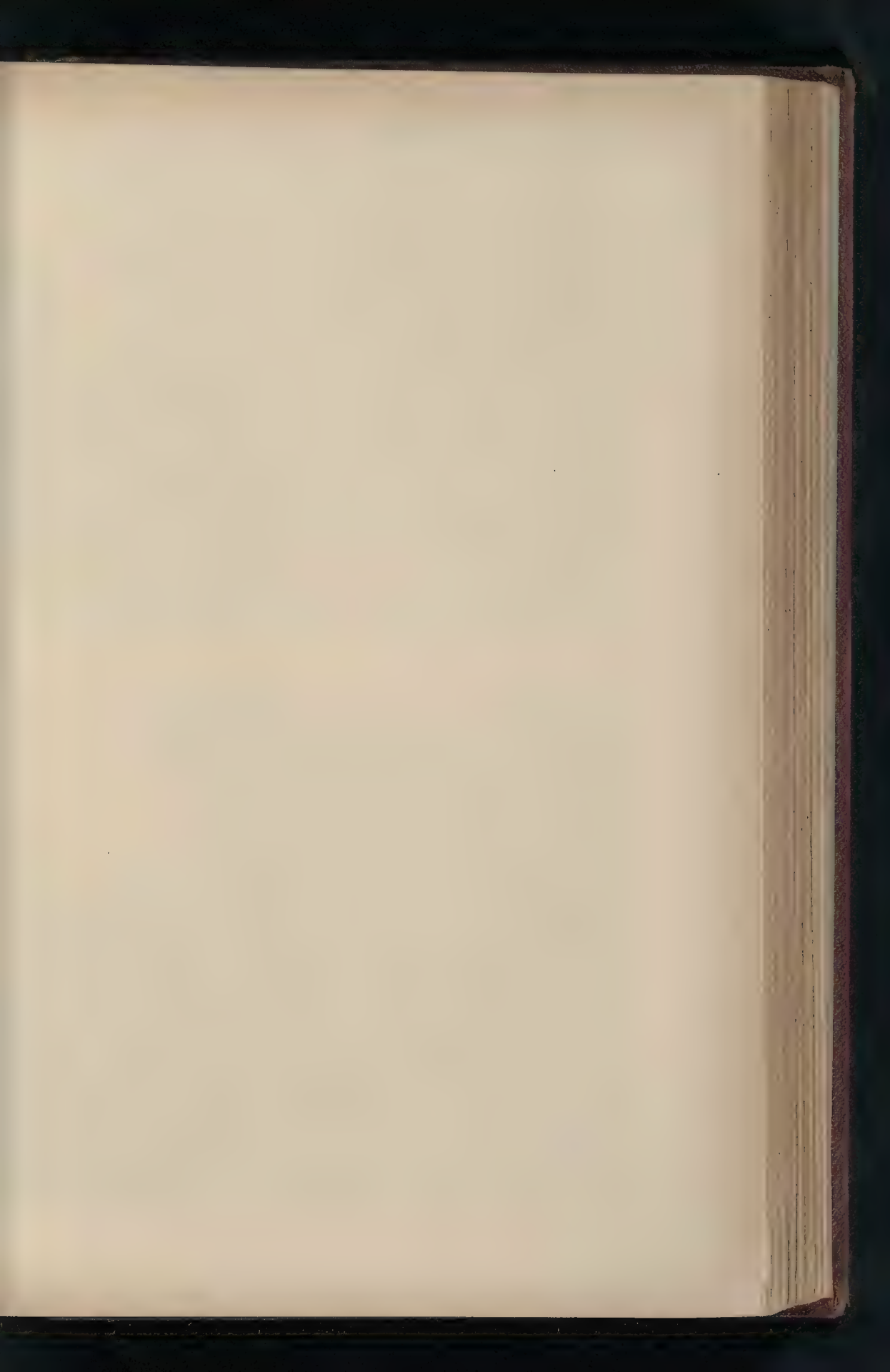


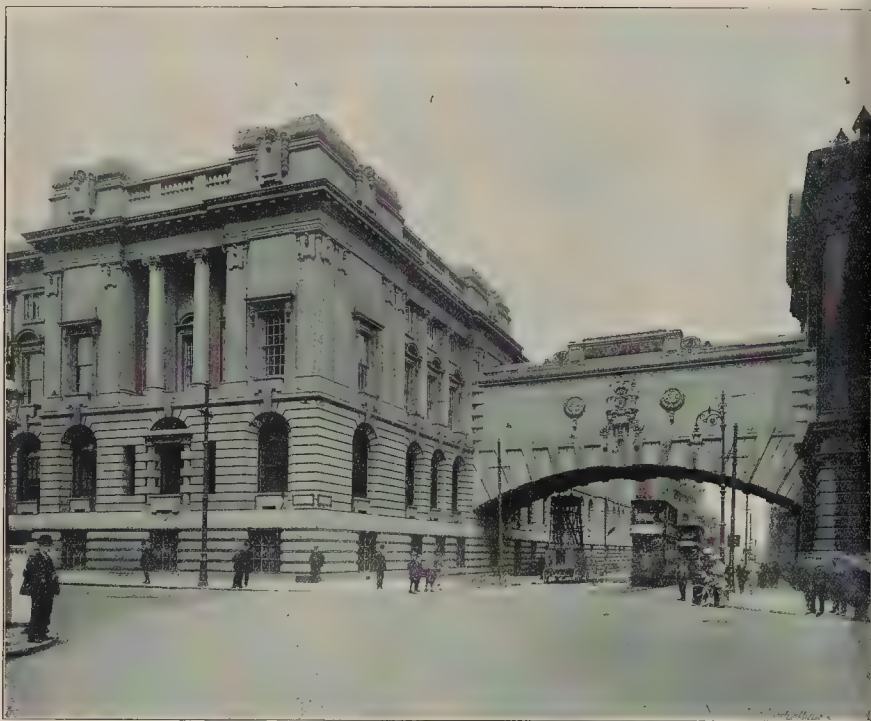
LINCOLN FREE LIBRARY.—MR. REGINALD BLOMFIELD, A.R.A., P.R.I.B.A., ARCHITECT.

(Royal Academy Exhibition, 1912)









BRIDGE AT JUNCTION OF EDMUND STREET AND CONGREVE STREET.



FRONTAGE TO EDMUND STREET : GAS DEPARTMENT ENTRANCE.

BIRMINGHAM COUNCIL HOUSE EXTENSION

Sprague & Co. Ltd. Printers 69 & 70, Dean St., Soho, W.

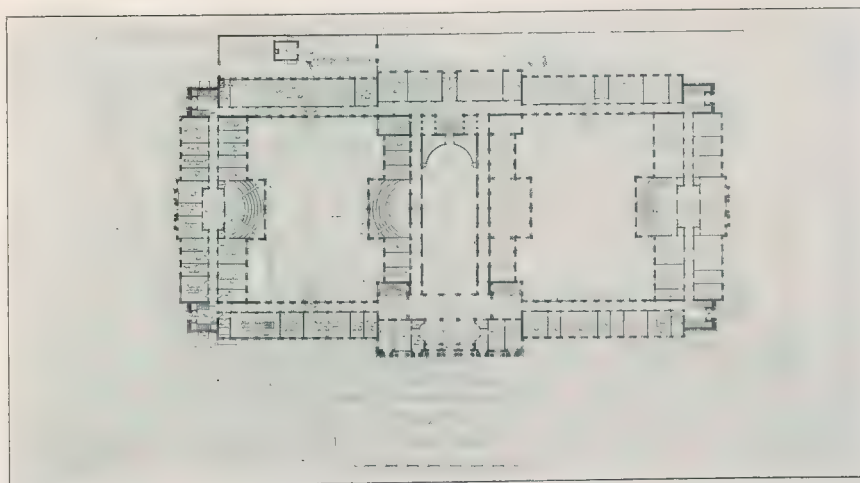
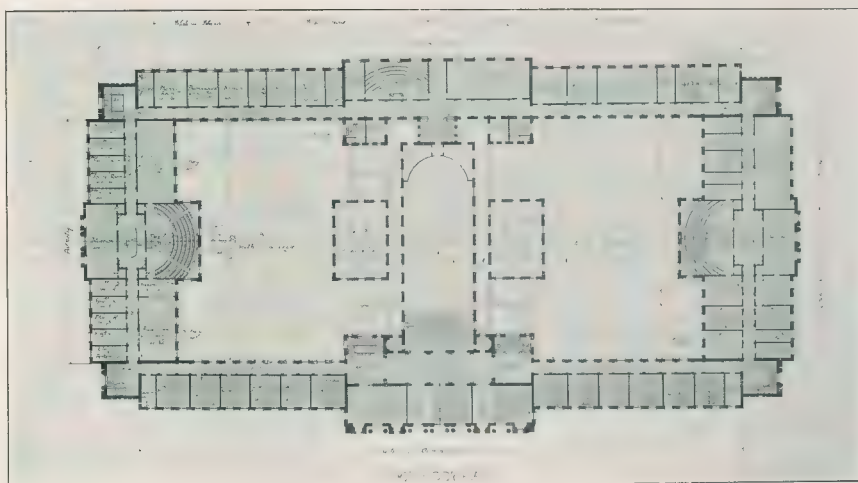
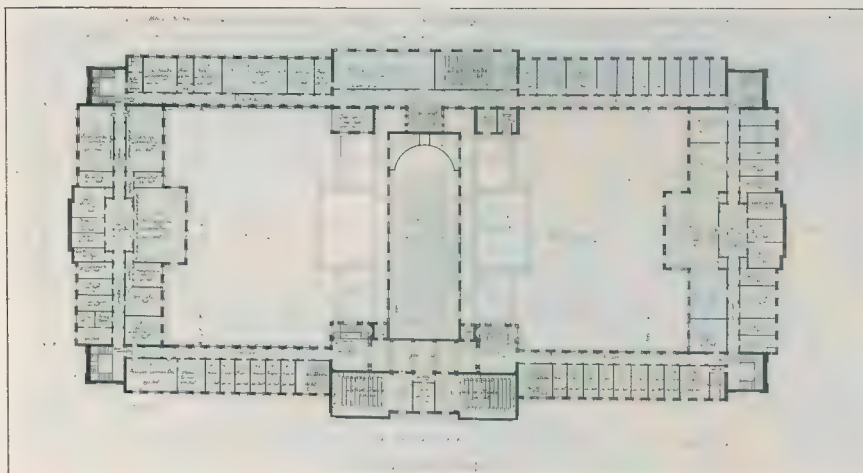


GAS DEPARTMENT, RATES OFFICE.



INTERIOR OF ONE OF THE ART GALLERIES.

Sprague & Co., Ltd., Printers 60 & 70, Dean St., Soho W



SPRUE & CO., LTD., PRINTERS, 60 & 70, DEAN ST., LONDON W.

UNIVERSITY COLLEGE, DUBLIN. PROPOSED NEW BUILDINGS.—ACCEPTED DESIGN BY MESSRS DOOLIN & BUTLER.

MONTHLY REVIEW · *of* · CONSTRUCTION.

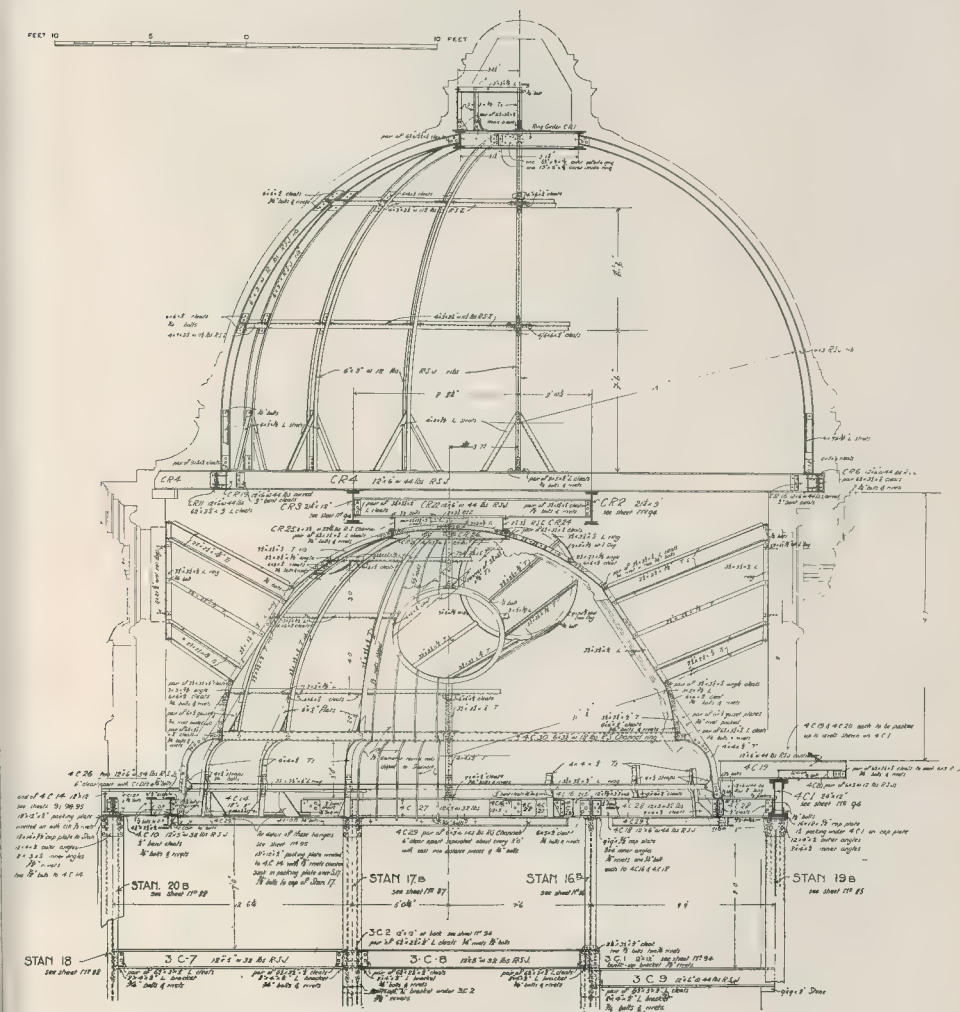
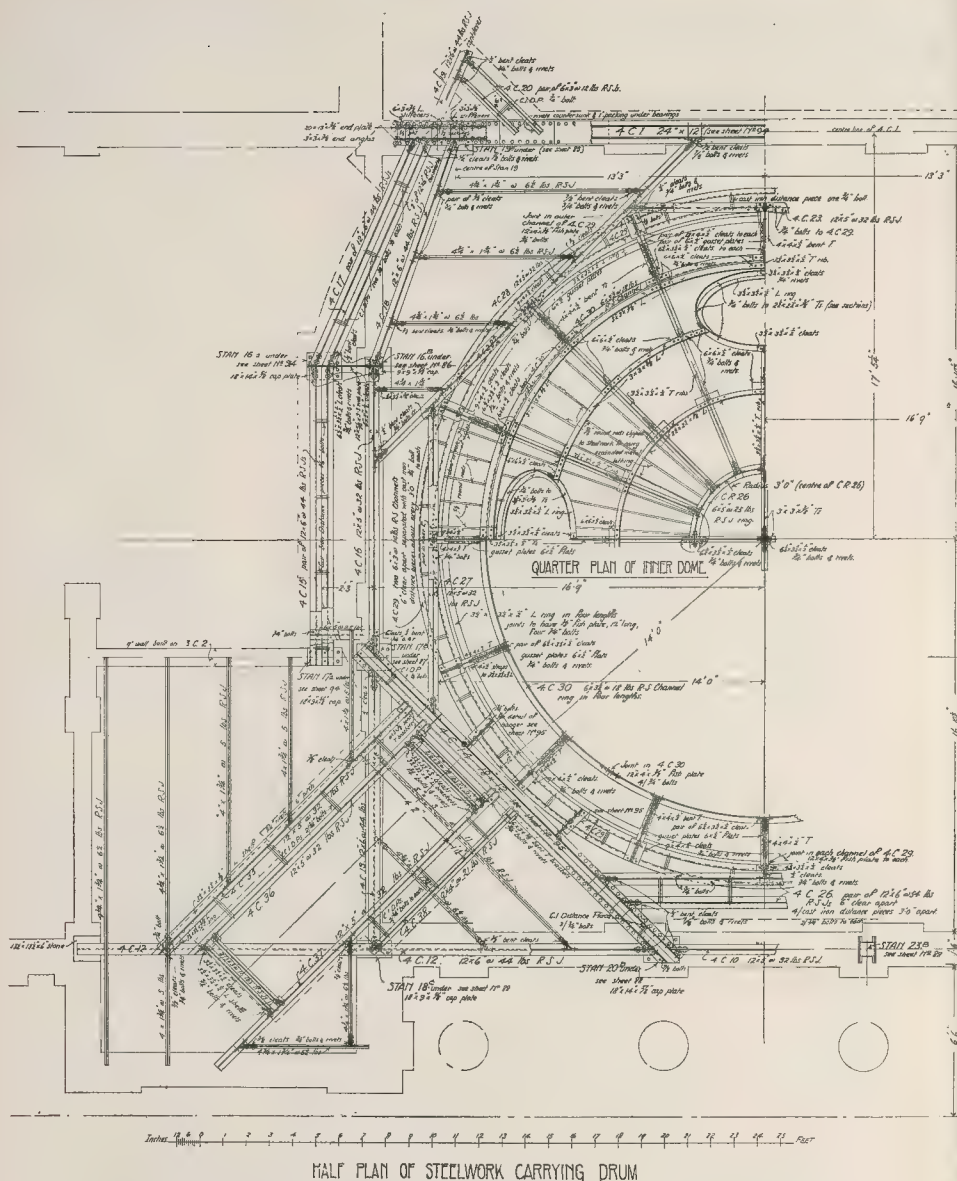


Fig. 1. Section of Steelwork in Dome over Central Museum.

BIRMINGHAM COUNCIL HOUSE EXTENSIONS.

Accommodation had to be provided in the building for four municipal departments and a series of art galleries and museums, the cost of the latter having been covered by a bequest of the late Mr. John Feeney. In the disposition of the plan the art galleries and the large rates office in the Gas Department were the governing factors. The former were required at the level of the art galleries in the old building, with a connecting bridge across Edmund-street of sufficient width and



HALF PLAN OF STEELWORK CARRYING DRUM

Birmingham Council House Extension.

Fig. 2. Details of Steelwork in Dome over Central Museum.

internal size to form a gallery in itself, while the large rates office had of necessity to be easily accessible from the street. These two conditions had been met by placing the rates office toward the centre of the block and grouping the galleries around and partially over it, lighting the office from internal courtyards some 40 ft. wide, and by a large top light in addition. This, in execution, has worked out most satisfactorily. Another factor of considerable influence on the plan was the fall in the site from west to east. This necessitated very careful consideration of floor levels, a solution having been found by taking the old art gallery floor as the datum for the new galleries, and also for the first floor level throughout the building, and taking the centre of Margaret-street front as the

datum of the lower ground floor, and dividing the height between these two levels into two floors, thus obtaining a lower ground and an upper ground floor. The level of the upper ground floor on the Congreve-street side finishes about 6 ft. above pavement level on account of the fall in the site, and consequently the entrance porches on that front come at the half-landing level.

Minor influences on the plan have been the disposition of future extensions and the planning of departments as complete in themselves; that is to say, each department has its own entrance from the street, and its only access to other departments is by means of pass doors in the corridors, which are kept locked, and are only used by head officials holding master-keys.

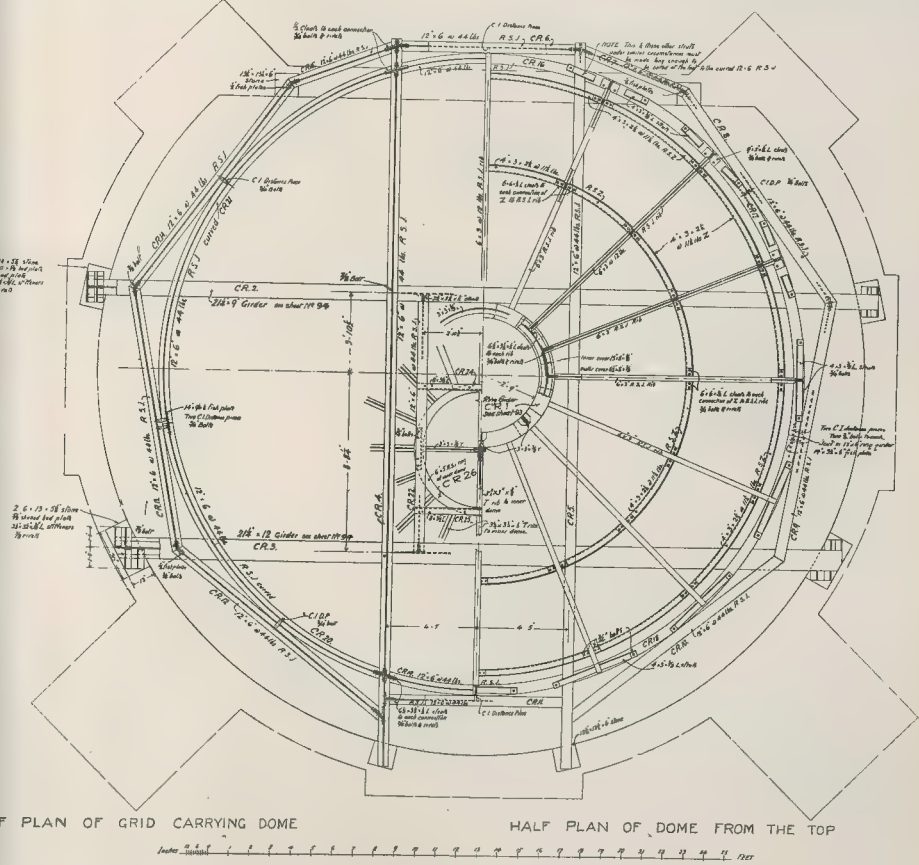
The municipal departments accommodation in the building are, in addition to the art galleries and Gas Department already mentioned, the Education Department, which occupies the whole of the Margaret-street frontage on all four floors; the Tramways Department, which occupies three floors on the northern half of the Congreve-street frontage; and the Health Department, which occupies three floors on the southern half of the same frontage. The remainder of the building is occupied by the art galleries and museums on the first and second floors, and by the Gas Department on the upper and lower ground floors.

In addition, there is a second extension now about to be commenced, which provides for the completion of the series of art galleries

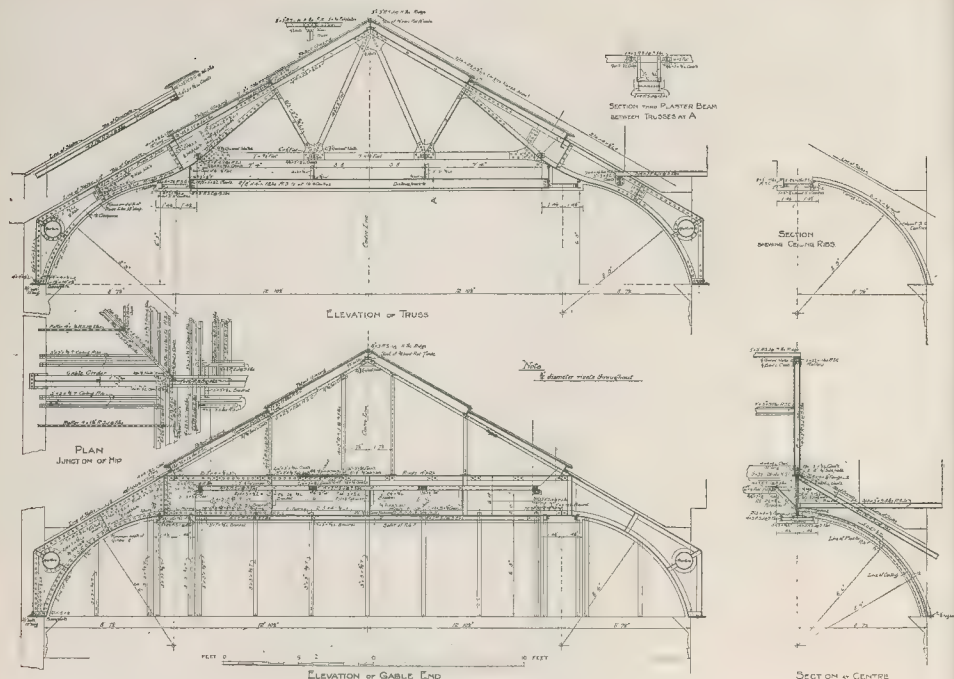
shown on the plans, with a connecting
at the northern end in the form of
for casts, with balconies around, and
principal staircase and entrance from Great
Charles-street; otherwise the only entrance to
the galleries at present is by the staircase on
the other side of Edmund-street, through the
galleries, and over the new bridge. Cast
also connect at the north-west end with
the series of natural history museums
which will extend the whole length of the
Congreve-street frontage on the second floor.
The southern end of these museums is
connected by a marble staircase with the new
gallery hall.
The second extension also provides additional
accommodation (rendered necessary by the
water Birmingham scheme) for the Trans-
ports, Health, and Gas Departments on the
lower and upper ground floors, as well as
a patent library at the northern end with
access to the various courtyards within the
building is obtained through one large gate-
in Margaret-street, under close supervision
of the gate-keeper's office adjoining.
In the general construction of the building
special reinforced concrete methods have
been adopted, but the steel joists and stan-
cions throughout are encased in concrete.
The walling has been built with Black
country bricks in cement, with Birmingham
bricks internally where plastering occurs,
the whole of the internal courtyards
have been faced with white glazed bricks,
covered with salt-glazed dado and dressings
in green bands. The external frontages to
the streets have been finished with a heavily-
carved base of Aberdeen granite to the

level of the upper ground floor, and above
this level in Darley Dale stone. This stone
was used in the present Council House, and
in selecting the same material the architects
worked under definite instructions.
It may be mentioned that no great diffi-
culties were encountered with the founda-
tions, which are taken down to below the
level of the foundations of the old houses
that originally occupied the site. Numerous
disused wells were discovered, which neces-
sitated in many cases steel grillages and
concrete, but otherwise the concrete founda-
tions rest upon a good gravelly loam.
The first extension now completed in-
cludes some interesting steelwork, the most
important items being in the dome over the
central museum on the Congreve-street
frontage, the roofing for the loan and art
galleries, and the new bridge over Edmund-
street.
We give in Fig. 1 a sectional elevation of
the steelwork in the dome, which includes
an outer dome of 31 ft. 3 in. diameter, and
an inner dome of 24 ft. 3 in. diameter. This
drawing shows the steel ribs of the domes
and the manner in which the latter are sup-
ported by stanchions and girders. It also
indicates in outline the masonry drum and
sheathing of the outer dome.
The steelwork carrying the masonry drum
is further illustrated by the half plan in
Fig. 2, where also will be found a quarter
plan of the inner dome.
The outer dome is carried by steel framing,
of which a half plan is given in Fig. 3, this
drawing also including a half plan of the
dome from the top. As these illustrations are
fully lettered and figured it is unnecessary

to enter into detailed particulars of the
construction, which is very clearly shown by
the drawings themselves.
The roofing of the art galleries is illustrated
by the photograph reproduced as one of our
Plates, typical sections of the steelwork being
given in Figs. 4 and 5.
The loan art gallery roof has a clear span
of 43 ft., and is carried by trusses, of which
details are reproduced in Fig. 4, the lower
drawing in the same illustration being an
elevation of the steelwork in the gable end.
The central portion of the roof is provided
with patent glazing, giving ample light to the
interior of the gallery, and the side portions
are covered with concrete, over which slates
are laid.
The modern art gallery measures 33 ft.
from wall to wall, and the roof is carried by
two types of trusses, A and B respectively,
as represented by the elevation in Fig. 5.
The bridge connecting the new and old
buildings, and passing over Edmund-street,
as represented by one of the photographs
reproduced in our Plate, is a steel-framed
structure sheathed in masonry.
The bridge has a span of 64 ft. 9 in., and
is 22 ft. 6 in. wide over all. It is essentially
a bridge of the tubular type, formed by two
longitudinal main girders, connected at the
bottom by transverse girders and other
members of the floor framing, and connected
at the top by steel roof trusses and framing.
Camps are attached to the two main
girders for supporting the masonry sheathing,
and the masonry arch ribs on the undersides
are carried by steel ribs.
The interior of the structure is 18 ft. 9 in.
wide by 17 ft. 6 in. high, and forms one of



Birmingham Council House Extension.
Fig. 3. Details of Steelwork in Dome over Central Museum.



Birmingham Council House Extension.

Fig. 4. Steelwork in Loan Art Gallery Roof.

the series of art galleries, the walls being unbroken by windows, and the roof suitably glazed.

Fig. 6 includes a half plan of the floor framing, a half plan of the roof framing showing the wind bracing, and a half plan of the framing for support of the ceiling.

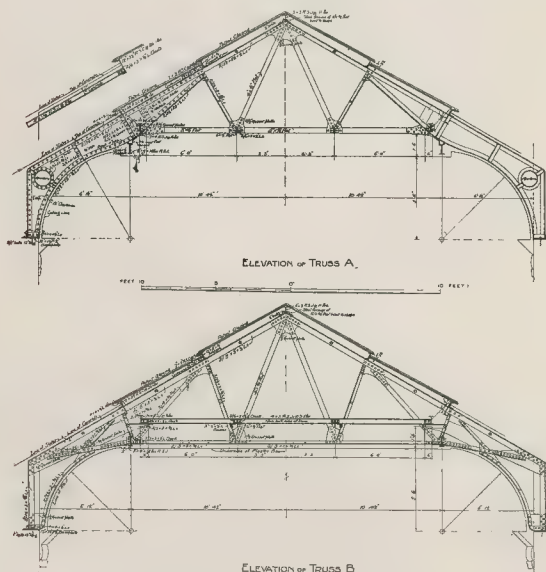
Section line A-A in the plan serves as an index to the sectional elevation of the main girder in Fig. 7. The two members of this type are 16 ft. 6 in. deep, and beneath them are the inner ribs, one, denoted by section line B-B in Fig. 6, carrying the masonry arches added for architectural effect. The

steel ribs were fixed simultaneously with the arch stone, as may be seen by reference to the general view of the steel framing in Fig. 8.

Fig. 9 is a cross-section of the bridge on line D-D (Fig. 6) representing one of the connecting roof trusses of type A, and showing in outline the masonry sheathing and interior architectural treatment. The ribs and stonework of the arches beneath are also indicated in detail. The two remaining roof trusses are of type B, these being on either side of the centreline, and generally similar to those of type A, but of lighter construction.

The heating of the building is effected by means of ventilating radiators and low pressure hot water (accelerated by motor-driven pumps) supplied from two large boilers. The boiler-house is situated below the ground level in the centre of the site, occupying the greater portion of the courtyard at the northern end of the large rates office, and accommodation has been provided for a third boiler required for the second extension. Ventilation is effected by means of exhaust ducts above the barrel ceilings of the corridors, with connections to the various rooms and upstairs exhaust fans in the rooms that discharge above the roof level. The art galleries have separate fans in the gable-ends above the inner lights, and the large rates office also has a separate system of vertical and horizontal exhaust ducts connecting with a central fan, which drives the foul air up the shaft surrounding the smoke stack from the boilers. The art galleries are heated by radiators placed in the centre between the seats, fresh air being brought to them by means of horizontal ducts in the floors.

As to the interior finishings and fittings apart from the art galleries and approaches to the departmental entrance-hall and staircase, the large rates office, and various committee rooms, the building is made up of a series of large and small offices requiring nothing more than plain and simple finishings. Naturally the art galleries have received very careful attention, particularly as regards lighting, both natural and artificial. In the present case the method adopted comprises an outer roof light of as large an area as possible, and an inner glazed light, both of



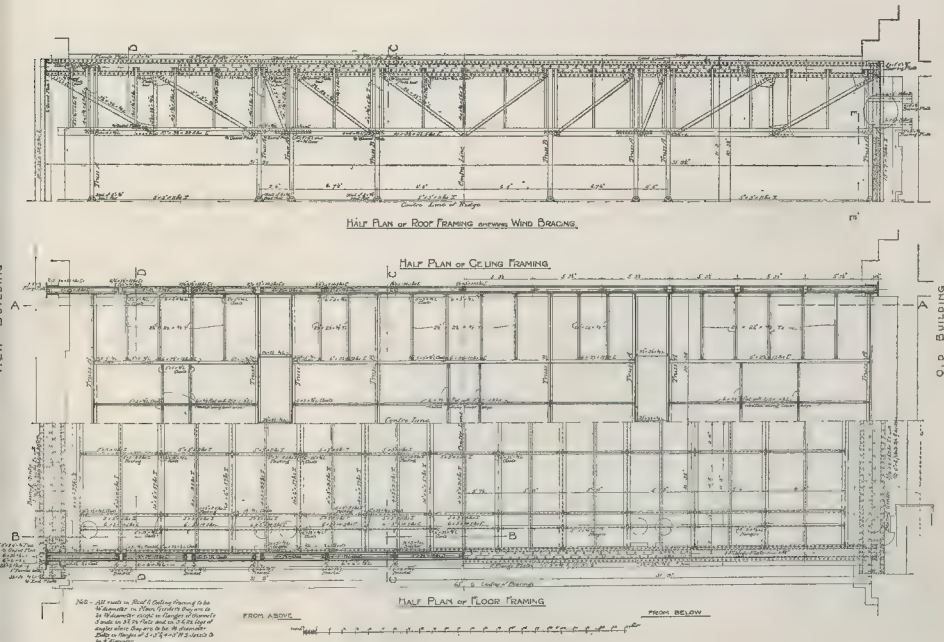
Birmingham Council House Extension.

Fig. 5. Steelwork in Modern Art Gallery Roof.

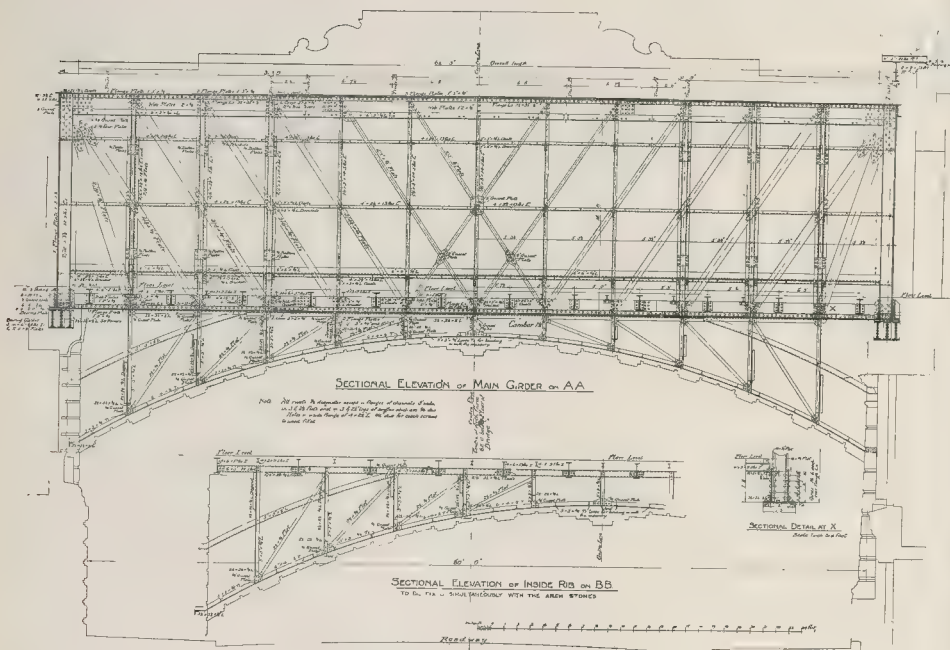
er and scientific relation to one another the picture plane. The ceiling is and all round, finishing at the walls with ice, frieze, and architrave, and horizontal blinds are fitted above the inner grids. or the artificial electric lighting of the series a system of metallic filament lamps need in ground-glass bowls with mirror ctors over, contained and carried by a ze rim and chains, has been adopted, the resulting illumination is most ing and satisfactory. This system was ved at after many different experiments n expensive nature. the gallery floors are of oak, with ways around in brown linoleum, 4 ft. e and about 5 ft. away from the walls. s method of deadening the sound of the tant traffic has been found most success- at the Glasgow Galleries, and is of special in the present instance on account of the as below being used as offices; it also s visitors a guide as to the position for uly examining pictures of ordinary size at about eye level. he galleries have been finished in as rained a manner as possible, with little itectural treatment beyond the cove and ice, etc., already mentioned, a low agony dado all round, and Ashburton le architraves to the doorways, thus ining the interest to the pictures and ing them to provide a general decorative ct. he new bridge and the art gallery-hall e been treated with rather more freedom. e floors are finished in marble, Hopton ed stone, and mosaic, and Swedish green e columns support the ceiling of the , while an alabaster staircase leads to natural history museums on the top floor. e columns and entablature and the ceiling e bridge are all finished white, provid- an excellent foil to the Burne-Jones etries between the columns. he natural history museums are carried ery simply in white and grey, with a ved top-lighted ceiling over the main . The central museum beneath the e on the Congreve-street frontage has e treated as a domed room, with support- Ionic columns, all in creamy-white. It e noted that this series of museums

has been constructed so as to be easily converted into additional departmental offices should they be ultimately required. Apart from the art galleries, the department providing most scope for effect has been the Gas Department, with its entrance-hall, large rates office, and committee-rooms. The entrance-hall has been finished in Hopton Wood stone and marble, with plaster panels and columns and enriched plaster cornices and ceiling panels. Leading direct out of the entrance-hall to the right is the private corridor with its suites of private rooms; to the left is the large fitting showroom; and straight ahead is the main rates office. The last named has been panelled and fitted in oak throughout, with wall surfaces above in plaster, and a decorative plaster treatment for the ceiling panels and the large barrel top-light in the centre of the office, the floor of the public space being laid with marble and mosaic. The principal rooms leading out of the private corridor are the committee-room, chairman's room, and secretary's room, all of which have been finished with oak panelling, marble fireplaces, and decorative plaster ceilings. The floor areas below these offices are occupied by stores and additional offices in connexion with the departments, access to the stores-yard being obtained from the cart-way entrance in Margaret-street already mentioned. The whole of the lighting of the Gas Department is by low-pressure gas, with the exception of the large pendants in the rates office and the entrance-hall, for which high-pressure gas has been adopted. All the fittings are executed in bronze from designs by the architects in conjunction with the Gas Department, and some measure of success has been obtained in embodying the latest methods of lighting control by pneumatic tube, etc., without the unsightliness usually associated with such fittings. The external lighting of the building on the street frontages is also by means of high-pressure gas burners; otherwise the building internally is electrically lighted. The rooms of the remaining departments do not call for special notice beyond the statement that the committee-rooms in

connexion with them have been finished with oak dados and plaster panels and decorative plaster ceilings. The principal staircases have Echailon treads and risers, marble dados with large panels over, and wrought-iron balustrades. It is worth noting that the floors of the main corridors throughout the building have been finished with linoleum panels with Echailon marble surrounds, in order to deaden the noise and reverberation usually so noticeable in a building of this character. The majority of the ordinary offices are also finished with linoleum laid on a cement screed direct on the concrete. The whole of the fittings and furniture, including the chairs, have been executed in Austrian oak, with the exception of the plainer fittings in the stores and similar rooms, where deal has been employed, and in special cases in the Gas Department stores, where wrought-iron racks and hangers have been rendered necessary by reason of the heavy materials to be accommodated. These fittings have all been executed from designs by the architects to the special requirements of the departments concerned, and in this way an effect of fitness and uniformity has been secured throughout the building. The general contractors were Mr. Thomas Rowbotham, Birmingham, for the first portion of the contract, and the Building Construction Company, Ltd., London, for the remainder. The steelwork engineers were Messrs. Whitaker, Hall, & Owen, and the consulting engineer was Mr. W. M. Binney. The plaster-work was executed by Mr. G. P. Bankart, Mr. L. A. Turner, and Messrs. A. & S. Wheeler, and the stone-carving by Mr. W. B. Fagan and the Broms-grove Guild. Wall and floor tiling was supplied by Messrs. Carter & Co., Ltd.; sanitary fittings by Messrs. Doulton & Co. and Messrs. Shanks & Co.; exterior iron balconies, standard and bracket lamps, interior iron balustrading, bronze window-grilles and door furniture, and bronze electric-light fittings by the Birmingham Guild, Ltd.; and permanent furniture by Messrs. Cubitt & Co. and Messrs. John Barnsley & Son. The stone for the Council House was supplied by the Stancliffe Estates Company, Ltd.,



Birmingham Council House Extension.
Fig. 6. Steelwork in Bridge over Edmund-street.



Birmingham Council House Extension.

Fig. 7. Steelwork in Bridge over Edmund-street.

of Darley Dale, who are the proprietors of the original Darley Dale quarries. The total quantity of Stancliffe Darley Dale stone used in the construction of the old Council House and art gallery was about 80,000 cubic ft., and for the extensions the quantity supplied was approximately 90,000 cubic ft., delivered over a period of eighteen months. We may add that St. George's Hall, Liverpool, was built out of this stone.

Messrs. Chance Brothers & Co., Ltd., specially manufactured the glass for the skylights, which is extra white, double-rolled cast glass, and about 30,000 super. ft. of this was glazed by Messrs. Mellows & Co., Ltd., on their "Eclipse" patent system, which ensures the roof being absolutely

water-tight. The particular feature of this glass is the clearness and brightness of the light obtained, owing to the special ingredients used to make the glass as far as possible colourless. This renders it suitable for such positions as the one under notice.

The contract for the foundations, which also included the structural work up to the first-floor level, and including steel and concrete suspended floor and beams, was, as already mentioned, entrusted to Mr. Thos. Rowbotham, of Coventry-road. The foundations, which were carried out to the plans and instructions of the architects, are of Portland cement concrete, and brickwork of Staffordshire brindled bricks in cement mortar, steel

grillages being provided where considered necessary, and steel stanchions fixed of concrete and stone bases placed in position for carrying the floors above. The foundation scheme included the formation of necessary subways for the conveyance of H.W. and other pipes, etc. The foundation portion of the work was completed by June 1909, and handed over to the contractors for the superstructure, the Building Construction Company, Ltd., of London.

The whole of the electric light fittings for the art gallery corridor and portion of the fittings for the bridge leading out of the old gallery into the new were supplied by Messrs. Peyton & Peyton, Ltd., Birmingham and London. To obtain the best results for the lighting of the art gallery a variety of experiments were tried from suggestion made by Sir Whitworth Wallis, the Committee, and others. The architects tried to aim at a diffused light which would light up the various pictures without altering the various tints, and by experiments Messrs. Peyton & Peyton found that the best result obtained was from a series of electric lights contained in a frosted globe with a metal cover. The lights were arranged at a scientific angle, and to increase the volume of light a silver-plated mirror was employed, which reflected the light at different angles into the bowl of the fitting, and which then gave practically a concentrated diffused light which did not affect the colours in the pictures. The net result of the whole of the experiment is that a brilliant light is achieved without glare.

Messrs. H. T. Jenkins & Son, marble merchants, Torquay, carried out the marble work, Hopton Wood and Echaillon stone work to the interior.

Messrs. Arthur Lee & Bros. Ltd., carried out work at three entrances—two in Congreve-street and one in Edmund-street. These portions consisted entirely of Hopton Wood stone, with the exception of the columns, which were of Greek Cippolino with bronze caps and bases. The whole of this work was British throughout, and was carried out by the firm at their works at Hayes, Middlesex.

The lifts were supplied by Messrs. B. Waygood & Co., Ltd., of Falmouth-road.



Birmingham Council House Extension.

Fig. 8. View of Steelwork in Bridge over Edmund-street.

Birmingham Council House Extension.
Fig. 9. Steelwork in Bridge over Edmund-street.

CONSTRUCTION NOTES.

The Fire at the Equitable Building, New York.

THE destruction of the Equitable Building, New York, by fire, on January 9, 1912, involved the loss of six lives. The building was valued at about 700,000, while the contents were of great value. Technically, the fire brought out a number of important features, and the Executive of the British Fire Prevention Committee considered it advisable that a reliable record of the disaster should be presented, and they have issued a Red Book on the subject.

As to the fire from the English point of view, the enormous cubic extent of the risk at stake, comprising a single block of some 45,000 ft. super., with a height equivalent to that of a ten-story building, is the prominent feature on the structural and legislative side. The absence of proper subdivision, both vertically and horizontally, and the promiscuous distribution of unprotected lift shafts are conspicuous points, whilst the dearth of exit facilities is another feature among the many defects that cannot be excused either by the age or structural evolution of the building. Had the fire occurred during office hours instead of in the early morning, the loss of life would probably have been terrible.

An interesting chapter in the report is devoted to vaults and safes, a subject all too frequently ignored, having regard to the unsuitability of most vaults, and the inadequacy of the ordinary office safe to meet fire conditions of a serious character. This chapter is the more interesting as the temperatures which were reached at this fire were not excessive, no fused cast-iron, for instance, being observable. The average maximum temperature of the fire was probably about 1,800 deg. Fahr.—i.e., under 1,000 deg. C., with only exceptional spurts or moments at, say, 2,000 deg. Fahr. (under 1,100 deg. C.).

The New Woolwich Tunnel.

THE new foot tunnel which has been built to connect North and South Woolwich has just been opened. The tunnel, which was designed by and the work executed under the supervision of Sir Maurice Fitzmaurice, consists of a cast-iron tube of 12 ft. 8 in. outside diameter, connecting two vertical shafts of 25 ft. inside diameter and about 60 ft. deep. The length between the shafts is 1,635 ft. The thickness of the river bed between the top of the tunnel and the river is about 10 ft. at the deepest place. The shafts consist of steel caissons formed of two skins of steel plating, the annular space between them being filled with concrete. Both shafts were sunk by excavating inside them under compressed air. They are lined with brickwork, and in each there is a spiral steel staircase giving access to the tunnel from the street above. In the well of each staircase there is an electric lift capable of carrying forty passengers. The tunnel was constructed by the shield method under compressed air. After it was completed from shaft to shaft it was lined throughout with concrete, upon which white glazed tiles are fixed. The footway is paved with York stone flags. The tender of the contractors, Messrs. Walter Scott & Middleton, amounted to 78,860. 7s. 1d., but the original scheme did not include the provision of lifts, which were after wards added at an extra cost of 5,000. Some excellent tiling in the subway has been executed by the Newellite Glass Tile Company, Old Kent-road, S.E.

Disintegration of Concrete in Drains.

AN investigation conducted in Germany by Dr. E. Neumann leads to the conclusion that the disintegration of concrete in drains is always due to the action of some acid. The decomposition of pyrites in the soil and the oxidation of sulphuretted hydrogen in the drains have both been found as a source of sulphuric acid which decomposes the aluminium and calcium compounds in cement and forms sulphates. The formation by the acid of insoluble salt breaks up the concrete by increasing its volume, and the formation of soluble salts causes more rapid destruction by permitting part of the concrete to be dissolved away. Dr. Neumann suggests as a remedy that the cement for concrete to be employed in drains should be made of dense clinker containing little lime. He also recommends that asphalt be used to protect all exposed parts, and that the interior of the drains should be efficiently ventilated.

Warming Buildings by Exhaust Steam.

THE new premises of the Calico Printers' Association, in Manchester, are warmed through-out by means of exhaust steam supplied from the Dickinson-street electricity generating-station of the Manchester Corporation, the steam being employed in calorifiers for heating water, which is circulated in the ordinary manner throughout the buildings. We understand that the Refuge Insurance Company, of Manchester, have also decided to utilise exhaust steam for a similar purpose from the Dickinson-street station.

How to Ebonyise Oak.

A RECIPE given by a French contemporary for imparting to oak the appearance of ebony is as follows:—After having been cut up the wood is immersed for forty-eight hours in a hot saturated solution of alum, and then sprayed repeatedly with a decoction of logwood. Small pieces can be immersed in the decoction instead of being sprinkled. The decoction is thus prepared:—Boil 1 part of the best quality of logwood in 10 parts of water, filter through cloth, evaporate gently until the volume of the liquid is reduced to one-half the original amount, and add for each litre from ten to fifteen drops of a saturated solution of indigo, perfectly neutral. After having treated the pieces of wood with the logwood decoction rub them with a hot saturated solution of verdigris (hydrated dibasic cupric carbonate) in concentrated acetic acid, and repeat the process until the required depth of tint is obtained. It is stated that oak thus treated presents an appearance very similar to that of true ebony.

Architecture and Utility.

At a recent meeting of the Builders' and Clerks of Works' Association, held in the Temperance Institute, Newcastle, Mr. J. Wightman Douglas, F.S.I., delivered a lecture on "Construction." In the course of his remarks Mr. Douglas referred to construction in Newcastle and to the conflict between architecture and utility in the street architecture of to-day. The present serious question in architectural construction was "Will it pay?" The constructors of a past generation either had a different class of clients or they deserved credit for their courage. How many designers to-day dared suggest that a company should expend, say, 20,000, to provide a cab-stand like that of the Central Station, or, say, 7,000, to provide a portico like the Royal Theatre? A hideous glass and iron structure would probably be demanded. This was an age when good appearances had to be maintained as cheaply as possible, and sometimes the care required to achieve this was beyond the understanding of the average citizen, who failed to realise the subtle difference between "cheap and nasty" and "cheap and nice," which was so clear to the trained eye. This demand for cheapness by some thing to be said for it. Methods of trade and manufacture, ideas of comfort, etc., changed as rapidly as a cinematograph, so that buildings quickly got out of date as regarded utility. Ten years ago schools were arranged with a central hall; to-day it was admitted to be noisy or useless, and a hall was provided detached from the classrooms. Country houses had their old brew houses with expansive cellars standing practically empty, and extensive stables little used. There was therefore considerable justification for erecting many of these buildings in a less substantial manner, so that they could more easily be abolished and replaced when their utility depreciated.

Injury to Cement Work by Oil.

ENGINEERS are in this country familiar with the mischief caused to concrete engine beds by spilling thereon certain kinds of oil. In 1892 the Association of Portland Cement Makers in Germany investigated the subject, and came to the conclusion that while porous cement work was always attacked by petroleum, vulcan oil, or rape-seed oil it was possible with a very non-porous surface, formed of one cement to one of sand, and very carefully hardened before use, to employ concrete which would perfectly resist any oil. These conclusions now require further revision, for it has been found that if an animal or a vegetable oil be spilled upon the concrete the oil goes rancid; glycerine separates out, forming lime soaps, so that the cement work crumbles. A fluoride

of calcium paint is of service in this case, a plate of glass may be used to receive the oil, and periodically cleansed. An asphalt coating is of no use, as the oil dissolves it.

With mineral lubricating oils—members of the paraffin series of carbon compounds—there is rarely if ever this disintegrating effect. Tar, which is by contrast made up of the aromatic series of carbon compounds, seems never to give any trouble through attacking cement concrete or render. These are the results of the recent investigation of the German Cement Association into the effect of different classes of oils upon cement.

Steel-Lead Coated.

A NEW form of roof covering in the form of steel coated with pure lead has recently appeared on the market, and is claimed for this material that it is superior to galvanised sheets or sheet steel zinc coated that it is not liable to crack or flake, and unlike zinc, takes a coating of paint. It is coated with zinc is susceptible to electrical influences, and chemical action is liable to take place with a resulting decomposition, but with this new material this chemical action is much less likely to take place, the necessary relationship between iron and zinc being much closer than in the case of Terneplate. Terneplate is said to be inferior to this material. Terneplate has a coating which is composed of 30 per cent. tin and 70 per cent. lead, but the tin has the effect of inducing rusting to take place. This new material as has already been stated, can be painted and can also be easily soldered. Soft water causes a discoloration of the surface, but does not injure it, but this can be prevented by painting the exposed surface.

A Large Pressure Filter Installation.

OWING to complaints of lead poisoning in the part of the area supplied by the Ashford Waterworks, Dunkfield Joint Waterworks Board a special system of filtration and purification has been adopted by that body. The necessary work has been completed at a cost of 30,000, and on September 16 the new filtration stations at Greenfield, Saddleworth, and Salford were officially opened. The installations comprise thirty-six pressure filters, designed to purify the total of 5,352,000 gallons of water daily, the filters and chemical plant having been supplied and erected by Messrs. Mather & Platt, Ltd., of Manchester.

Hydraulic Lime.

HEER B. KRIEGER, in the *Toninder Zeitung* of 18 draws attention to H. Hardenbrook's statements that hydraulic lime should not be used for the manufacture of sand-lime bricks, and that pressed raw bricks should not be allowed to set out before being introduced into the autoclave. He also mentions the report of the Dutch Commission for the investigation of Dutch bricks and sand-lime bricks, with special reference to the work of MM. Ledue and De Roche that appeared in the *Toninder Zeitung* of 1909. It was found that bricks made of hydraulic lime were more readily destroyed by frost than ordinary sand-lime bricks, and that the surface of the former began to harden in raw state before the bricks were brought in the autoclave, the resulting products in consequence being deficient in uniformity. The lime used in a large number of sand-lime brickworks was analysed, and a correction factor derived from such analyses was designated the hydraulic coefficient.

This factor is obtained by adding together the percentages present of the following oxides and dividing that total by the percentage calcium oxide (lime) present. The oxides referred to are aluminium oxide (Al_2O_3), ferric oxide Fe_2O_3 , and silicon dioxide SiO_2 , in the form of soluble silica.

An attempt was made to correlate decrease in strength and increasing damage by frost with various bricks with increase of the hydraulic coefficient. No such general relationship was found to hold good, though in the products one brickworks where two classes of lime were used not one of the bricks made with lime having the unusually high hydraulic coefficient of 0.143 withstood the freezing test, whereas the bricks made with lime of a lower hydraulic coefficient remained undamaged.

THE BUILDING TRADE.

THE TRADE UNION BILL.

WHEN all the agitation and excitement created by the Osborne judgment is recalled it is somewhat curious to find the Trade Union (No. 2) Bill so overshadowed by other legislation that it was considered sufficient to refer it to a Standing Committee of the House of Commons, who have recently commenced their deliberations on its provisions. Yet during the current year no questions have been of such importance to this country as those concerning the Trade Union Bill. Early in the year the country was in the throes of labour convulsions, and a record number of working days have been lost through labour disputes. The Bill was before the Standing Committee is one of enormous importance. Whatever may be said to the contrary, until a comparatively recent date the functions of trade unions were solely that in this Bill are described as "statutory objects," namely, "the regulation of the relations between workmen and masters, or between masters and masters, or the imposing of restrictive conditions on the conduct of any trade or business, and also the provision of benefits to members." The very fact that these objects are described in this Bill as "statutory objects" is as far as possible to prove that these are the objects recognised by the Legislature, and that it is the exercise of these functions that certain privileges and immunities have been granted to the trade unions, as, for instance, by the Trade Disputes Act. As such trade societies have been allowed to exercise considerable control over their members, the Courts have been deprived of jurisdiction over the exercise of their discretion in domestic matters, and even over certain actions committed against a public in contemplation or furtherance of trade disputes. In considering the provisions of the proposed legislation too much stress must not be laid upon this privileged position of the trade unions as trade societies, because powers have been given to them which in effect compel workmen to join them in order to pursue their avocation and to dispose of their capital—their labour—it becomes at once apparent that an extension of these objects imperils the freedom of the working classes in other spheres and fetter their political or civil liberty. A man who joins a trade union regards its objects as furthering his interests in his trade, but to obtain advantages in his business he does not wish to fetter his freedom in other matters, and he should not be compelled to forego his liberty in joining a trade society than he should in joining an approved society under the Insurance Act in order to obtain the full benefits provided by that Act. The litigation on the powers of trade unions to make a levy for Parliamentary purposes may be said to have commenced with the case of *South Wales Miners' Federation v. The Union of Employers*, January 26, 1907, which is decided by a Divisional Court in the miners' favour. This decision, and that of the Minority Division in the Osborne case, was reversed in the Court of Appeal (see the *Builder*, November 5, 1908) in the latter case, and the House of Lords affirmed that decision. The Government, in the present Bill, propose to override the principle of that decision, but this is not to satisfy the Labour Party, because, though the Bill empowers the unions to engage in political objects, it to some extent safeguards the right of the minority to decline to subscribe to political objects with which they are not in sympathy. The above observations may assist our readers in considering the questions now before the Committee, but the proceedings in Committee are very briefly reported. The Bill is very curiously drafted. In clause 3 (2) certain political objects are defined, and unions can only expend their funds on these objects subject to certain conditions laid down in the first part of the clause. If there be political objects outside those defined by this clause, this Bill does not prohibit them so long as the principal objects of the union are statutory objects." To obtain registration, principal objects of the union have to be statutory objects. It will be seen that if the

unions engage in political objects outside those specified in the Bill—the specified objects, shortly stated, being the payment of the election expenses of any candidate for any public office (an expression which includes even an election to a Board of Guardians), his maintenance in office, expenditure on meetings, and the distribution of literature in connexion with such elections, or generally, unless they be for statutory objects—then in connexion with those objects not thus defined the powers of unions are by this Bill left at large, and it is possible that questions similar to those raised in the Osborne case may again come before the Courts for decision. In Committee an amendment was moved limiting the powers of trade unions to "statutory objects," and the political objects as defined by the Bill, a course which would have obviated the uncertainty indicated above, but this amendment was negatived by 22 votes to 18.

Mr. Ramsay Macdonald moved an amendment which would have taken away the protection, such as it is, which the Bill affords to members who do not desire to subscribe to the political objects, arguing that the minority should not be regarded. The Attorney-General pointed out that if the unions were confined to labour questions there might be something to be said for this contention, but that where highly controversial matters were involved it was not right to compel a man to support political propaganda to which he was diametrically opposed. It would appear that this injustice has only to be stated to become apparent, but all the same the amendment was only negatived by a majority of two.

Many important points have yet to be considered, as, for instance, the safeguards offered to the minority, and, above all, the question whether the provisions of the Trade Disputes Act, 1906, which protect the unions from being answerable in the Courts of law in respect of tortious actions committed by them, will extend to acts done by them in their enlarged political sphere, and when these come before the Committee we shall treat of them in a further paper.

PAINTING AND DECORATING STUDENTS' VISIT.

ON Saturday, October 26, the students of the painters' and decorators' classes, held at the Battersea Polytechnic, Willesden Polytechnic, and Redhill Technical Institute, accompanied by their instructors, Mr. Charles H. Eaton and Mr. John West Derrett, visited the various works of Messrs. Robert Ingham Clark & Co., Ltd., at West Ham Abbey. The party assembled at Westminster and were met by Mr. Henry Corner, one of the firm's representatives. At the works they were received and welcomed by the works manager, Mr. T. W. Bamford, who invited them to view a variety of samples and specimens of oils and gums used in the manufacture of high-class varnishes. He also gave some interesting details of the sources from which such materials are obtained.

They then proceeded through most of the twenty-six buildings on the site, where, by the way, one stood the Abbey of West Ham, and some of the modern machinery of the model workshops were set in motion. Among the interesting processes seen were oil boiling, where a special exhaust apparatus carried away the fumes, gum crushing and running, and the grinding of zinc oxide. Special mention should be made of the Pearlina and Abbey white enamel factory, where the latest machinery is employed in the manufacture of these specialities.

The last building inspected was the large Exhibition Hall, which has only recently been completed, its object being to serve as a permanent invitation to all interested in the art of painting and decorating. At the conclusion a vote of thanks was passed to the firm.

LIVERPOOL BUILDING TRADE.

Liverpool building trade workers have started a movement. It is stated to secure a higher rate of wages, and notices have been given to the Master Builders' Association on behalf of the men. The joiners and masons ask for 2d. an hour increase, and the bricklayers and slaters 1d. an hour.

GENERAL BUILDING NEWS.

ABERDEEN RAILWAY STATION.

Constructed about forty-five years ago, the passenger station at Aberdeen has long been inadequate for modern traffic requirements. Powers for its reconstruction were obtained in 1899, and the works have recently been commenced. The new station will include thirteen platforms in all, the four through lines being on the west side and the buildings on the east side approached by a covered roadway. The main roof, of the ridge and furrow type, will be 600 ft. long by 150 ft. wide, with transverse girders spaced 35 ft. apart longitudinally, and supported by piers and columns. Outlying platforms will be sheltered by roofing of the umbrella type. Various works connected with the general reconstruction of the station have already been executed. These include the widening of the approach viaduct from Ferryhill Junction, the remodelling of the goods depots of the Caledonian Railway and the Great North of Scotland Railway, and additional sidings.

ROBERT GORDON'S TECHNICAL COLLEGE.

The original college, the work of Mr. Ogg Allan, dates from 1871, and the building was extended in 1890 and 1903 by Mr. William Kelly, A.R.S.A. Messrs. Kelly & Nicol have now made an addition to the Domestic Science School. The new buildings include a demonstration-room with floor space of 900 sq. ft. There are two cookery kitchens of equal size, the total floor space being 2,400 sq. ft. The science-room has a floor space of 575 sq. ft. There is accommodation in the new buildings for 184 students working simultaneously. The contractors for the new building, all of Aberdeen, were:—Mason work—Mr. George Hall; carpenter work—Messrs. D. MacAndrew & Co.; plaster work—Messrs. James Stephen & Son; plumber work—Messrs. John Blaikie & Son; slater work—Messrs. Alexander Harper & Sons; asphalt work—Messrs. J. Scott & Son; painter and glazier work—Messrs. G. Donald & Son; smith work—Mr. George Bisset; electrical work—Messrs. Pratt & Keith. The clerk of works was Mr. John Malcolm.

SCHOOL OF PHOTO-ENGRAVING, BOLT-COURT, FLEET STREET, E.C.

Lord Chelmsford, the Chairman of the London County Council, opened on the 30th ult. the new building of the School of Photo-engraving and Lithography, in Bolt-court, Fleet-street. The new building stands on the site of that in which, since 1894, the school work has been carried on, and accommodation is provided for a museum, a lecture hall, a photographic studio, etching-rooms, rooms for work in lithographic drawing, collotype, and photogravure, drawing from the life, and colour composition. Messrs. Peabody & Fotheringham, Ltd., of Theobald's Road, W.C., and Park-street, Islington, N., were the builders and general contractors. The architect was Mr. W. E. Riley, Superintending Architect of the London County Council.

BUILDING TRADE DEPRESSION IN EDINBURGH.

The annual meeting of the Guildry of Edinburgh was held in Edinburgh City Chambers on the 28th ult. Lord Dean of Guild Carter, in presenting the statement of the business which had occupied the attention of the Court during the year, expressed regret that the tale he had to tell was a most depressing one, depicting as it did the utter stagnation of the building trade in Edinburgh. This was doubly disappointing considering the view which he expressed to them last year, viz., that the depression in the building trade had turned the corner, and that brighter times were in store for them. The value of the work passed through the Dean of Guild Court in 1910 amounted to 349,895*l.*, so that when in the following year the sum had risen to 474,578*l.*, they were justified in concluding that the tide had turned, and that brighter prospects were at hand. But this year they found their hopes dashed to the ground, for the value of the work turned out to be only about 323,365*l.* The main drop in business in the past year had occurred in connexion with public buildings, for, whereas in 1911 they had 184 public buildings on their roll of cases, this year they had only sixty-nine such public buildings on the list, and none of them of very great magnitude, the largest contract being for the Fountainbridge School, at a cost of 17,000*l.* The whole of this kind of work amounted to 116,000*l.*, as compared with 275,000*l.* in the

preceding year. While there were built thirty-one self-contained houses more than in the previous year, there were eight fewer blocks of tenement houses, so that the actual number of individual houses was on the decrease, and the community, instead of expanding, was tending to contract. This was also reflected in the net productive rentals of the city on which their rates were assessed, for while in 1910-11 these amounted to 2,828,718s., in 1911-12 they only came to 2,826,762s., and were estimated for the current year at 2,825,037s., showing the assessable value of the city to be on the decline. One factor, however, in the problem was a little more reassuring, and that was that the rental value of unlet property had decreased during the last year by 10,000s., thus showing that the unlet property was gradually being absorbed, and when that absorption became more complete new buildings would again come into demand. The money which would be spent on the widening of the roads at Lothian-road and Fountainbridge by the removal of the canal basin, in so far as it would render this particular spot more attractive and less of a blot on the fair face of Edinburgh within a few minutes' walk of their beautiful Princes-street, would be profitably expended, to say nothing of the direct returns which would come from this area in future as a rateable subject. He had also hopes that the liberation of this area in the very heart of the city would encourage extensive building operations and so come to the aid of an industry which, at the present moment, was practically dead.

RECONSTRUCTION OF PERTH ACADEMY.

There has been circulated among the members of the Perth School Board a report by Messrs. Miller & Jarvis, architects, as to the practicability of reconstructing and adapting the Perth Academy and Sharp's Institution to form a junior or preparatory school, together with the respective costs thereof.

TOWN HALL, PORTOBELLO.

Some time ago, the Corporation acquired the property of Inverey House, which is situated on the south side of the High-street and about 40 yds. distant westwards from Bath-street and Brighton-place. The new hall, the foundation-stone of which was laid on the 25th ult., occupies the north-eastern section of the property acquired, and is set back about 45 ft. from the present front boundary wall. The Corporation decided, however, at a recent meeting to widen the High-street at this point to 60 ft., which will result in an encroachment of 10 ft. on the property of Inverey House, thus making the front of the hall building about 35 ft. distant from the street frontage line. This ground will be laid out as an ornamental approach to the new building. The hall is designed to accommodate 1,000 persons, allocated equally to the area level and the balcony respectively. The entrance is by an outer vestibule giving access to a crush hall 45 ft. long by 15 ft. wide. At either end of this hall staircases lead to the galleries, while cloak and retiring rooms are provided with lavatory accommodation. On the right and left corridors lead to side doorways giving access to the hall. The galleries and balconies occupy three sides of the hall, a back gallery being formed over the entrance vestibule. The galleries connect at the farther end of the hall with two emergency staircases. At the first-floor level—accessible by the principal staircases—a small hall or committee-room is placed, capable of accommodating about 120 persons. The platform is capable of seating about seventy persons, and has an ornamental proscenium opening of 36 ft. The main hall is 80 ft. long by 58 ft. wide and 39 ft. high. It will have a roof, semi-circular in section, which will be pierced at the spring by five semicircular lunettes on either side. The roof will be of steel construction. The entrance front consists of a portico of four three-quarter columns, flanked by two pylons, more plainly treated. The entrance doorway forms a central feature in the scheme of fenestration, and a balcony is placed over the central doorway, access to which is obtained from the small hall over the entrance vestibules. In the rear of this portico the gable of the large hall rises, and this is flanked by solid tower-like features which contain the staircases. The centre of the hall gable is pierced by a semicircular window 16 ft. in diameter. The building will cost over 8,000s. The whole work is being carried out from designs prepared by the City Architect, Mr. James A. Williamson, A.R.I.B.A.

TRADE NEWS.

The "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump," ventilators and air-inlets, has been applied to the Palace Theatre, Westcliff-on-Sea.

The pedestal for the memorial to his late Majesty King Edward VII., to be erected

shortly in Birmingham, is in course of preparation in the works of the Stancliffe Estates Company, Ltd., Darley Dale, and they have also recently supplied the pedestals for the following memorials, viz.:—King Edward VII. at Brighton, Lord Tredegar at Cardiff, Capt. Cook at Whitby, Marquis of Ripon at Ripon. Another work at present in course of erection for which the firm are supplying their stone is the Land Registry in Lincoln's Inn-fields, London, for his Majesty's Government.

The Tredington Isolation Hospital, Gloucestershire, is being supplied with Shorland's double-fronted patent Manchester stoves with descending smoke flues, patent Manchester grates, patent exhaust roof and inlet ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Faislowth, Manchester.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 TO 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Clapham.—Erection of an addition to the Northcote-road Baptist Chapel, Battersea, next to Wakehurst-road (Messrs. Spalding & Myers).—Consent.

Dulwich.—Erection of a wood and glass porch in front of No. 445, Lordship-lane, Dulwich (Messrs. Malpas & Northcote for Mr. W. Downing).—Consent.

Lewisham.—Erection of bay-windows and iron and glass doors to eight houses on the south-western side of Chudleigh-road, Lewisham (Messrs. J. W. Heath & Sons).—Consent.

Marylebone, East.—Erection of projecting columns and an entablature on the Oxford-street frontage of a proposed hotel building to be known as the Princess's Hotel, Oxford-street, St. Marylebone (Messrs. Boehmer & Gibbs for Mrs. M. Clark).—Consent.

Paddington, South.—Erection of projecting balconies at Nos. 81 and 83, Edgware-road, Paddington (Mr. P. W. Davis).—Consent.

St. George, Hanover-square.—Erection of two projecting illuminated signs at No. 51, New Bond-street (White House Linen Specialists, Ltd.).—Consent.

St. Pancras, South.—Erection of a flight of steps in the area of No. 24, Guilford-street, St. Pancras, next to Guilford-place (Mr. S. A. S. Yao).—Consent.

St. Pancras, West.—Erection of the North-Western Polytechnic upon a site on the southern side of Prince of Wales-road, St. Pancras. —Consent.

Wandsworth.—Erection of four houses on the southern side of Nightingale-lane, Clapham-common, with flanks abutting upon Bracken-avenue (Messrs. E. Evans & Sons for Mr. E. Evans).—Consent.

Woolwich.—Erection of an iron balcony in front of Granville House, Green-lane, New Eltham (Messrs. Chudleigh Brothers).—Consent.

Width of Way.

Woolwich.—Erection of buildings on the north-western side of Cantwell-road, Woolwich, with the flanks of two of such buildings next to the public footway leading from Cantwell-road to Herbert-road (Mr. A. H. Jennings for Mr. T. P. Blower).—Consent.

Width of Way and Line of Frontage.
Deptford.—Rebuilding of Nos. 90 and 92, High-street, Deptford, abutting upon Giffen-street (Messrs. Gregg & Detmar for the London City and Midland Bank, Ltd.).—Consent.

Spice at Rear.

Chelsea.—Alterations and an addition at the rear of No. 93, Cheyne-walk, Chelsea (Mr. H. H. Jewell for Mrs. A. Morrison).—Consent.

Formation of Street.

Hampstead.—Formation or laying-out of a new street for carriage traffic to lead from Frosal-lane to Oakhill-avenue, Hampstead (Messrs. Farebrother, Ellis & Co.).—Consent.

Uniting of Buildings.

City of London.—Uniting of Nos. 77 and 78, Fore-street, City, so far as relates to the formation of an additional opening at the ground-floor level (Messrs. W. Gower & Sons for Messrs. Moeller & Condrup, Ltd.).—Consent.

City of London.—Uniting of Nos. 11 and 13, St. Andrew's-street, City, by means of an opening at the basement level (Messrs. Grimwades, Ltd.).—Consent.

City of London.—Uniting of Nos. 195 and 196, Aldersgate-street, City, by means of an opening at the ground-floor level (Mr. J. R. Frost).—Consent.

City of London.—Formation of three openings between Nos. 47 and 48, Farringdon-street,

City, at the second, third, and fourth levels (Mr. W. E. Clifton).—Consent.

City of London.—Alterations at, and formation of, openings in the party wall between Nos. 99 and Nos. 100 and 101, F. street, City (Mr. T. B. Whinney for London City and Midland Bank).—Consent.

City of London.—Use of armoured doors in lieu of iron doors to openings in a division wall at Nos. 42A, 43, and 44, Bartholomew-close, City (Messrs. H. L. Rutty & Co.).—Consent.

Finsbury, Central.—Opening and strengthening Nos. 59 and 61, Clerkenwell-road, Finsbury, with a building at the rear (Messrs. Weatherall & Green).—Consent.

Holborn.—Uniting of Nos. 43 and 45, Grosvenor-road, Holborn (Messrs. Macintosh & N. man for the New Hudson Cycle Company, Ltd.).—Consent.

Kensington, North.—Uniting of No. 1, Lonsdale-road, Notting Hill, with the e story lock-up shop adjoining (Mr. L. Cuttitt).—Consent.

St. George, Hanover-square.—Formation of an opening in the party wall between the premises of Krieger Electric Carriage Syndicate, Ltd., No. 48A, Gillingham-street, Euston-square, and premises adjoining in the occupation of Messrs. T. Tilling, Ltd. (Mr. G. S. Rutty for the Krieger Electric Carriage Syndicate, Ltd.).—Consent.

St. George, Hanover-square.—Uniting Nos. 17 to 21, Dering-street, St. George, Hanover-square, with Nos. 315 and 317, Oxford-street (Messrs. Withers & Meredith).—Consent.

Woolwich.—Doors of special construction in lieu of iron doors to openings in a division wall at the Royal Arsenal Co-operative Society's premises, Powis-street, Woolwich (Fireproof Doors, Ltd.).—Consent.

Cubical Extent.

Battersea.—Addition at the premises Messrs. Carlo Gatti, Stevenson, & Slaters, Ltd., Park-road, Battersea (Mr. H. P. Drew).—Consent.

City of London and Finsbury, East.—Erection of a division at the brewery premises of Messrs. Whitbread & Co., Ltd., Chiswell-street, E.C. (Mr. A. Dixon for Messrs. Whitbread & Co., Ltd.).—Consent.

City of London.—Erection at the premises of Messrs. Robinson & Cleever, Regent-street, Berkeley-street, and Chapel-street, of a division exceeding 250,000 cubic ft. in extent, openings in division walls at the said premises exceeding the statutory size and provided with double sliding shutters in lieu of iron doors; the omission of the carrying up of a division walls above the concrete roofs; and the erection of a steel-framed division wall between the staircase next to Regent-street and the adjoining divisions southward and eastward (Messrs. Crieckmay & Sons for Messrs. Robinson & Cleever).—Consent.

Buildings on Low-Lying Land.

Rotherhithe.—Erection of thirteen dwelling houses on a site in Carbone-street, Rotherhithe (Mr. J. J. Freeland for Messrs. E. Wells & Son, Ltd.).—Consent.

Projected New Buildings in the Provinces.*

Aberavon.—School; Mr. W. H. Nash, architect, Angel-street, Neath. Additions Cottage and Accident Hospital; Mr. James Roderick, Surveyor, Town Hall, Aberavon.

Accrington.—Additions to Technical School (1,200s.); Mr. J. Rhodes, Secretary to the Technical School, Town Hall, Accrington.

Amersham (Bucks).—Proposed extensions school for the Governors of Dr. Challoner's School, Amersham.

Audley.—School for the Trustees, Wesleyan Methodist Church, Audley.

Bamber Bridge.—Completion of St. Aidan's Church (3,500s.), for the Vicar.

Barrow.—Additions to workhouse infirmary; Mr. F. Taylor, Clerk, Guardians' Office, Barrow. Additions at day and Sunday-school (750s.); Ven. H. B. Lafone, St. George's Vicarage, Barrow.

Bath.—School (10,000s.); Mr. F. D. Ward, Town Hall, Bath.

Bencheside.—Murray Commemorative Hospital; Mr. J. J. Eitringham, architect, Railway-terrace, Baskhill, Co. Durham.

Biddulph.—Enlargement of school; Mr. Balfour, County Hall, Stafford.

Birkenhead.—Institute (3,000s.) for the Vicar St. Michael's Church, Carlton-road, Birkenhead.

Birmingham.—Theatre, King's Heath; Mr. F. Smith, builder, Moss-y-road, Birmingham.

Warehouses, etc., for Messrs. J. R. Gault & Son, Ltd., military and naval ornament manufacturers, Warstone-parade Works, Birmingham; Messrs. Riley & Smith, architect.

* See also our list of Competitions, Contracts, etc., on another page.

more-row, Birmingham. Additions to
tonyhall Epileptic Home; Messrs. C. Whit-
ell & Son, architects, 3, Newhall-street,
Birmingham.

Blackpool.—Alterations to Tivoli Theatre,
Albert-road, for Messrs. Yates Brothers &
Co., Talbot-road, Blackpool.

Bolton.—School, Devonshire-road; Mr. D.
Ampbell, architect, Education Offices, Nelson-
square, Bolton.

Bournemouth.—Parish hall, etc. (2,000l.);
Mr. A. Harvey, architect, 5, Bennetts-hill,
Bournemouth.

Bray.—Sixty-four houses (9,307l.); Mr. L.
Tonks, builder, Albert-road, Kingstown.

Bromsgrove.—Additions to consumptive
asylum (1,700l.); Mr. V. Rowe, architect,
Foregate-street, Worcester.

Bucknail.—Relief-station, offices, etc., Wer-
ington-road (703l.); Messrs. W. Thomas &
Co., Church-road, Hanley.

Burford.—Enlargement of grammar school;
Mr. J. R. Bacon, Town Hall, Oxford.

Burnley.—School (840 places); Mr. E. Jones,
own Hall, Burnley.

Burton Latimer.—Baths; Surveyor, Council
Offices, Burton Latimer.

Bury.—Extensions to works, Hornby-street,
Messrs. A. Ashworth & Sons, hat manu-
facturers; rebuilding at works, Bury Ground,
Messrs. Spencer & Curedale, cotton waste
manufacturers.

Cachopkin.—School (3,750l.); Mr. A. J.
Alborne, builder, County Building Works,
Barnes, London.

Cambridge.—Chapel, hall, and houses
(2,000l.), for the Governors, Chestnut
Alley; Mr. P. Morley Horder, architect,
8, New Bond-street, W.

Carlton.—School (450 places); Mr. C. J.
Carlson, County Education Offices, Notting-
ham.

Castleford.—Shops and offices, Carlton-street,
in the Co-operative Society.

Chalvey.—School (400 places); Mr. C. G.
Atkins, County Education Offices, Aylesbury.

Chapel Allerton (Leeds).—Hall, Woodland-
side (4,150l.); Rev. W. A. Brimble, St.
Matthew's Church Vicarage, Chapel Allerton.

Chapel-en-le-Frith.—Twenty-four houses,
Oak Dale and Small Dale, for the Buxton
Ice Firms Company, Ltd., 8, The Quadrant,
Buxton.

Chariwood.—School (4,097l.); Mr. S. Ellis,
holder, 28, Chertsey-street, Guildford.

Cheltenham.—Alterations to Marlborough
house (467l.); Messrs. Collins & Godfrey,
holders, Grosvenor-street, Cheltenham.

Chertsey.—School for the Governors of
St. Edmund's Foundation.

Chobham.—School (2,600l.); Messrs. G. E.
Elliott & Sons, Ltd., builders, 79, Windmill-
lane, Croydon.

Chorlton.—Enlargement of school, Chil-
ton-lane, Ferryhill, also school (400 places),
Barnard-street, Mr. W. Rushworth, Architect,
Ire Hall, Durham.

Cork.—Annexe to boys' dormitories; Ence-
nec, Guardians' Offices, Cork.

Criccieth.—Sixteen houses; Mr. Morris
Williams, Surveyor, Council Offices, Criccieth.

Croft.—Dining hall and offices at Car-
pot, Albert-road; Mr. J. Dalrymple, Trans-
mission Manager, Burgh Hall, Glasgow.

Darwen.—Fire-station, Charles-street; Mr.
W. Smith-Saville, Surveyor, Town Hall,
Lancaster.

Devering.—Stores, etc. (592l.); Mr. J.
Lans, builder, Old Colwyn.

Dewsbury.—Proposed rebuilding mill for
Messrs. J. Porrett & Sons, yarn spinners.

Dover.—Post-office, Priory and Biggin streets
(900l.); Messrs. G. E. Wallis & Sons, Ltd.,
holders, Broadmead Works, Maidstone.

Dukinfield.—Proposed new church; Rev. C.
Bey, Baptist church, Town-lane, Dukinfield.

Durham.—Extensions to Chilton-lane School
(500l.); Mr. W. Rushworth, Architect, Shire
Hall, Durham.

East Boldon.—Proposed Council chambers,
holm and Station roads; Mr. T. T. Bain,
surveyor, Rural District Council Offices, East
Boldon.

Edles.—Adaptation of building, Devonshire-
side, as motor-garage, for Messrs. C. W. &
Graham.

Egham.—Alterations to Hythe Council
office (764l.); Mr. W. Beauchamp, builder,
Clifford Green, Surrey.

Elkstone.—The following plans have been
submitted:—Six houses, Peter-street, for Mr. F.
Dings, Bath-street, for the Govan School
Board; alterations to buildings, St. Andrew's-
road, for the Imperial Tobacco Company,
Bristol.

Gloucestershire.—School, Aston Bank, and
handicraft centre at Church-street School,
Stroud; Mr. E. S. Sinnott, Surveyor, County
Hall, Gloucester.

Guisborough.—Children's homes (2,157l.);
Mr. J. G. Porteous, builder, 56-58, Redcar-
road, Guisborough.

Harborough Magna.—Additions at infectious
diseases hospital for the Rugby Joint Hospital
Board.

Herne Bay.—Pavilion and concert hall, East
Cliff (5,578l.); Messrs. Hardy & Co., builders,
Woking.

Heywood.—Extensions to works, Rochdale-
road East, for the Roe Acre Dyeing and Felt-
ing Company.

Hirnant.—School; Mr. L. Phillips, County
Education Offices, Newtown.

Houghton-le-Spring.—Fire-station for the
Northumberland and Durham Collieries Fire
and Rescue Brigade, Scotswood-road, New-
castle-on-Tyne.

Huddersfield.—Post-office, Northumberland-
street; Messrs. T. Obank & Sons, builders,
Leeds-road, Thackley, Idle, Bradford.

Lancashire.—School, church, and school,
Ormskirk (about 3,000l.); Mr. H. Littler,
architect, 16, Ribblesdale-place, Preston.

Leek.—Shops, Picton-street; Mr. R. T.
Longden, architect, St. Edward-street, Leek.

Messrs. J. Heath & Sons, builders, Shoobridge-
street, Leek. Silk mill for Messrs. Wardle &
Davenport; Mr. R. T. Longden, architect, St.
Edward-street, Leek. Mr. T. Grace, builder,
Broad-street, Leek. Extensions to Albion Silk
Mills for Messrs. A. Ward & Sons; Mr. R. P.
Longden, architect, St. Edward-street, Leek;
Mr. S. Salt, builder, Overton's Bank, Leek.

Limavady.—Court house (2,000l.); Mr. M. A.
Robinson, Surveyor, City Hall, Londonderry.

Liverpool.—Factory (40,000l.) for Messrs. J.
Bibby & Sons, oil boilers and refiners, Bibby's
buildings, King Edward-street, Liverpool.

Llanelli.—Six tinplate mills for the St.
David's Tinplate Company, Loughor.

Llantrisant.—School; Mr. D. P. Jones,
architect, Castle-street, Cardiff.

Luton.—Factory for Messrs. Currant &
Creak, straw hat manufacturers, 39-41, Bute-
street, Luton.

Marlborough.—Housing scheme; Mr. E. L.
Gwillim, Clerk, Town Hall, Marlborough;

Marlborough.—Housing scheme; Mr. E. L.
Gwillim, Clerk, Town Hall, Marlborough;

Mechley.—Offices, Savile Pit, for Messrs.
Briggs, Son, & Co., Ltd.

Napsbury.—Additions and alterations at
Asylum for Middlesex County Council (5,570l.);
Mr. Rowland Plumble, architect, 13, Fitzroy-
square, W. Houses at Asylum (1,275l.); Mr.
H. T. Wakelam, Surveyor, Middlesex County
Council, Queen Anne's-chambers, S.W.

Nenagh.—Premises for the Munster and
Leinster Bank; Mr. J. F. Fuller, architect,
179, Great Brunswick-street, Dublin.

Newlands.—Church; Mr. P. McGregor
Chalmers, architect, 95, Bath-street, Glasgow.

Newton Abbot.—Alterations at works; Mr.
J. G. Clark, engineer, Newton Gas Company,
Newton Abbot.

Newtown.—Hospital; Mr. G. A. Hutchins,
Surveyor, County Hall, Welshpool.

Perry Bar.—School (1,517l.); Messrs. G.
Webb & Sons, builders, 156-164, Soho-hill,
Handsworth, Birmingham.

Pinvin.—Sixteen houses (150l. each); Messrs.
Dicks & Waldron, architects, 1, Market-place,
Evesham.

Portland.—School, Portland Underhill
(3,950l.); Messrs. Jesty & Baker, builders,
Castle Town, Portland.

Porsmouth.—School, Stubbington-avenue
(18,890l.); Mr. James Tanner, builder, 15,
Castle-road, Southsea.

Possilpark.—Additions at works, Balmore
Park, for the Glasgow Steel Roofing Company,
Ltd.

Princes Risborough.—School (1,800l.); Mr.
C. G. Watkins, County Education Offices,
Aylesbury.

Raynes Park.—School (250 places); Mr.
Ramsey Nares, County Education Offices,
Reading.

Redish.—Schools for the Trustees of St.
Joseph's Roman Catholic Church.

Reed.—School (850l.); Messrs. Grimson &
Sons, builders, Roston.

Rhosda.—School (300 places); Mr. J. C.
Davies, County Education Offices, Colwyn.

Roose.—Extensions to workhouse infirmary;
Mr. F. Smith, Clerk, Guardians' Offices,
Barrow-in-Furness.

Rotherham.—Alterations and extensions to
St. Ann's-road Schools (2,556l.); Mr. J. Platt,
architect, High-street, Rotherham.

Rowley.—School, builders, College-road,
Chadwick & Co., Rotherham. Plans have been passed
as follows:—Six houses, Lister-street, for
Mr. W. Middleton; three houses, Church-
street, Kimberworth, for Mr. W. Lodge;
alterations to premises, Wilton-lane, for the
Masbro' Equitable Pioneers' Society, Ltd.

Ruthin.—Additions at Poudreif Congrega-
tional Chapel (540l.); Messrs. T. Roberts &
Co., builders, Wrexham-street, Mold.

St. Helens.—Hall (4,000l.); Rev. T. Baldwin,
Holy Cross Roman Catholic Church, St.
Helens.

Salford.—Warehouse and offices for Messrs.
Ralli Brothers, cotton goods merchants, 37,
Peter-street, Salford.

Shildon.—Additions to isolation hospital,
Tindale-crescent (3,138l.); Messrs. W. Hope &
Sons, builders, Coundon, Bishop Auckland.

Addition to isolation hospital, Helmington row
(2,978l.); Mr. T. Manners, builder, Peel-street,
Bishop Auckland.

Shropshire.—School, Cleehill; enlargement
school, Ifton Heath; school, Maesbury, and
school, Weston Ryn; Mr. C. C. Peck, County
Education Offices, Shrewsbury.

Slough.—Additions to Stoke-road School.
Mr. W. Riley, Architect, County Hall, Ayles-
bury.

Spalding.—Thirty-six houses (5,176l.); Mr.
J. B. Corby, architect, 15, All Saints-place,
Stamford; Mr. E. Clarke, builder, Snow-hill,
Melton Mowbray.

Stoneford.—Weaving shed for Messrs. J.
Rothwell, Ltd., cotton goods manufacturers,
Stoneford Mill, Basenden.

Streets.—School (1,965l.); Mr. J. C. Hill,
builder, Four Oaks.

Sutton (Notts).—School (4,000l.); Mr. L.
Maggs, Architect, Shire Hall, Nottingham.

Swaffham.—Twelve houses, Holm Hale and
Pickenham; Mr. W. V. Twaites, Surveyor,
Council Offices, Swaffham.

Tamworth.—Stores, etc., for Guardians
(1,272l.); Mr. F. C. Hill, builder, Four Oaks.

Taunton.—Rectory; Vicar, St. Mary Mar-
garet's Church, Taunton.

Warcop.—School (7,700l.); Mr. J. Green-
wood, builder, 2, Wood street, Mansfield.

Warwickshire.—Schools, Binley (3,395l.), and
Woken Colliery (1,575l.); Messrs. Shorridge,
builders, case of Mr. Edward Field, 42,
Warwick-street, Leamington.

Whitehaven.—Building works at workhouse,
Low-road (1,255l.); Messrs. Bewick & Davies,
18, Church-street, Whitehaven; Mr. J. Young,
builder, Catherine-street, Whitehaven.

Woking.—School, St. John's (3,203l.); Mr.
S. Silk, builder, Westbury, Horsell, Woking.

Woodhampton.—Alterations to Rose and
Crown for Blatch's Theale Brewery, Theale,
Reading.

FOREIGN AND COLONIAL.

Portland Cement, Australia.

The Commercial Intelligence Branch of the
Board of Trade is notified by the Agent-
General for New South Wales that he is pre-
pared to receive tenders up to November 4
for the supply and delivery at Sydney during
1913 of 130,000 casks of Portland cement.
Tenders for small quantities will be considered
provided they are for not less than 30,000
casks. The cement is to be subject to New
South Wales standard specification tests before
shipment. Forms of tender, specifications,
conditions of contract, etc., may be obtained
on application to the Agent-General for New
South Wales, 123 and 125, Cannon-street,
London, E.C.

Proposed Public Works in San Francisco.

H. M. Consul-General at San Francisco (Mr.
A. C. Ross, C.B.) reports that it is estimated
that over 32,000,000. will be expended on
public works in that city during the next two
years. Of this amount 59,000,000 dollars (about
12,228,000l.) are to be spent in the erection of
buildings, etc., for the Panama-Pacific Inter-
national Exhibition. Among other items of
proposed expenditure are the following:—

	Dollars.
Harbour Improvements	9,000,000
Civic Centre and City Hall	8,000,000
Opera House	1,000,000
Twin Peaks Tunnel	3,500,000
Fillmore-street Tunnel	2,000,000
Stockton-street Tunnel	1,000,000
Geary-street Railroad and Extension	571,431
City and County Hospital	320,725
Carnegie Library	750,000
Refuse Incinerators	100,418
Fire Equipment and Stations	191,869
United States Sub-Treasury	500,000
Dollar 4s. 11d.	

International Architectural Exhibition in Leipzig.

Der Deutsche Zeichnerkreis (Berlin) of
October 14 publishes a notice whereby the
Law of March 18, 1904, for the temporary
protection of patents, designs, and trade marks
will be put in force in connexion with the
International Architectural Exhibition and
Special Exhibitions to be held in Leipzig from
May to October in 1913 (see *Board of Trade
Journal* of May 16 last, p. 341).

TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

Lewis v. London County Council.

The Tribunal of Appeal constituted under the London Building Act, sat at the Surveyors' Institution on Wednesday to hear an appeal on behalf of Mr. George Lewis, under sect. 22, subsect. 1 (b) of the London Building Acts (Amendment) Act, 1905, against the requirements of the London County Council in their notice served on July 22 in respect of the building known as 21, Australian-avenue, Barbican, City. Mr. J. W. Hickman was for the appellant, and Mr. Cecil Walsh for the London County Council.

Mr. Hickman, in opening the case, said it was an appeal against the requirement of the County Council for the provision of additional protection in case of fire, and the main contest would depend, not upon the details of what had been required by the County Council, but whether any requirements of the County Council could be reasonably required under the circumstances of the case. The building was one of six floors, and was of a long, narrow shape, and there was one staircase at the eastern end. The requirements of the Council were:—(1) That stairs be provided towards the eastern end of the building from the third to the fourth floor levels, and continued from the latter floor to the roof; (2) that the existing partition and door separating the first floor from the staircase be removed and replaced by a fire-resisting partition with a self-closing fire-resisting door; (3) that a fire-resisting partition with a self-closing fire-resisting door be provided to separate the upward and downward flight of stairs at the first-floor level; (4) that a fire-resisting partition be provided at the ground-floor level upon the eastern side of the upward flight of stairs, to separate this flight and the landing at the foot next the street; (5) that the exit doors from the stairs to the street be kept fully open and locked against the wall, etc.; and (6) that clear gangways be kept up to and between the stairs and exits upon all floors. With regard to the first requirement, at the present moment there was on the fourth floor a gangway outside the window at the eastern end of the building guarded by a hand rail, connecting with another building on the other side of the party wall.

Mr. Walsh said that this had been put in since the notice, and the County Council were prepared to agree to this as an alternative to the staircase leading to the skylight, provided that the window was altered.

The Chairman said the Tribunal had viewed the building, and they took it that the parties would agree that this gangway would be an efficient substitute for the staircase to the roof, provided that the window was made into a casement-window or otherwise, to the satisfaction of the Council.

Mr. Hickman expressed agreement with this. With regard to the second and third requirements, when the preliminary notice was served the floors were in different occupation, but now the first, second, third, and fourth floors were in one occupation, and, therefore, he imagined that the Council would not insist on the requirements. The result of carrying out the fourth requirement would be that a kind of box would be formed, which, he should think, would be an excellent means of allowing a fire to get a good hold of a building. The fifth and sixth requirements ought not to be placed on the owner at all. It was a matter for the occupiers, as the owner could have no control over such things. The top four floors were used by a furrier, and the ground floor and basement by a boot warehouse, and no one slept on the premises. The possibility of any serious fire occurring on the premises was infinitesimal. There was no question of a dangerous trade being carried on, and his clients were prepared to enter into an undertaking to give the County Council notice if at any time the premises should be used for trades in which celluloid or other dangerous substances were used. He submitted that the essential point was that persons should have proper notice of the outbreak of fire, and in this case the owners had installed a most efficient automatic fire-alarm system on the premises.

The Chairman pointed out that they could not consider the provision of a fire-alarm, however skilfully arranged, as a substitute for means of proper escape in case of fire. Mr. Hickman said it was one of the circumstances of the case bearing upon what might be reasonably required as means of escape.

The Chairman said the Act provided for permanent means of escape in case of fire, and they had to take into account the circumstances of each building; but they could not take into consideration the question of the

efficient or inefficient working of a fire-alarm. It was quite clear that they could not substitute a fire-alarm for the means of escape which they had to deal with under the Act. Mr. Hickman argued that, as the existing partitions would resist a fire getting into the staircase for at least twenty minutes, the early notice of the outbreak of fire was of the greatest importance; and in this case, where there was a fire-alarm, there would be no additional security if the requirements of the County Council were carried out. Therefore, he submitted, that it was putting an unnecessary expense on the owner to ask him to carry out the requirements. Further, it would diminish the warehouse-room, which meant reduction of rent to no purpose.

Mr. W. E. Osmond, fire loss assessor, was called, and expressed the opinion that the existing partitions would resist a fire reaching the staircase, and if the occupants had warning of a fire, as was provided, they could easily get away by the present means of escape.

Mr. George Lewis, one of the owners of the premises, described the present means of escape, and said that, having examined the reports of the Chief Officer of the Fire Brigade for three years, he found that there had only been two deaths in fires occurring in similar premises.

In cross-examination, witness said he admitted that if the lower part of the premises were unoccupied, and people were working on the upper floors, there would be danger to them in case of fire, and it was to meet this contingency that he had installed the fire-alarm.

Several witnesses were also called to prove the efficiency of the automatic fire-alarm.

The Chairman, without calling on Mr. Walsh to address them, said that up to the present no objection had been raised to the requirements of the County Council. There was no specific objections except that the cost would be expensive, and there would be no return on the money spent. They had been expecting to hear some criticisms of the particular requirements, so that they might pay attention to them. The only real question they had raised there was that an automatic fire-alarm should be substituted for proper means of escape in case of fire. The Tribunal had come to the conclusion that they could not do that, and the Act did not legislate with that object.

Mr. Hickman asked if the Tribunal was of opinion that the provision of the alarm was not one of the circumstances to be considered in the case?

The Chairman said he did not say that at all, but distinct evidence had been given by the appellant's own witnesses that the building would be unsafe if the alarm was not also coupled with proper means of escape. There was no doubt that the alarm was a very valuable addition to a building, but they were not satisfied to accept it as sufficient for all purposes, and to do away with what they considered proper means of escape in case of fire. The Tribunal had seen the building, and they considered the requirements of the building very reasonable. They were all three practical men, and that was their view.

The Tribunal then made a formal order for the carrying out of a number of requirements, which were agreed on after discussion by the parties. Costs were awarded the respondents.

LAW REPORTS.

KING'S BENCH DIVISION.

(Before Mr. Justice BAILEY.)

Holland, Hannen, & Cubitt v. Lord Decies.

In the King's Bench Division on Monday, November 4, before Mr. Justice Baillie, an action was commenced by Messrs. Holland, Hannen, & Cubitt, Ltd., the well-known builders of Gray's Inn-road, against Lord Decies, for a balance of £4,200. In respect of the renovation work carried out to his Lordship's residence, Sefton Park, Stoke Poges, Bucks, under a contract dated February 2, 1911. The total cost of the works amounted to £9,920, of which Lord Decies had paid £3,000.

For the defence it was alleged that the sum charged was excessive, and he counterclaimed a large amount.

Mr. Leslie Scott, K.C., with Mr. R. A. Wright, appeared for the plaintiffs; and Mr. W. J. Waugh, K.C., and Mr. H. W. Rowell were counsel for the defence.

Mr. Leslie Scott, in opening, said the claim was upon a contract known as the measured rate basis. The work had been done at a very rapid rate, as Lord Decies was going to America to be married and was anxious to have his house ready as soon as possible after his return. Consequently it was not possible to enter into a formal contract. A schedule

of prices recognised by the building trade was agreed upon, and plaintiffs were to carry out whatever work was ordered. At the time instructions were given the architect himself hardly knew what work was to be done. It grew, and as money was to be no of the work was carried out continuously day and night, and the very best workmanship was put in. The result was a big bill, to which there were no specific objections for months until before the action was brought, when various defences were set up. First, that representation was made by the architect that the prices in the agreed schedule were fair market prices, which they were, and, secondly, that the price of the work was to be 8,000, 10,000, whereas, in fact, the bill amounted to 20,000. This increase, said Counsel, was largely to the fact that the increased work of a structural and ornamental character, at a cost over 7,000. Counsel then dealt with correspondence, with a view of showing that Lord Decies followed the progress of the work very carefully, and knew exactly what was being done. During the course of the work, said Mr. Scott, a letter was written by Lord Decies, in which it was stated that the total cost had then reached about 17,000. Instead of complaining of this, all Lord Decies said was: "It costs a great deal, but suppose it is all right." Counsel submitted that the defence which had been put in by the defendants was only bound to pay quantum meruit prices in regard to the rest of the work. Such a defence, however, was not consistent with the history of the case. Throughout the whole work the additional orders were treated as part and parcel of the same job. The fact, said Counsel, that the properties of the plans and the decorative work were afterwards altered, still, it was only a question of amount. It was not a contract to do a certain work, specification, but to do work at a certain rate subject to the architect's instructions.

On answer to this, Mr. Waugh said the first question was whether certain representations were made which induced making of the contract, and whether plaintiffs were not bound by this representation. On other words, in no circumstances could they, in respect of the work which was ordered in the contract shown upon the drawings, receive more than 10,000; and in the case the plaintiffs were bound by prices which were fair market prices for first-class work. Defendant further said that the architect ordered certain work in addition to the work specified, which was far more expensive, and that he did so entirely on his own authority and without the acquiescence of Lord Decies. Therefore defendant could not be held to be responsible for such work.

Mr. Horace Farquharson, architect, was then called, and said that he had been practising such since 1897. For some time he was a pupil of the well-known architect, Mr. E. L. Lutyens.

1910 he was brought into communication with Lord Decies in connection with the work at Sefton Park, and eventually he prepared the plans for it. At an interview with his Lordship witness understood Lord Decies to say that the question of money did not bother him; the money would be found for him. Defendant asked witness to mature his plans at that interview and submit them, which he did. Lordship told him that the work was to be quite plain, as the decorative work was to be looked after later by Lady Decies' mother, who was interested in such work. The work proceeded at a very rapid pace, as it had to be carried out before Lord Decies came home.

On question to some extent as to the nature of the work, witness said that all the window-sashes were ordered in teak, because in first class window-frames were always made of solid hard wood.

Mr. Wright (for plaintiffs): Did Lord Decies ever complain to you that you were doing a thing without instructions?

Witness: Not once.

Did he complain to you about the expense? Lord Decies never complained of the expense. Both his Lordship and Lady Decies visited the work, and looked at every detail. Cross-examined by Mr. Waugh, witness said he had not gone into the question of price at all himself, except in regard to work in forecourt.

Whatever figures you received and communicated to his Lordship were the figures of plaintiffs?—Yes.

You relied upon those figures?—Entirely.

It was true, witness said, that the bill considered at the start that 10,000 would cover the work required, including the contingencies.

Mr. Waugh: What structural defects were set with?
Witness said that walls which were thought to be perfectly sound were, when exposed, found to be absolutely rotten. Practically every wall was rotten in the house, except the wall and one of the dining-room walls. What was the additional cost for dealing with these walls?—I could not say.
But it is an important matter?—It is a matter for the surveyor and not for my department.
But it is your estimate.—I am merely the outspoke of other people. The architect represents the whole body of people carrying out the work.
It was thus Lord Decies said he required a work to be done plainly.
And the reason he gave was that he did not want to spend more than 10,000L on the house; he said he would prefer to get another mansion if more money was to be spent?—No; the first time the question of money was mentioned between us was in the report sent to Lord Decies.
Did Lord Decies say that he would prefer purchase another mansion rather than spend larger sum of money on Sefton Park? I cannot say.
His reply have done?—It is quite possible, but no figure was mentioned.
Further cross-examined, witness denied that took upon himself to alter some of the works without Lord Decies' authority. The work was done at very great speed, and the details were left to the discretion of the witness.
Witness denied that deal would have been a proper wood to use for painted window-shes. In good work window-shes were invariably made of teak.
Did you order American walnut for the window-shes of Lady Decies' bedroom?—Yes.
And were they to be painted white?—No, I hoped to persuade Lord Decies to panel the room in walnut later on.
Did you succeed? No, but he did order at my suggestion later on.
Witness said it was quite possible that a Mr. Anderson was given a power of attorney for the work by Lord Decies.
Why did you not consult Mr. Anderson when you knew the way the cost of the work was increasing?—Mr. Anderson was in York, and the work was going on hard at the heels of the plans. I had to use my discretion.
You knew the cost of the work was increasing?—We did not consider that at the time; there was no time to consider anything.
Further cross-examined, witness said the question of cost was never referred to in any of the proceedings before Lord Decies went to America, and the matter was referred to the people who were going to pay. Witness had never gone into the question of price.
Do you say the prices charged were fair market prices?—Yes.
But you say you have never gone into them; I relied implicitly upon my advisers.
When Lord Decies made the remark, "It is a lot," did that refer to the oak panelling only?—No.
Mr. Waugh: Did you not certify that 13,000L was due to the builder when as a fact measurements were only taken on that date to an amount of 11,000L, or a little under?
Witness: You must ask the surveyor about it.
Mr. D. Morle, partner with Mr. Norman Hill, quantity surveyors, said his firm were employed in regard to the work at Sefton Park by Mr. Farquharson, and they prepared schedule of leading prices in all the various trades to cover anything which would be needed to carry out the work. The job was completed on August 4, and witness's firm did a measuring up for the purpose of the pounds. Where work was according to the schedule they used the schedule prices, and where it was not, they followed the usual practice of deducting the prices from the schedule. They did this work with the plaintiffs and agreed on the prices.
Questioned with regard to the oak work, witness said the very best wood was supplied at a great deal of it had to be worked by hand, which, of course, cost more. There were places where Cubitts asked for a higher price than was actually agreed upon, and witness cut them down.
Cross-examined, witness said every item was gone through, and there was a bargain come between witness's people and plaintiffs as the price to be charged.
Mr. Waugh: If that was so, how is it that the cost of mahogany was charged at 43s. a foot?
Witness: Oh, that was a clerical error! It ought to have been 4s. 3d.
And then there is another item, "35 ft. of mahogany at 46s. a foot, making a total charge for the two items of 129L 10s. instead of 12L 15s.—That was also a clerical error.

Mr. Waugh: Well, I don't see what protection Lord Decies had if this was the way the matter was gone through.
Witness said he was instructed that the whole of the work was to be plain, with the exception of a few hardwood doors.
Cross-examined with regard to the certificates, witness said it was true the work was not measured up as it went along. The measurements were taken approximately. He did take measurements, upon which he could tell Mr. Farquharson he could certify.
Do you say the prices in this schedule were fair market prices?—Yes.
What is a fair market price?—A price which would give the builder 10 per cent. profit.
I suggest to you that in nearly every instance these prices are in excess of what is understood by fair market price.
Witness dissented from this.
I suggest to you that a fair market price would be the price people would be willing to obtain for the work, taking into consideration the fact that other firms of equal repute were competing for that practically amounts to what I have said.
Further cross-examined, witness said the market price for Portland stone and all labour was about 10s. 6d. per foot cube.
Mr. Waugh: We say 3s. 6d.
Witness: That is matter of opinion.
For Bath stone, witness said, 7s. 6d. per foot cube was a fair market price.
Mr. Waugh said 5s. 6d. was a fair price, according to defendant's contention. His Lordship would see that such differences would amount to a very substantial sum in the aggregate.
Mr. Thomas William Donovan, branch manager to the plaintiff company, said he was responsible for the original estimate of 9,500L, which was drawn up for the work at Sefton Park. Had the work been carried out according to the data then supplied to him, his firm would have made 25 per cent. profit on the work. As it was, they would only get 7 per cent. on their charges.
Mr. Benjamin Hansen, director of the plaintiff company, in charge of the building branch of his company, said that on February 9 of last year the contract was signed, Mr. Anderson, Mr. Farquharson, and witness being present. When the contract was shown to witness he noticed that there was a heavy penalty in case of non-completion within the period named. Witness said they did not know what amount of work would be required, and he objected to signing a contract on those terms. He said it was absolutely unfair to ask any firm to undertake such a contract, for how could they say how long it would take when they were given no indication of what there was to be done? Mr. Anderson then told witness that if he did not sign he would not have the contract, and the situation having arrived at something in the nature of a deadlock, Mr. Farquharson interviewed and asked witness whether he could not trust him (Mr. Farquharson) to protect the builder and see that too much work was not put upon him to carry out in the time named. Witness felt he could trust Mr. Farquharson, and signed the contract. There was a clause in the contract leaving the matter to the discretion of the architect.
Mr. Arthur Sickmores, surveyor in plaintiffs' employ, said he went through the schedule with Messrs. Eville & Morle.
This concluded the evidence for the plaintiffs.
Mr. Waugh, K.C., then opened the case for the defence, and submitted that if it were proved that the prices in the schedule were not fair market prices, and that it were represented by plaintiffs that they were, then Lord Decies could not be bound by such prices. The next point for his Lordship's consideration was, was there any representation made to the defendant that the whole of the work then contemplated would cost more than 9,500L? He contended that defendant was only liable for work done according to the plans to the extent of 9,500L, and, of course, any repair work found necessary outside that estimate.
His Lordship intimated that he could not hold that there had been any representation by the plaintiffs that the prices in the schedule were fair market prices. He would also put on one side the question of the giving of the certificates as being wholly immaterial to the case. That reduced the issue very much to the question of discrepancy between prices in the schedule and the work actually done.
Mr. Waugh then proceeded to call evidence.
Mr. George Stephenson, quantity surveyor of considerable experience, including the measuring up of the new War Office, and the Admiralty buildings, stated what was the usual form of procedure in contracts of this kind. He had examined every item in the schedule and had found that in regard to oak panelling some 19,000 ft. were charged for at 6s. 6d. a foot, whereas he could only account for some

17,000 ft., and would only allow 4s. a foot for it. That would mean a reduction in the total of 364L. Proceeding, witness alleged other instances of over measurement and overpricing.
The hearing was then adjourned, and was continued on Wednesday.
Albert Edward Addis, a quantity surveyor, gave evidence with regard to the items in the schedule of prices, with a view of showing that they were excessive.
His Lordship, in giving judgment, said that at the end of 1910 Lord Decies, being about to be married, was minded to make extensive alterations and repairs to his mansion, Sefton Park, and to that end employed a Mr. Farquharson as his architect. Everything had to be done in a great hurry, and the architect had only the most general intimation as to the nature of the work required to be done. He got out certain plans, which gave a broad indication of the work required. Lord Decies was naturally anxious to know about what the cost of the work would be, and rough plans with indications of the work to be done were submitted to the plaintiffs, who were an eminent firm of builders. They figured out on the plans and arrived at a sum of about 9,500L. Mr. Farquharson, no doubt, being influenced perhaps by his general experience of this class of work, thought that the expense would be from 8,000L to 10,000L, and reported to this effect to Lord Decies. The work was put in hand, but it was not by any means carried out according to the original plans. Suggestions were made by Lord Decies, and considerable alterations to the plans were made. The main alteration made in the course of the work was that, after Lord Decies had returned from America in April, 1911, he desired to have a large scheme of decoration carried out, which was not contemplated in the original plans, the result of which was that when the work was done Lord Decies was faced with a very heavy bill. Instead of the cost being about 10,000L, it was nearly double that figure. Naturally, the defendant was very much surprised and disagreeably astonished. He knew that a great many extras had been ordered, and that the original estimate must have been exceeded, but he never expected so heavy an account. His Lordship sympathised with Lord Decies in that respect, and with the regret Mr. Farquharson had expressed that he had not warned the defendant as to the extent to which the original amount would be exceeded. It was a pity that that was not done, as it would perhaps have obviated the bringing of the present action. The work had to be done, and on the primary question of liability his Lordship had no doubt that Lord Decies was liable to pay. With regard to the question of details and deductions, they would go to an arbitrator to be appointed.

COURT OF APPEAL.
(Before Lords Justices VAUGHAN WILLIAMS, BUCKLEY, and KENNEDY.)
Action against Builders upon Architect's Order: Ramsden & Carr v. Chessum & Sons.
THIS case, the hearing of which was concluded on Wednesday, November 6, came before the Court upon the cross appeals of the parties from a decision of Mr. Justice Hamilton, the plaintiffs being metal workers of Seymour-place, South Kensington, and the defendants being the well-known builders of South-place, Finsbury, the question in dispute being liability for goods supplied on an architect's order in connexion with the building of a cinematograph theatre at 225, Oxford-street.
Mr. Radcliffe, K.C., for Messrs. Chessum & Sons, said the theatre was built for a company which had since gone into liquidation. The plaintiffs supplied a quantity of hammered silver and brass door plates, artistic door handles, and other goods, which were ordered by the architect (Mr. M. S. Ward), and for which Messrs. Ramsden & Carr contended the builders were responsible. The plaintiffs at the trial in the Court below, before Mr. Justice Hamilton, without a jury, claimed 142L 15s., alternatively in respect of goods sold and delivered, or as money had and received by the defendants for the use of the plaintiffs, or as money held in trust for them. Messrs. Chessum & Sons denied liability, and repudiated the authority of the architect to pledge their credit. Mr. Justice Hamilton held that the plaintiffs had failed to show that any money was received by the defendants from the company that should be allocated to the account for the goods, but that Messrs. Ramsden & Carr succeeded on the issue as to goods sold and delivered to and used by the defendants, which raised an implied promise by

them to pay for them. On that issue the learned Judge entered judgment for the plaintiffs with costs, the defendants getting costs on the issues on which the plaintiffs had not succeeded. Mr. Ward was not a party to the action, so it was a question of whether the builders or the building owners should pay.

After some discussion Lord Justice Williams said: It is plain there was a difficult question to be answered here, yet the plaintiffs asked for summary judgment without a trial. They say they believe there is no defence to the action. I can only say that is most improper, and if I were the Judge in chambers, and the summons had come before me, I should not only dismiss the summons, but I should order the plaintiffs to pay the costs in any event, and should see if I could not make the solicitors pay too.

Mr. Eames, for the respondents (plaintiffs), said at the time the matter was in chambers his clients were unaware of the facts disclosed in Court that day.

Mr. Radcliffe said the architect ordered the metalwork, or a great deal of it, purporting to act on behalf of the contracting builder. But the architect had no authority to do that. They were extras, and the contractor was not responsible for them. Under no circumstances could his clients be held responsible. Mr. Justice Hamilton said: "If Mr. Ward is not your agent, you have had these things—they have been fixed in that house, and that is an implied contract." The contractor was not bound to supply these goods, and the architect had no authority from them to order them. They were certainly affixed by a workman of his clients, but that was by order of the architect.

Lord Justice Buckley: Did Mr. Ward give evidence at the trial?

Mr. Eames: Yes; but he was not a party to the action.

Mr. Radcliffe said what the architect should have done was to tell the contractors what things were needed and let him obtain them.

Mr. Eames said the defendants had had their goods and used them, and should pay for them. They took the benefit of them as though they were supplied under the contract. It was inferred the goods would be paid for by Messrs. Chessum. His learned friend was wrong in suggesting that the architect had done something wrong, but in the Court below Counsel for the defendants (Mr. Scott) formally admitted that they knew of the goods, that they were seen on the premises, and that they were ordered by contract. It was also admitted that they were goods treated as coming under the contract. The defendants further admitted that Mr. Ward had done nothing wrong, and the only ground on which the defendants objected to pay was that they had not been paid by the building owners. In regard to that, the sum due to his clients was included in a certificate the architect gave for £500. There was, he submitted, authority under the contract for Mr. Ward to order the goods. There was good cause for the action because money had been received.

Lord Justice Kennedy: I did not understand that money had been received.

Mr. Eames: Oh, yes! In fact, there were bills which were treated as cash. If you take a negotiable instrument and treat it between yourself and the debtor as cash that renders you liable for money had and received, although as a negotiable instrument it has never been met. Continuing, Counsel said he wished to correct an error that was made the previous day. It was said that at the time the orders were given the Cinematograph Company was in financial difficulties. That was a misapprehension, because, so far as the first lot of good was concerned, amounting in value to £18,000, most of the goods were given as early as April, 1910, before the architect or the builders had any idea that financial difficulties would arise. In desiring to lay the whole facts before the Court, he wished to say that the plaintiffs were not a business firm in the ordinary sense, but high-class dealers and experts. They had been accustomed to accepting Mr. Ward's orders and crediting the contractors with the items, though the first invoices in these particular transactions was made out to Mr. Ward.

Lord Justice Williams: Is not that *prima facie* evidence that Mr. Ward is liable?

Mr. Eames said it could hardly be called an invoice; it was a memo. that the goods were supplied to Mr. Ward's order.

Lord Justice Williams, in delivering judgment, said the appeal of the defendants must be allowed, and the cross appeal dismissed. He agreed with Mr. Justice Hamilton in so far as he dealt with the subsidiary questions that had been argued, but the architect did not act in the character of an agent for the contractor. That being so, the question naturally arose, when the architect gave the

order, had he entered into a contract on behalf of the building owner? He was not prepared to come to the conclusion that he did act as the agent in giving the order in the sense that he made a contract on behalf of the building owner, or even of the contractor. There was no proof here that he acted as the agent, authorised as such, for either the building owner or the contractor. If there was no contract on behalf of the contractor through Mr. Ward they had to see whether, under these circumstances, the contractor used the goods supplied in such a way as to imply on the part of the contractor a promise to pay, or a responsibility to do so. In his opinion, they should not assume that. During the arguments in the case it had been said that the architect had twice given orders. But it did not matter how many times he had done that. What they had to consider was, when these goods were delivered at the theatre was there anything to tell the contractor that they had been ordered on his behalf, or that they had been ordered for his benefit and by his order, so that he could use them if he thought fit or reject them if he thought fit? There was no evidence to show that the contractor had any such information. They might have been sent by order of the building owner. There certainly was nothing to indicate to the contractor that he was liable for them. There was no information as to price, specifications, or conditions. He had a right to all that information, but it was not given to him. It had been said that it was the duty of the contractor, when he saw the goods, to ask for that information and to avail himself of the opportunity, if he chose, of knowing what was happening. In his opinion, the architect, if the contractor was to be held liable, should have given him all that information. It was said the contractor ought to have known these things and where the goods came from, but if there was any evidence of that it was of the faintest description.

Lord Justice Buckley concurred. Lord Justice Kennedy dissented. He agreed with everything said and done by Mr. Justice Hamilton. The contractors had used the goods of the plaintiffs, and they should pay for them. They could not expect that the goods were a gift. They had the opportunity of using or refusing them, and they used them, and that made them liable.

By a majority of the Court the appeal of the defendants was allowed and the cross appeal dismissed.

CHANCERY DIVISION.

(Before Mr. Justice SWINFEN EADY.)

Ancient Lights at York:

Delittle, Fenwick, & Co. v. York Industrial Co-operative Society, Ltd.

THIS case was heard on November 4, 5, and 6, and was a claim by the plaintiffs for an injunction to restrain the defendants, their servants and agents, from so erecting premises in Railway-street, York, as to obstruct the access of light and air to the plaintiffs' ancient windows, and thereby cause a nuisance, and for damages.

Hon. Frank Russell, K.C., and Mr. J. M. Gover (instructed by Messrs. Ridsdale & Son, agents for Messrs. George Crombie & Son, of York) were for the plaintiffs; and the defendants were represented by the Hon. E. C. Macnaghten, K.C., and Mr. F. H. Maughan (instructed by Messrs. Munns & Longden, agents for Mr. F. A. Camidge, of York).

In opening the case, Mr. Russell said that the property of the parties was on opposite sides of Railway-street, York. It was a narrow street, 42 ft. in width, which approximately ran north and south. The plaintiffs were printers, and they owned Nos. 5, 7, 9, 11, 13, and 15, Railway-street on the west side of the street. Counsel put in a model of the premises and explained the situation to his Lordship. It was not disputed that the plaintiffs' windows were ancient lights, and the plaintiffs were seeking damages. The defendants completed part of their buildings last year, and in the present year they commenced a further extension. Thereupon the plaintiffs commenced the action and moved for an interlocutory injunction. On the hearing the defendants undertook not to carry their buildings higher than 32 ft. The height of the old premises of the defendants varied from 18 ft. to 32 ft., and the plans under which they were now building showed that the height would be again 49 ft. to 52 ft. In addition, there was a gable 17 ft. high above that. It was only fair to say, however, that the defendants had offered not to proceed with the gable.

His Lordship: The new buildings are 14 ft. higher than the old ones. It substantially comes to

this: that the undertaking prevented putting on the top story. The old buildings were nothing like as high as the street was wide, so that the diminution in light was considerable. He was claiming damages in respect of the buildings put up last year, an injunction in respect of the buildings put up this year. The latter were commenced in July, but had not exceeded the height.

Counsel then went into the details of the alleged infringement. The basement was seriously affected, the loss in percentage of direct light being 40 per cent., 32 per cent., and 32 per cent. In the first room had been used for a colour machine, and artificial light was now used all day long. The ground floor had suffered considerably, the percentage being 32 per cent., 49 per cent., and 51 per cent. The first-floor rooms were not so very affected, but if the defendants' scheme fully carried out they would suffer considerably.

Mr. Arthur William Cooksey, F.R.S., 6, Adam-street, Adelphi, W.C., architect and surveyor, detailed the result of his examination of the premises in conjunction with Mr. Man, of York. He saw the premises on 3 and 4 p.m. on October 24 on a very day. He had examined Mr. Monkman, and found them to be accurate.

Did you find that an angle of 45° of light had been left?—Not on the floor and basement.

It is stated that the damage to the premises is inconceivable, and would be compensated by a very small sum of money?—I think if the sum is omitted, in my substantial damage would be caused to the plaintiffs.

He had considered the question of diminution in the value owing to the loss of light, and estimated that there would be a loss of 400 per cent. in the letting value, 900 per cent. in capital value. If the loss proceeded with, he estimated the loss at another 2 ft. put on the defendants' buildings would make the basements very dim, and had made various tests with coins and papers, and found that in the middle of the basement he could not read the latter.

Mr. Macnaghten: Would a further extension of the defendants' buildings materially affect the light to the ground and first floor windows?—To a considerable extent.

Mr. Thomas Monkman, of Melksham, corroborated Mr. Cooksey's evidence, estimated that the loss in rental was at least 40 per cent. per annum. He was acquainted with the premises, and property in York generally.

In cross-examination witness admitted he had not taken particular notice of the coming to the back of the premises in question where there was a glazed yard. This did not, however, penetrate as far as the front of the premises.

Delittle, Fenwick, & Co., partner in the firm, said that the light had greatly dimmed in the rooms facing the defendants' premises since the defendants' buildings had been put up. They did not require a special light for the machine-rooms, and before the defendants' buildings were put up the rooms were quite sufficient. Now, however, they use artificial light. The workmen did not use artificial light, and if the machines to be removed it would cost the firm 50 per cent.

In cross-examination Mr. Delittle did not admit that the premises were convenient, or that they had been convenient to other premises. They could work the machines safely without a light.

Mr. John Fenwick, also a partner in the plaintiff firm, gave evidence as to the variation of light caused by the defendants' buildings. It first became noticeable when elevation had reached the second floor. As the buildings progressed, it grew worse, until the basement and first floor were relatively in darkness. Witness consulted a member of the Streets and Buildings Committee of the York Corporation, who him certain advice. He also consulted Monkman, who wrote to the Secretary of the defendant Society on the matter.

Having to use artificial light in the basement affected both the quality and quantity of work done there.

In cross-examination Mr. Fenwick said that he had been trying to sell their premises for many years, and had approached the defendants for that purpose.

Mr. R. J. Bond, a draper, and tenant of the plaintiffs, gave evidence with regard to the effect of the buildings on the light shop. He said he now had to use a light under circumstances which would

are required it before the defendants' buildings were erected.

Four machinemens employed by the plaintiffs also gave evidence as to effect of the diminished light, and this closed the plaintiffs' case.

For the defence, Mr. Macnaghten, K.C., called Mr. H. Chaffield Clarke, F.R.I.B.A., of Bishopsgate, E.C.1, who detailed the inspection of the plaintiffs' premises in October last. In Mr. Bond's shop he found no difficulty in reading his pocket-book, and it was possible to test colours quite well. In a room used by the plaintiffs for photographic purposes there were "floods of light." The basements had reasonable light for ordinary purposes. They were deep basements, and even when the defendants' buildings were carried up to the full height proposed it would not, in his opinion, cause inconvenience to the plaintiffs so far as the ground and first floor were concerned. He thought the same amount of light would go through to the basements as before, though it would not penetrate so far into the room. He did not, however, consider that a material loss, having regard to the nature of the basement.

In cross-examination, Mr. Chaffield Clarke said that, in his opinion, the erection of the new buildings would not obscure so substantial an amount of light as to render the basements unfit for the use to which they were put.

Corroborative evidence was given by Mr. Sidney D. Kison, F.R.I.B.A., of Leeds, who visited the plaintiffs' premises with the last witness. The ground-floor rooms were all well lighted, and in the basement there was the average amount of light. In Mr. Bond's shop he could read small print quite easily. In his opinion, even if defendants' buildings were carried to a height of 52 ft., there would be no material diminution of light. Of course, the basement would be more affected than the rest of the premises. As a rule, however, basements were not sufficiently well lighted for printing business.

In cross-examination, Mr. Kison agreed that the 40 per cent. of light from the basement would, no doubt, affect it very much. Printing required a special light, and he would not think of using one for such a purpose. The ground-floor rooms were adequately lighted.

Mr. Henry Beck, senior partner in the firm of Messrs. Henry Beck & Son, architects, of 20, Abchurch Lane, E.C.4, also gave evidence. He was the architect for the defendants, and had been so since 1908. The front elevation was now 16 ft. above the pavement. The question of infringement of lights received very careful consideration before the buildings were proposed. In July last, before the defendants' buildings were put up, he noticed that the plaintiffs were using artificial light in one of their basements on a perfectly clear day.

Other evidence having been called for the plaintiffs, Mr. Macnaghten, K.C., submitted that the plaintiffs had made out no case for an injunction, and if they were entitled to any relief, such relief should be a small sum by way of damages.

Mr. Russell, K.C., for the plaintiffs, asked 200,000, in respect of the buildings completed last year, and an injunction in respect of the buildings erected during 1912.

His Lordship, in giving judgment, said that the defendants desired to put on another story to their building, and from the evidence it appeared that there was no point between 38 ft. and 25 ft. at which they desired to stop building. He was satisfied that before the action was brought the defendants abandoned any intention of putting on the gable, and for the purposes of the action he did not consider the gable as all. The plaintiffs, in their business as printers, did not require especially good light—it was a case of ordinary light for the ordinary purpose of business. Messrs. Cooksey Monkman had been called on behalf of the plaintiffs to particularise the extent of the loss. Mr. Chaffield Clarke, the architect called for the defendants, at first alleged Mr. Cooksey's sections, but on consideration he accepted those sections, and his Lordship said he therefore proposed to rely on them for the purpose of his judgment.

The question he had to consider was whether the obstruction of the plaintiffs' lights prevented them from carrying on their business as comfortable and beneficial a manner as before.

His Lordship then reviewed the evidence, referring to the evidence of Mr. Chaffield Clarke, he said that that gentleman gave evidence of a startling character. The view given by Mr. Clarke was that no matter what extent the height of the new buildings was raised, it would cause no obstruction to the light of the plaintiffs' premises, but would only alter the direction of the light. He produced a diagram, showing the amount or volume of light coming to the premises, but

he had to admit that his was a mistaken view. Mr. Clarke also seemed to hold the view that so long as an angle of 50 degrees of light was left there would be no case of obstruction.

Mr. Beck took even a stronger view, his opinion being that even an obstruction under 60 per cent. would seriously affect the building. Mr. Kison's evidence was, in his Lordship's opinion, more reliable.

On the whole of the evidence his Lordship said he was satisfied the plaintiffs had succeeded in proving a very serious loss of light, which was not only material and substantial, but which would render it very difficult, if not impossible, for them to carry on their business in as beneficial a manner as before the erection of the defendants' buildings. He awarded the plaintiffs 100,000 damages in respect of the buildings erected last year. The buildings erected this year were a much more serious matter. In his Lordship's opinion, the plaintiffs had suffered an injury which could not be fairly compensated by money, within the meaning of Lord Macnaghten's judgment in *Colls v. Home and Colonial Stores, Ltd.* He, therefore, granted an injunction in the form asked as regards the uncompleted buildings. The injunction would not prevent the defendants putting the roof on their buildings as they stood, but they must not put on the third story, which, in his opinion, would occasion a nuisance to the plaintiffs. The defendants must pay the costs of the action.

OFFICIAL REFEREE'S COURT.
(Before Mr. EDWARD POLLOCK.)
Light and Air Claim against an Hotel: Anderson v. Walduck.

JUDGMENT was delivered on November 4 in an action by Mrs. Harriet Anne Anderson, of 2, Queen's-square, wife of Mr. Rasmus Anderson, against Mr. Harold Walduck, the managing director of the Imperial Hotel, Ltd., and the Imperial London Hotels, Ltd., of Russell-square, consequent upon extensions carried out in connection with the hotel. This was a light and air claim by Mrs. Anderson, as the owner of premises adjoining. In the course of the hearing certain heads of the claim were abandoned by Mrs. Anderson, under the advice of her Counsel, those relating to alleged loss of custom and goodwill.

Mr. Conway Wertheimer and Mr. Marston (instructed by Mr. J. J. Chapman) appeared for the plaintiff, and Mr. Cecil Walsh and Mr. Thomas (instructed by Messrs. Clowes, Heckley, & Co.) appeared for the defendant.

In the course of his judgment, after hearing the evidence, Mr. Pollock said that Mrs. Anderson, who lived in Bloomsbury, claimed damages for interference with light and air at her premises by the defendants; she also claimed an injunction and damages for trespass, but these premises were said to be a nuisance, and there was no justification in the proceeding of the defendants in putting them up. Mrs. Anderson, who apparently had had these premises twenty years, was leaseholder under a repairing lease for 1,000 years, and that condition of things was material as to the question of the value of the premises, and as to the amount of damage that had been done by the defendants. It had been admitted in effect that the defendants had done something which entitled the plaintiff to recover some amount of damage, and the question he had to decide was as to the amount to which Mrs. Anderson was entitled. He must say that he thought Mrs. Anderson's claim was not in the least the fault of her advisers, who had been absolutely unaware of the business which Mrs. Anderson had carried on in this place, and they had accepted, as they were bound to do, her estimate of the value of the premises and the goodwill had been calculated on a certain basis which she said were the profits of her business. A claim based on the estimate of her statement as to the course of custom to be relied on had been advanced. It was quite clear to his mind—and he thought it was—Mrs. Anderson found that these premises were not suitable to let as ordinary lodgings. Therefore, it was quite obvious to his mind that her estimate of the custom she lost was based entirely upon the profits of her business in this particular business. She said she made in this particular business. He doubted much whether she would have been able to substantiate that estimate, but that point was not now before him. Proceeding to deal with the phases of the case before him, the Referee said that Mrs. Anderson had been in very properly advised not to press for an injunction. It seemed to result in this, that by not pressing for an injunction she had, in effect, acquiesced in allowing the defendants to erect this building. He did not think she could say she ought to have more damages

because she could have got an injunction. Therefore, he thought the damages were to be based only on the basis that they were an alternative to the injunction, and not, therefore, a case in which she was entitled to an injunction, and to have increased damages by reason of that fact. Having referred to the fact that the usual notice regarding party structure was given the plaintiff, the Referee dealt with the allegations of trespass. He said that, in his opinion, there was no foundation whatever for saying that Mrs. Anderson was entitled to treat the Hotel Company as a trespasser. He had to ask how much had really the value of the plaintiff's house been diminished, if at all, by the erection of this building by the defendants? It was quite obvious to his mind that the only rooms which had been at all interfered with within the legal rights were the basement and the ground floor. Ample light came in from the south to the basement. Upon the ground floor, too, there was a fair light, having regard to the occupation of these premises as a living-room. One of the witnesses had taken the rooms at a certain value and calculated how far the light in the rooms had been interfered with, and how far that had depreciated the value of the premises, not only as rooms occupied separately, but as rooms occupied, having regard to the whole house being occupied by the tenant. That estimate had been brought up to 100,000. It might be that was a low estimate; at all events, the defendants' advisers thought it was rather a low estimate, and they had made it 200,000. He thought 200,000 was a very handsome sum to be paid in respect of depreciation. The Referee then reviewed the various items, and proceeded to express the opinion that the work conducted by the defendants had been done extraordinarily carefully and properly. Upon the evidence it had been shown that no subsidence had taken place. There was not the slightest chance of any settlement taking place in these premises as the result of any of the work executed by the defendants. That settlement might occur from the inherent vice and the great age of the premises was quite possible, but that was a thing for which the defendant company was not responsible. There would be judgment for the defendants, as the amount paid into Court by them was more than sufficient to satisfy the plaintiff's claim; 51,000 in Court would be paid out to the defendants, and the balance would remain in Court pending taxation of costs. Defendants would pay the costs up to the date of payment into Court, except as to about nine items, and the plaintiff would have to pay all the costs after the payment in.

CHANCERY DIVISION.
(Before Mr. Justice PARKER.)
Heavy Claim by and against Contractors: J. Aird & Co. v. the Tanjong Pagar Dock Board.

THE hearing was resumed of this case last week in which the plaintiffs claim from the defendants 500,000, as damages for alleged breach of contract in connexion with the construction of a wet dock at Singapore. Plaintiffs, who are the well-known Singapore contractors, allege that the defendants misrepresented the conditions under which the contract was to be carried out, and therefore that they were justified in repudiating the contract. Defendants denied these allegations, and served a notice on the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiff firm and a party to the contract, making a claim against his estate of about 1,000,000, as damages for breach of contract.

Mr. Upjohn, K.C., Mr. Macnaghten, K.C., and Mr. Schiwan, appeared for the plaintiffs; Mr. Upjohn, K.C., Mr. George Cave, K.C., Mr. Romer, K.C., Sir Hugh Fort, Mr. Mathews, and Mr. Hall for the defendants.

Mr. Sidney Walker, engineer, said he was engaged on the Tanjong Pagar Dock for an year, from September, 1908, as timberman ganger, and he had some of the supervision of pile driving. In his opinion, the white supervision over the natives was sufficient. Over him was a walking ganger, a substantial man, who visited him every three or four days, and sometimes two or three times a day. This was his first experience in the East, and as he had just arrived from England, he thought, naturally, that if they had Englishmen to do the timbering they could do any thing. After the English timbermen arrived, he was by the Chinamen. The bottom of the trench in Singapore was decidedly not the place for an Englishman to work in. The mud was "like a handful of grease." The shales they first encountered was too soft for the engineers to accept as a foundation for the dock, although it was too hard to allow the piles to enter, and it had to be excavated. They attempted to drain the pockets, and

constructed a sump for the pump to hang in. They also tried to make channels across to the pump, but it was like trying to make a channel in water; the stuff was very little thicker. A scaffold was erected for the men to work on, and as soon as a Chinaman stepped off he was "in the mud" up to his knees. It was impossible to mould a handful of the mud or to hold a handful of it. In the trench at the east entrance to the dock the mud was of the consistency of soft soap—so long as it was left alone.

Mr. J. S. Gaskell, civil engineer and member of the Institution of Civil Engineers, now in practice as consulting engineer at Victoria-street, Westminster, said he had been chiefly engaged in designing and engineering of dock work in this country and in the East. He was resident engineer of the dock works at Calcutta from 1886 to 1891. On that work there were 2½ miles of dock wall built in timber trenches in mud. Witness said he was chief engineer of the Surrey Commercial Dock Company until the Port Authority took it over. In February, 1910, he was retained by Messrs. Aird, as an independent engineer, to proceed to Singapore and make a thorough inspection of the work at the Tanjong Pagar Docks. He went out and made the inspection. He found that the western trench had been opened out as a trench for 280 ft., the greatest depth being about 22 ft. He made a very careful consideration of the timbering and pile driving, and everything connected with the work. The timbering had a rough appearance, owing perhaps to the timber being hewn, but it was evidently very sound and substantial and well put together. The sheeting was of the usual heavy size. He formed the opinion that it was quite sufficient for the purpose which it was intended to fulfil. Witness carefully examined the mud and found it was of a very treacherous character. He saw it in varying circumstances and under all working conditions, and he found it impossible to walk upon it. The coolies had to walk on planks. When it was raised by the steam navy it had the movement of a huge mass of dough. Looking at the maps put in, witness said there were always local faults in timbering, but they did not indicate that the work was generally faulty.

Mr. M. B. Friedberger, a civil engineer, gave evidence that the plaintiffs had an enormous amount of plant on the works, the value of which must have run into six figures. He said that most of the plant was modern, and all of it was kept in a proper state of repair. He considered that the plant was adequate for the purpose of carrying out the contract. The defects shown on the photograph were not due to inferior workmanship, but to the pressure of the mud. During the fifteen months he was on the works the average number of men employed was one European to forty-eight natives, and he considered that a reasonable amount of supervision.

[The case had not concluded as we went to press.]

LONDON COUNCILS.

Action.—The tenders of Mr. H. Morecroft, of Acton, has been accepted, at 315*l.* and 27*l.*, for resurfacing the carriageways of Montagu-gardens and Oakley-avenue respectively with tar macadam.

Hornsey.—The tender of the Praed Road Construction Syndicate, Ltd., has been accepted at 3,072*l.* 10*s.* for repairs to Fortis-green, Fortis Green-road, and part of Colney Har-borne. At the meeting of the Council last week the opinion of Mr. Macmorran, K.C., on the question of the liability of the London General Omnibus Company in respect of the motor-bus traffic along roads in the borough was given. Mr. Macmorran states that he thinks there is justification for the suggestion that the motor-omnibus traffic over such a road as Fortis-green is 'extraordinary traffic within the meaning of the statute, and that the omnibus company may be made liable in respect of it, partly because it is of the character and description which is quite new to a road like Fortis-green, and partly because it is exceptional in the frequency of the journeys over the road. The company, therefore, are to be asked to make a contribution towards the repair of the roads mentioned, and informed that, in the case of their not doing so, they will be held liable for the expenses. Plans have been passed for Mr. George Taft, Turnpike-lane, for four houses in Rokewood-avenue, and for Mr. Charles Tucker, Southern-road, Muswell-hill, for houses in Fordington-road, Muswell-hill.

Midhurst.—At the meeting of the County Council last week a proposal by the Highways Committee was approved for widening the Brent Bridge, Hendon, at an estimated cost

of 4,755*l.* The existing bridge, the Committee stated, which is built entirely of bricks, and has a width of only 28 ft. between the parapets, with a carriage-way of 23 ft., is now quite inadequate for the needs of the present traffic, which has, during the last few years, increased to a very material extent. The scheme provides for the widening of the bridge and approaches for a distance of 500 ft., either side to a width of 50 ft. The widened portion (on either side) will be constructed with longitudinal steel girders and decking. The same Committee also reported having had under consideration a communication from the Twickenham Urban District Council covering a copy of a resolution adopted by them pointing out the inadequacy of Richmond Bridge to serve the present traffic, and urging the County Council to take the matter into consideration so as to obtain further powers for the Commissioners, or for the transfer of such powers. The Committee had also considered a communication from the Society for the Protection of Ancient Buildings, protesting against any alteration of the existing bridge, also a letter from the Bridge Commissioners addressed to the Twickenham authority, intimating that they had neither the power nor the funds to carry out the proposed reconstruction of the bridge. The Committee recommended that intimation should be given to the Twickenham Council and the Society for the Protection of Ancient Buildings that the County Council is now expending, in conjunction with the Surrey County Council, a large sum of money in widening Kingston Bridge, but that at a later date they (the County Council) may communicate with the Surrey County Council with regard to the widening or reconstruction of other bridges over the Thames. Mr. F. Aylard moved that the recommendation be referred back, because he believed the Committee put this recommendation forward in this way because they would not take the responsibility of initiating so expensive a scheme as that of a new bridge across the Thames. The improvement or reconstruction of Richmond Bridge was generally admitted to be one of the most urgent and important questions in South Middlesex, as the traffic had very largely increased. The general notion seemed to be that it was necessary to rebuild the bridge, which would entail a very heavy outlay, but an improvement which would go far to meet present needs could be carried out for a few thousand pounds, seemed to him that something should be done to widen the centre spans of the bridge. After further discussion the matter was referred back to the Committee in order that they might obtain further information. The Asylums Committee reported that they had found in practice that additional accommodation was required for the female staff at the Napbury Asylum. They state that the nurses' rooms provided in their recent extensions are insufficient for proper administration, nor is there sufficient room for the extra domestic staff required. There were also no messrooms, recreation-rooms, or staff scullery accommodation, which are now found to be essential. The existing accommodation in the upholsterer's shop and hair-picking room is also quite inadequate, and, further, a residence should be provided on the estate for the Assistant Medical officer. The Committee requested the architect, Mr. Rowland Plumble, to prepare plans of the works proposed to be carried out, and which they recommended the Council to approve. The whole cost of the work is put at 6,461*l.* The Committee also consider that desirable to build six additional cottages for garden laborers, the cost of which, according to the estimate of the County Surveyor, would amount to 1,255*l.* The Committee's proposals were agreed to. The County Buildings Committee reported that at the close of the excavation for the foundations of the new Guildhall the architect had drawn attention to the fact that it had been found necessary to excavate some 2 ft. deeper than had been anticipated in order to find a satisfactory foundation for the new building, and that this alteration in the depth to which the foundations were to be taken would cause extra cost in excavation, concrete, and walling. It is not possible to ascertain the additional cost of the extra work to the foundations, but the quantity surveyors estimate the extra cost at about 3,500*l.* The lowering of the foundations has allowed the height of the rooms on the basement floor to be increased by some 2½ ft. to 3 ft. In consequence of the lowering of the basement the architect advises the installation of a Shon ejector, at cost of 1,500*l.*, to deal with the sewage, so as to prevent any risk of flooding from the public sewers. The Committee recommended the Council to adopt the architect's advice. This was also agreed to.

Regent.—Plans have been passed for Mr. W. G. Jackson and Messrs. Harry Hooper & Co., for the erection of a factory in Epsom-street, Millwall, for the D.B.P. Syndicate, for additions to Nos. 1 to 10, Marsh-street, respectively.

Southgate.—The Surveyor has been instructed to report upon the additional work to the main roads in the district needed by the motor-omnibus traffic, and, at the same time, to submit an estimate for paving wood-lane, at unpaved portion of H. lanes and a portion of the Southgate-road.

Wandsworth.—A plan by the Borough Engineer has been approved for paving proposed to be carried out in connection with the widening of Putney-hill. The estimated cost is put at 330*l.* Channelling, kerbing, and works are to be executed in various roads in the Borough at an estimated cost of 1,000*l.* Tenders are to be invited for paving P. Southcoff-road, Streatham, as a new Tenders of Messrs. H. Woodham & Co. at 255*l.* and 27*l.*, have been accepted for carrying out repair work in portions of Wimbledon Park-road and Viewfield Southfields, respectively. A plan has been passed for Mr. W. Saint for the erection of St. Thomas's Church Hall in Telferds-Redbourne roads, Balham; also for Mr. G. Godson & Sons, for additions to Gregory's Presbytery, Garratt-lane, hill, Springfield.

Watford.—Application is to be made to the Local Government Board by the Watford Sanitation Committee for the carrying out of a scheme for increasing the accommodation at the house. The cost of the work is estimated at 250*l.*

Wimbledon.—A surface water sewer to be laid along Park-side and Queensmere Road, at an estimated cost of 175*l.* Plans submitted by the Borough Surveyor have been approved for making up Marryat-road at a new. The estimated cost is put at 2,182*l.* A plan by the Surveyor has also been approved for providing for an additional ward at the St. John's Hospital, at an estimated cost of 1,000*l.* Plans have been passed as follows:—Potterton, additions to "Bedruff," Marryat-road; Mr. R. J. Thomson, alterations Nos. 30 and 31, Broadway; Messrs. F. Bros., eight houses, Vineyard-hill. All have been lodged by Mr. T. W. Moser, alterations at "Hillbrook," Murray-road.

PATENTS.

APPLICATIONS PUBLISHED.*

21,743 of 1911.—Joseph Collinson Cuddeon, etc., roads, or the like.
21,999 of 1911.—Hookes Evelyn Ball Cotton and Nigel George Crompton; Machines for laying down and spreading road material.
22,671 of 1911.—Dr. Casimir Nowotny; Gregr Franz Beltowski; Door locks.
25,194 of 1911.—Alfred Owrarn; Extension ladder.
25,510 of 1911.—Thomas Coates and Ann Coates; Scrapers for mortar mills.
26,051 of 1911.—Aimé Blanc; Devices for use in connexion with indicating or regulating temperatures of rooms or the like.
26,499 of 1911.—Henry Mann Roberts; of step-ladder.
27,418 of 1911.—George William Black; Motor-driven road-sweeping machines.
27,586 of 1911.—Emil Schärer; Scaffold for buildings.
27,785 of 1911.—W. Brandon & Co., Ltd.; William Brandon; Cooking-toves.
28,857 of 1911.—Alfred Julius Boulton; Master Builders' Company; Method of using new cement to existing cement or structures.
2,972 of 1912.—Joseph Hubers (Heinrich Brunning); Method of improving work.
3,056 of 1912.—Emanuel Myers Domb; Springs.
7,397 of 1912.—Lepton Dobson Sunde and Charles Stanley Pickles; Roof glazing.
12,324 of 1912.—Dr. Phil Bela Lach; Process for the manufacture of artificial wood.
12,593 of 1912.—George Barker (Frank Laze, Ada Ella Martensen, and Carl Crawford, United States); Construction of concrete or other walls or structures.
12,507 of 1912.—John Thomas; Apparatus for extinguishing fires in vessels and buildings.
12,324 of 1912.—Dr. Phil Bela Lach; Process for the manufacture of artificial wood.
12,593 of 1912.—George Barker (Frank Laze, Ada Ella Martensen, and Carl Crawford, United States); Construction of concrete or other walls or structures.

* All these applications are in the state which opposition to the grant of Patents thereon can be made.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xviii.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

NOVEMBER 25.—**Newcastle-upon-Tyne.**—SCHOOLS.—Limited to local architects. Particulars from the Education Office, Northumberland-road, Newcastle-upon-Tyne.

NOVEMBER 25.—**Langside, Glasgow.**—BRANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson. A.R.B.A. Entrance, £50, and £25. Particulars from the Town Clerk, City-chambers, Glasgow.

NOVEMBER 30.—**Bilham.**—SWIMMING-BATH.—The Wandsworth B.C. invite designs. See advertisement in issue of August 16. Particulars from Mr. P. Dodd, 215, Bilham High-road, S.W. DECEMBER 1.—**Solihull.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9, and p. 350, September 27).

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS, etc.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

DECEMBER 20.—**R.I.B.A. Competitions.**—All work for the Studentship and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913.—**Dublin.**—MUNICIPAL BUILDINGS.—Assessor, Mr. Albert E. Murray, A.R.B.A. Conditions from the City Treasurer, Dublin, Deposit, £1, 2s.

JANUARY 20, 1913.—**Rome.**—BRITISH SCHOOL AT HOME.—Scholarship in Architecture.—2001, per annum for three years. Particulars from Mr. Evelyn Shaw, 54, Victoria-street, S.W.

FEBRUARY 2, 1913.—**Harrogate.**—SCHOOL.—The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings, Honorarys of 3001, 2001, and 1001. See respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913.—**Winnipeg.**—CITY HALL.—Particulars from Mr. A. Waugh, City Hall, Winnipeg, see p. 500, November 1.

NO DATE.—**Dursley.**—WORKMEN'S DWELLINGS.—The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See "Competition News," in issue of October 25 for further particulars.

NO DATE.—**Polestone.**—PROPOSED KURSAL.—Cost not to exceed 20,000l. Premiums 100l., 50l., and 25 guineas. See "Competition News," page 542.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRUST BUILDING.—Invited to six firms, named in "Competition News," December 1, page 635.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

NOVEMBER 12.—**Cleckheaton.**—STONE.—Erection of a branch store, Northgate, Cleckheaton, for the Cleckheaton Industrial Co-operative Society, Ltd. Plans, etc., seen, and quantities from Messrs. R. J. Able & Son, architects, London City and Midland Bank-chambers, Cleckheaton.

NOVEMBER 13.—**Halifax.**—OFFICES.—Erection of new offices at Highroad Well. Plans seen, and quantities from Messrs. Jackson & Fox, Rawson-street, Halifax.

NOVEMBER 13.—**Walsall.**—EXTENSION.—For the extension of the boiler-house at the Workhouse, Black-road, Walsall. Plans and specifications with Mr. A. H. Lewis, Clerk to the Guardians, Union Offices, 29, Leicester-street, Walsall.

* NOVEMBER 14.—**Halesbury.**—SCHOOL.—The Committee of Halesbury College, Hertford, invite tenders for New Big School, etc. See advertisement in this issue for further particulars.

NOVEMBER 14.—**Hirwary.**—Houses, etc.—For building thirty houses and making roads at Hirwary for the Bodwig Building Club. Plans and specification with Mr. Alec S. Cameron, architect, 1, Glanant-street, Aberdare.

NOVEMBER 14.—**London.**—EXTENSION.—For the alteration and extension of the boiler-house at the Workhouse, Swaffield-road, Wandsworth. Specification, quantities, and form of tender at the Guardians' Offices, St. John's-hill, Wandsworth. Deposit of 10s.

NOVEMBER 14.—**Montclair, Home.**—For the erection of a home for twenty children at Ponteland, Newcastle-upon-Tyne. Plans and specifications from Mr. Charles S. Short, Clerk to the Guardians, 28, Moseley-street, Newcastle-upon-Tyne.

NOVEMBER 15.—**Preston.**—SHELTER, ETC.—Erection of a tram shelter at the Lodge, Garstang-road and Moor Park-avenue; also public convenience, Penwortham Bridge approach. Plans and specifications, quantities, and form of tender from the Borough Surveyor, Town Hall, Preston, on deposit of 10s.

* NOVEMBER 16.—**Ludlow.**—HALL, ETC.—For erection of a new drill hall and offices at Ludlow. Quantities, on deposit of 1l. 1s., from the architect, Mr. John Butters, Castle-square, Ludlow.

NOVEMBER 16.—**Maerdy.**—HOUSES, ETC.—For the erection of thirty houses and construction of roads and drains for the Coronation Building Club, Maerdy. Plans and specifications seen, and form of tenders from Mr. Edward Rees, architect and surveyor, Alexandria-chambers, Taft-street, Pontypool.

NOVEMBER 16.—**London.**—ADDITIONS.—For alterations and additions to the Bush Inn, Plaistow, Sussex. Plans and specifications with Mr. C. H. Burrows, architect, King's-road, Hornsey.

* NOVEMBER 16.—**Reichford.**—WORKHOUSE EXTENSIONS.—The Guardians of Reichford invite tenders for the erection of an aged and infirm block at the Workhouse Reichford. See advertisement in this issue for further particulars.

NOVEMBER 18.—**Bristol.**—ROOM.—For the construction of a workmen's mess-room on the West Wharf of the Royal Edward Dock. Specification and contract drawings from Mr. W. W. Squire, Engineer, Engineer's Office, Cumberland-road, Bristol. Deposit of 2l.

NOVEMBER 18.—**Chelmsford.**—HOUSE.—For erection of an engine-house at Waterworks, Mildmay-yard. Forms of tender, plans, and specification at the Borough Engineer's Office, 16, London-road.

* NOVEMBER 18.—**Dawley.**—SCHOOL.—The Salop C.C. Elementary Education Department invite tenders for reconstruction of Pool-hill Council School. See advertisement in this issue for further particulars.

NOVEMBER 18.—**Dover.**—IMPROVEMENTS.—For the following works at the Sea Front Baths, Marine-parade, Dover:—Filling ladies' bath; supplying and erecting two centrifugal pumps with electric motors; and other works in connexion therewith. Forms of tender and specification, on deposit of 2l. 2s., from the Borough Engineer, Mr. W. Hawke, A.M.Inst.C.E., Mason Die House, Birkenhead, Dover.

NOVEMBER 19.—**Cheshunt.**—REPAIRS.—For alterations, repairs and other works at Elm Arch, Turner's-hill, Cheshunt. Particulars and form of tender from Mr. J. E. Sharpe, Engineer and Surveyor, Manor House, Cheshunt.

NOVEMBER 19.—**Deptford.**—TANKS.—For erection of two water-supply tanks at the Town Hall. Particulars, conditions of contract, and form of tender from the Borough Surveyor, Town Hall, New Cross-road, S.E.

NOVEMBER 19.—**Durham.**—IMPROVEMENTS, ETC.—For new C.C. school at Oakenshaw, etc. For new C.C. alterations and improvements at Byers Green; alterations and improvements at Castle-town, Browney, and Bearpark Council schools. Plans, specifications, and general conditions of contract seen, and quantities obtained

as follows:—For Oakenshaw.—At the office of Mr. W. Rushworth, Shire Hall, Durham. For Byers Green.—At the office of Mr. H. A. Curry, 3, Bigg-market, Newcastle-upon-Tyne. For alterations at Castle-town.—At the office of Mr. N. R. Riddle, Shire Hall, Durham. For alterations at Browney and Bearpark at the office of Messrs. Clark & Moscrop, Fethams, Darlington.

NOVEMBER 19.—**Langport.**—STABLES.—The Great Western Railway invite tenders for the erection of stables at Langport, Highbridge, and Martock, Somersetshire. Plans and specification seen, and forms of tender and quantities at the office of the Engineer at Taunton Station.

NOVEMBER 19.—**Weston-super-Mare.**—STABLE.—The Great Western Railway invite tenders for the erection of a stable at Weston-super-Mare. Plans and specification seen, and forms of tender and quantities at the office of the Engineer at Bristol Station.

NOVEMBER 21.—**Caistor.**—COTTAGES.—For the erection of cottages. Plans, specifications, and tender to Mr. A. A. Padley, Clerk, Council Offices, Caistor.

* NOVEMBER 21.—**St. George-in-the-East.**—HOT-WATER SUPPLY.—The Guardians of the Poor of the Parish of St. George-in-the-East invite tenders for alterations to the hot-water supply system. See advertisement in this issue for further particulars.

* NOVEMBER 21.—**Upper Clapton.**—BRANCH LIBRARY.—The Hackney B.C. invite tenders for the erection of a Branch Library. See advertisement in this issue for further particulars.

NOVEMBER 22.—**Ballyclough.**—IMPROVEMENTS.—For improvements to the Ballyclough N. School. Plans and specifications at the schools.

NOVEMBER 25.—**Bristol.**—EXCHANGE, ETC.—Erection of the Bristol Labour Exchange and Probate Registry. Drawings, specification, and conditions and form of contract with Mr. F. A. Huntley, H.M. Office of Works, Bristol. Quantities and forms of tender, on deposit of 1l. 1s., from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.

* NOVEMBER 25.—**Chorley Wood.**—SCHOOL.—The Herts C.C. Education Committee invite tenders for new County Council school. See advertisement in this issue for further particulars.

NOVEMBER 25.—**Granton.**—ADDITIONS.—For additions to the Palace Hotel, Grantown-on-Spey. Plans, specifications, etc., with Mr. R. B. Patti, A.R.B.A., architect, 10, High-street, Elgin.

* NOVEMBER 25.—**London.**—MAYORS' YARD.—The Commissioners of H.M. Works and Public Buildings invite tenders for new masons' yard, Dean Bradley-street, Millbank, S.W. See advertisement in this issue for further particulars.

* NOVEMBER 26.—**Bristol.**—LABOUR EXCHANGE, ETC.—The Commissioners of H.M. Works and Public Buildings invite tenders for Labour Exchange and Probate Registry. See advertisement in this issue for further particulars.

DECEMBER 1.—**Longford.**—LIBRARY.—Erection of a library and gymnasium at St. Mel's College, Longford. Plans and specifications with Mr. T. F. McNamara, architect, 192, Great Brunswick-street, Dublin.

DECEMBER 2.—**Cullen.**—HARBOUR WORKS.—Construction of harbour extension works, comprising the removal of the existing stone jetty and construction of a new concrete jetty; the deepening of the existing harbour and excavation in soft material and rock for its extension landwards; the construction of a concrete path and road running wall, ship and extending beach; sheet piling, and other works. Drawings and specification with the Engineer to the Burgh for these works, Mr. W. T. Douglas, M.Inst.C.E., 15, Victoria-street, Westminster, S.W. Deposit of 1l.

DECEMBER 18.—**Birmingham.**—HOUSES.—Erection of homes for epileptic and feeble-minded children and adults, a school, an administration block, assembly-room, and other buildings and works in connexion therewith, at Monyhull Colony, King's Heath, Birmingham. Plans and specifications by Messrs. C. Whitwell & Son, architects, Newhall-street, Birmingham. Quantities by Mr. L. Williams, quantity surveyor, Temple-row, Birmingham. Deposit of 25s.

NO DATE.—**Baldon.**—HOUSE.—Erection of a detached house at Tong Park, Baldon. Messrs. S. Jackson & Son, architects, 11, Tanfield-chambers, Bradford.

NO DATE.—**Balla.**—CHAURCE.—Erection and completion of the new Church of St. Paul, Balla. Plans, Drawings and specification seen, and quantities from Messrs. Doolin & Butler, architects, Mansion House-chambers, Dublin.

NO DATE.—**Farnhill Hall.**—COTTAGE, ETC.—Erection of a farm-house, stables, and cottage at Farnhill Hall. Plans seen, and quantities from Mr. James Hartley, architect, Skipton.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 8.—**Aberdeen.**—RESTORATION.—For the restoration of Oldmill Poorhouse steading, Aberdeen. Plans with Mr. A. H. L. Mackinnon, architect, 245, Union-street.

NOVEMBER 9.—**Ballybrittas.**—DISPENSARY, ETC.—Erection of a dispensary and caretaker's residence, Ballybrittas, Co. Wick. Plans and specifications by Mr. Joseph Bannion, Engineer, 8, Bridge-street, Maryborough, seen at the Board-room, Workhouse, Monimack.

NOVEMBER 11.—**Banbridge.**—RESIDENCE.—For erection of a dispensary and Medical Officer's residence in Co. Antrim, Banbridge. Plans and specifications by Mr. W. W. Larnor, architect, seen at the Poor Law Office, Banbridge.

NOVEMBER 11.—**Morley.**—ADDITIONS, ETC.—Alteration and addition to Victoria Mills, Morley, for Messrs. Benn & Webster. Plans and specifications seen, and quantities from Mr. T. A. Bultery, Lic.R.T.A., architect, Queen-street, Morley, and at 1, Basinghall-square, Leeds.

NOVEMBER 12.—**Aspatia.**—ALTERATIONS.—For alterations to property in King-street. Plans and specifications with Mr. J. Henney, architect and surveyor, Aspatia.

NOVEMBER 12.—**Wedsbury.**—URINAL.—For erection of a public urinal in the High Bullen. Plans and specifications seen, and form of tender from Mr. E. Martin Scott, Borough Surveyor, Town Hall, Wedsbury.

BUILDING—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

No DATE. Lealholm.—ALTERATIONS, ETC.—For alterations to cottages at Lealholm and Ruwarp. Drawings seen, and specifications from Mr. Arthur E. Young, architect and surveyor, 77, Baxtergate, Whitby.

No DATE. Merthyr Tydfil.—WORKS.—For various works at Pen-y-darren Park, Merthyr Tydfil, for the Merthyr Town Association Football Club Company, Ltd. Particulars from Mr. O. P. Bevan, P.A.S.I., architect and surveyor, Express Chambers, Merthyr Tydfil.

No DATE. Padiham.—SHOPS, ETC.—For rebuilding of shop property in Burnley road, Padiham. Architect, Mr. Fred. J. Parkinson, 9, Richmond-terrace, Blackburn. Deposit of 11. 1s.

No DATE. Pontypriid.—IMPROVEMENTS.—For erecting and other improvements in Eglwysbach Chapel, Pontypriid. Plans and specification at 76, Merthyr-road, Pontypriid.

No DATE. Swansea.—HOUSES.—For the erection of four houses, Le Breos-avenue, Sketty-road, Swansea. Messrs. Wm. Cousins & Son, surveyors, 17, Victoria-terrace, King Edward-road, Swansea.

No DATE. Zynslas.—HOUSE.—For erection of a house. Plans, specification, and particulars from Messrs. Deakin & Howard Jones, M.S.A., Plas Ynys, Borth, R.S.O.

ENGINEERING, IRON, AND STEEL.

NOVEMBER 9.—Forehoe.—BRIDGE.—For the rebuilding of the Cavick Bridge, Wymondham. Plans and specifications with Mr. Wm. Partidge Smith, Clerk to the Council, Vicar-street, Wymondham.

NOVEMBER 11. Keighley.—ALTERNATOR.—For one 2,000-kw. steam turbo-alternator, complete with surface-condensing plant. Specification and form of tender from Mr. H. H. Webber, A.M.I.E.E., Borough Electrical Engineer, Electricity Offices, Conely-lane, Keighley, on 11. 1s. deposit.

NOVEMBER 13. Birmingham.—BRIDGE.—For the construction of a bridge over the River Cole in Foreman's-road, Sparkhill. Drawings and specifications seen, and quantities and form of tender from Mr. H. E. Stilgoe, M.Inst.C.E., City Engineer and Surveyor, Council House, Birmingham, on deposit of 2l.

NOVEMBER 13. Lymm.—PLANT, ETC.—Erection of one 100-gallon ejector and two air compressors, alterations to existing ejectors, repairs and renewals to two existing gas-engines and adjunct works. Specification and particulars from the Engineer, Mr. W. M. Beckitt, A.M.I.C.E., 33, Bransford-street, Manchester.

NOVEMBER 13. Seaton Sluice.—RAILWAY. The North-Eastern Railway invites tenders for the construction of railways at Monkseaton, the widening of a portion of the Avenue branch, and a new railway to Seaton Sluice. Plans, specification, and schedules of quantities at the office of the Company's Chief Engineer, Mr. Charles A. Harrison, Port Banks, Newcastle-on-Tyne.

NOVEMBER 14. Hull.—EMBANKMENT. Construction of an earthwork embankment, 43.40 chains in length, and for the raising of an existing earthwork embankment, 29 chains in length, on the north side of Read's Island, in the River Humber, near South Ferry. Specifications and form of tender from Mr. Alfred J. Franklin, Secretary, Conservancy-builders, Hull.

*** DECEMBER 2. Aberdeen.**—STEAM HEATING.—The Aberdeen Joint Station Committee invite designs and tenders for a complete system of steam heating for the new station buildings. See advertisement in this issue for further particulars.

DECEMBER 6. East Cowes.—ROOF HOPE.—For sinking an artesian bore hole at Burnt House, Isle of Wight. Plans and specifications seen, and particulars from the Council's Surveyor, Mr. Albert Edward Barton, Town Hall, East Cowes. Deposit of 2l. 2s.

DECEMBER 7.—Merthyr Tydfil.—RESERVOIR.—Construction of a reservoir (the Tai Fechan Reservoir) near the Pontetill junction of the Brecon and Merthyr Railway, with its outfalls, road diversions, and other ancillary works; also supplying and laying of about fifteen miles of cast-iron pipes. Drawings seen, and specifications and quantities from Sir Alex. Binny, Son, & Deacon, St. Stephen's House, Victoria-embankment, London, S.W. Deposit of 5l.

FURNITURE, PAINTING, MATERIALS, etc.

NOVEMBER 13.—Burnley.—PAINTING.—For painting, etc., at the Workhouse. Forms of tender from Mr. J. S. Horn, Clerk, Union Offices, Burnley.

NOVEMBER 16.—Halifax.—PAINTING.—For painting sundry schools. Specifications seen, and forms of tender from Mr. J. Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax. Deposit of 5l.

*** NOVEMBER 19.—East Ham.**—SCHOOL FURNITURE.—The East Ham Education Committee invite tenders for supply of school furniture for the Teachers' Training College, Cotingham-road, Hull. Particulars from the City Treasurer, Guildhall, Hull. Deposit of 1l. 1s.

No DATE. Pontypriid.—PAINTING.—For decorating and painting Eglwysbach Chapel, Pontypriid. Particulars from 76, Merthyr-road, Pontypriid.

ROADS, SANITARY AND WATER WORKS.

NOVEMBER 9.—Hoohe.—GREEN.—For laying a new bowling green in the Alexandra Park, Hoohe. Plans and quantities from Mr. Fred Davies, Consulting Surveyor, 14, Newgate-street, Chester.

NOVEMBER 9.—Keighley.—VALVES, ETC.—For the delivery of sluice valves, air valves, fire hydrants, etc., required in connexion with the new main from Denby-hill to Moss Carr. Specification, form of tender, and schedule from the Engineer, Mr. M. Ratcliffe Barnett, M.Inst.C.E., Town Hall, Keighley.

NOVEMBER 11. Bedlington.—ROAD.—For the making-up of Back Gordon-terrace, Bedlington, and portion of Cross-street. Plans, specification, and quantities at the office of the Surveyor of the Council, Mr. J. Johnston, Bedlington.

NOVEMBER 11. Cockermouth.—SEWER, ETC.—For laying a sewer at Eagleshead and construction of 30 lb. riser, of square stone culvert. Particulars from Mr. J. B. Wilson, A.M.I.C.E., Grecian Villa, Cockermouth.

NOVEMBER 11. East Cowes.—GRAVEL.—For supplying 500 cubic yds. of gravel and 300 cubic yds. of granite. Specifications seen, and particulars from the Council's Surveyor, Mr. Albert E. Barton, Town Hall, East Cowes.

NOVEMBER 11.—London.—PAVING.—For the making-up and paving of that part of South-croft-road, Streatham, which lies between Mitcham-lane and Nos. 15 and 16 (inclusive), Southcroft-road, Wandsworth. Specification and drawings seen, and forms of tender from the Borough Engineer, Mr. P. Deane, M.Inst.C.E., at the office of the New Streets Department, No. 56, East-hill, Wandsworth, S.W. Deposit of 5l. 6s.

NOVEMBER 12. Edmonton.—STREETS.—For making-up the following private streets: Seymour-road, Monmouth-road (part), Cornwallis-grove (part), Beamish-road, Kenwood-road, Junction-road, Sunnyside-road North, Sunnyside-road East, Sunnyside-road South, Park-avenue, Bush Hill Park. Plans, particulars, and forms of tender from the Council's Engineer and Surveyor, Mr. Cuthbert Brown, A.M.I.C.E., at the Town Hall, Lower Edmonton. Deposit of 2l. 2s.

NOVEMBER 12. Saltash.—KERBING.—For kerbing, channelling, and Dean stone paving in North-road, Tamar-street, and Albert-road, Saltash. Plans and specifications at the Borough Surveyor's Office.

NOVEMBER 13.—Birmingham.—ROAD.—For the reconstruction of a portion of Foreman's-road, Sparkhill, including excavating, forming, metalling, and carriage ways, drainage, drains, gullies, flagging footpaths, surface-water conductions, sewers, and manholes. Drawings and specification seen, and quantities and form of tender, on deposit of 2l., from Mr. Henry E. Stilgoe, M.Inst.C.E., City Engineer and Surveyor, the Council House, Birmingham.

NOVEMBER 13. Chatham.—MATERIALS.—For the supply of materials. Specifications and forms of tender at the Borough Surveyor's Office, Town Hall, Chatham.

NOVEMBER 13.—Easington.—STREETS.—For the paving of East-terrace (back), Hulam-street (back and front), Hilda-street (back and front), Front, Armeson-street, Boyd-street (back and front), Back Church-street, with three cross streets: Wilkinson-street (back and front), Back Burdon-street, South-terrace (back and front), with two cross streets; and Back, Front-street. General conditions and specification from Mr. Gilbert Waterhouse, Surveyor, Easington, Castle Eden. Deposit of 2l. 2s.

NOVEMBER 13.—Haslemere.—ROADS.—For the paving and making-up of West-street and bridge-street. Plans and specifications seen, and quantities from the District Surveyor, Mr. S. B. Hazell, High-street, Bramley, Surrey. Deposit of 1l. 1s.

NOVEMBER 15.—Brighton.—FLINTS.—For the supply of 4,000 cubic yds. of hand-picked land flints. Specification and form of tender from the Borough Surveyor, Town Hall, Brighton.

NOVEMBER 15. Seacroft.—SEWER.—For excavating, laying pipes, refilling trenches in respect of a line of 6-in. internal diameter cast-iron pipes, about 4,894 yds. in length, along the York and Barwick-roads from Heaton Dial to Stanks Bridge; also a line of 4-in. internal diameter cast-iron pipes, about 1,264 yds. in length. The drawings at the office of the Waterworks Engineer, Great George-street, Leeds.

NOVEMBER 16. Nelson.—STREETS.—For private street works. Plans and specifications seen, and particulars from Mr. W. W. Shuckleton, A.M.I.C.E., Borough Engineer and Surveyor.

NOVEMBER 18.—Durham.—COVER.—For the formation of a tennis court, raising off the football field, alterations to Hartlepool Henry Smith School. Plan, specification, and general conditions of contract at the school, Mr. J. J. Education, Shire Hall, Durham.

NOVEMBER 20. Tring.—SEWAGE, ETC.—For street works in Longfield-road and Beaconsfield-road, and sewers in Mianwell-lane and Ayiesbury-road. Plans, conditions, and specifications seen, and quantities and forms of tender, on deposit of 1l. 1s., from Mr. S. S. Gettings, A.M.I.C.E., Surveyor, Surveyor's Office, Tring.

NOVEMBER 22.—Lewes.—MATERIALS.—For supply of materials. Particulars, conditions of contract, and forms of tender from Mr. F. J. Wood, A.M.I.C.E., County Surveyor, County Hall, Lewes.

NOVEMBER 25. Coventry.—PIPS.—For the supply of earthenware or stoneware pipes. General conditions and specification, with tender and quantities, on deposit of 3l. 2s., from Mr. J. E. Swindell, M.Inst.C.E., City Engineer and Surveyor, St. Mary's Hall Coventry.

NOVEMBER 25.—Newmarket.—TANK, ETC.—Supply of 3-in. cast-iron pipes and specials, and the erection of cast-iron tank. Plans and specifications seen, and quantities and form of tender from the engineers, Messrs. Sands & Walker, Milton-terrace, Nottingham. Deposit of 3l. 3s.

NOVEMBER 26. Friern Barnet.—ROADS.—For kerbing, channelling, making-up, etc., Hollyfield-avenue and part of Clondes-avenue. Forms of tender and particulars from Mr. E. J. Reynolds, A.M.I.C.E., the Council's Engineer and Surveyor, Council Offices, The Priory, Friern Barnet, N.

NOVEMBER 26.—Gloucester.—SEWAGE.—For a main outfall sewer passing under Great Western Railway Dock Branch embankment; sinking and lining two cast-iron shafts, driving and lining a cast iron tunnel. Drawings seen, and specification, form of tender, and quantities from Messrs. Wm. Fox, F. W. La. Trobe-Buteman & J. R. Fox, 5, Victoria-street, Westminster, or the Surveyor, Mr. R. Read, Guildhall, Gloucester, on deposit of 2l.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*CHIEF CLERK OF WORKS	Com'rs. of Irish Lights	150l. per annum	Nov. 27

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*PLANT, STOCK, MACHINERY, Etc.—On the Premises.	C. D. Levy	Nov. 13
*DEALS, BATTENS, BOARDS, TIMBER, &c.—Great Hall, Winchester House, E.C.	Churchill & Son	Nov. 13
*FREEHOLD BUILDING LAND, SUTTON & CARSHALTON Greyhound Hotel, Croydon.	Robt. W. Fuller, Moon, & Fuller	Nov. 14
*ENGINEER'S PLANT, KING'S CROSS, N.—On the Premises	Horne & Co.	Nov. 15
*FREEHOLD BUILDING PLOTS & SHOPS—At the Mart	Robt. W. Fuller, Moon, & Fuller	Nov. 15
*BUILDING SITES, SURREY—At Station Hotel, Kinwood	Denham & Lambert	Nov. 16
*FREEHOLD LAND, CHRISTWICK—At the Mart	Tyler, Greenwood, & Co.	Nov. 19
*FREEHOLD BUILDING SITE, NOTTING-HILL GATE—At the Mart	Horne & Co.	Dec. 10
*FREEHOLD ESTATE, LEWISHAM—At the Mart	David Smith & Son	No date.
*WOOD-WORKING MACHINERY & BLD'G'S. STK. & PLANT, BATTERSEA—On the Prem.	J. T. Skelding & Holland	No date.

METALS (Continued).

Iron (Continued).	Per ton, in London.	
Galvanized Corrugated Sheets—	£ s. d.	
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0	—
" " 22 g. and 24 g.	15 0 0	—
" " 26 g.	16 15 0	—
Best Soft Steel Sheets, 3ft. by 7ft.	12 0 0	—
To 3 ft. to 20 g. and thicker.	12 0 0	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	—
" " 26 g.	15 10 0	—
Cut Nails, 3 in. to 6 in.	11 0 0	11 10 0
(Under 3 in., usual trade extras.)		

LEAD, &c.

Delivered in London.

	£ s. d.	
LEAD—Sheet, English, 4lb. and up	22 10 0	—
Pipe in coils	22 10 0	—
Soil pipe	25 10 0	—
Compo pipe	25 10 0	—
Zinc—Sheet—	In casks of 10 cwt.	—
Vielle Montagne	33 15 0	—
Silesian	33 10 0	—
Zinc, in bundles, 1a. per cwt. extra.		
COPPER—		
Strong Sheet	per lb.	0 1 1
Thin	"	0 1 2
Copper wire	"	0 1 0
Copper wire	"	0 1 0
BRASS—		
Strong Sheet	"	0 1 0
Thin	"	0 1 1
Tin—English Ingots	"	0 2 3
Solder—Plumbers'	"	0 1 2
Gunmen's	"	0 1 2
Blowpipe	"	0 1 4

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	24l.	28 oz. thirds	4d.
" fourths	24l.	32 oz. thirds	3d.
21 oz. thirds	34l.	" fourths	4d.
" fourths	34l.	Fluted Sheet, 15 oz. 3d.	
26 oz. thirds	44l.	" 21 oz. 3d.	

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

1 Rolled plate	24l.	Figured Rolled, Oxford	
" Rough rolled and		ford Rolled, Oxford	
" cast plate, 24l.		anic Arctic Muffed,	
" Rough rolled and		rolled Calthe-	
" rough cast plate, 3d.		dral, white	5d.
" Ditto, tinted			5d.

* Not less than two crates.

OILS, &c.

	£ s. d.	
Raw Linseed Oil in pipes	per gallon	0 2 9
" " in barrels	"	0 2 10
" " in drums	"	0 2 11
Boiled " in barrels	"	0 2 11
" " in drums	"	0 2 11
Turpentine " in drums	"	0 2 9
" " in drums	"	0 2 9
Genuine Ground English White Lead, per ton	31 0 0	
Red Lead, Dry	27 0 0	
Best Linseed Oil Fatty	per cwt.	10 6
Stockholm Tar	per barrel	12 10 0

VARNISHES, &c.

Per gallon.

	£ s. d.	
Fine Pale Oak Varnish	0 8 0	
Pale Copal Oak	0 10 6	
Superfine Pale Elastic Oak	0 12 6	
Fine Extra Hard Church Oak	0 10 0	
Superfine Hard-drying Oak, for seats of Churches	0 14 6	
Fine Elastic Carriage	0 12 0	
Superfine Pale Elastic Carriage	0 16 0	
Fine Pale Maple	0 10 0	
Finest Pale Purple Copal	0 18 0	
Extra Pale French Oil	1 10 0	
Eggshell Flating Varnish	0 18 0	
White Pale Enamel	1 4 0	
Extra Pale Paper	0 12 0	
Best Japan Gold Size	0 10 6	
Best Black Japan	0 16 0	
Oak and Mahogany Stain	0 8 0	
Brunswick Black	0 8 0	
Berlin Black	0 10 0	
Knottin	0 10 0	
French and Brush Polish	0 10 6	

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

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N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accorded for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BLACKBURN.—For erection of the first portion of the new Evangelical Protestant Church, Fecit Brow. Mr. F. J. Parkinson, architect, 9, Richmond-terrace, Blackburn. Quantities by architect.—

Marshall & Tuning, Bold-street, Blackburn*. £595

BUCKNALL.—For erection of a relief-station in Wellington-road, for the Stoke-upon-Trent Board of Guardians. Mr. A. R. Piercy, architect, Union Offices, Stoke-upon-Trent.—

T. Godwin..... £817 0 0 T. Cooper..... £745 10 0
A. E. Chatfield..... 820 0 0 Ball & Robinson..... 700 0 0
B. James..... 782 0 0 W. Thomas & Son.....
Mellor & Son..... 782 0 0 E. Green.....
C. Corcoran & Son..... 775 0 0 street, Hanley* 683 0 0

CAERPHILLY.—For four pairs of semi-detached houses on the Fairfield Estate, Caerphilly, for the Caerphilly Co-operative Garden Village Society, Ltd. Mr. W. H. Wright, surveyor.—

D. Bryan..... £350 0 0 T. Adams, Dav-
Cardiff Decorating & Building Co., Ltd..... 507 0 0
F. Bristol..... 1,944 19 4
J. Lewis & Sons..... 400 0 7
Hamilton & Millard..... 1,850 0 8
P. Davies & Lewis..... 1,780 0 13
T. Rossiter, jun., Bron
Llys, Caerphilly*..... 200 0 0

DAVENTRY.—For erection of a public elementary school, for the Northampton County Education Committee. Messrs. Talbot, Brown, & Fisher, architects, Wellington—

Holland & Marks..... £4,112 14 9 W. Cope & Son £3,773 0 0
T. Swindall..... 3,564 0 0 W. Hawin..... 3,279 0 0
O. P. Driver..... 3,525 0 0 E. Green..... 3,265 0 0
Hickley Bros..... 3,487 0 0
E. Brown & W. H. Webster..... 3,115 0 0
Son, Ltd..... 3,447 8 8 T. Adams, Dav-
E. Marriott..... 3,410 0 0 entry..... 3,080 0 0

HANLEY.—For erection of a relief-station at the rear of 97, Moston-street, for the Stoke-upon-Trent Board of Guardians. Mr. A. R. Piercy, architect, Union Offices, Stoke-upon-Trent.—

C. Smith & Son..... £800 0 0 Ball & Robinson..... £10 0 0
T. Godwin..... 136 0 0 W. Thomas & Son.....
H. Bartley..... 136 0 0 E. Green.....
A. E. Chatfield..... 116 0 0 Hanley*..... 98 0 0
J. Roberts..... 115 0 0

HENDON.—For the erection of a cinematograph theatre for the Hendon Cinema Company, Ltd., at corner of Brent-street and Bell-lane, Hendon. Mr. Percy A. Boulton, architect, 11, Finsbury-avenue, Chiswick, W.—

W. T. Batchelor & Sons..... £1,075 0 0
H. & E. Less..... 883 0 0
R. N. Murrable, Leytonstone*..... 855 0 0

LONDON.—For rebuilding the Middle-row School, Kensington, for the London County Council—

Leslie & Co., Ltd..... £24,529 0 0 G. E. Wallis & Sons, Ltd..... £21,944 0 0
C. F. Kealey..... 23,468 0 0
F. & H. F. Higgins..... 23,430 0 0
W. Johnson & Co., Ltd..... 21,923 0 0
J. & C. Bow, Ltd..... 23,056 0 0
Ltd..... 23,036 0 0
Ltd..... 22,936 0 0
G. Godson & Sons, Ltd..... 21,300 0 0

LONDON.—For constructing a main outfall sewer for the eleventh asylum on the Horton Estate and for an approach road to the asylum, for the London County Council—

Construction of Main Outfall Sewer.
Airds, Ltd..... £5,846 0 0 S. Kavanagh & Co. £3,977 0 0
D. E. Paterson..... 4,350 0 0 J. Mowlem & Co., Ltd..... 4,160 0 0
J. Dickson..... 4,160 0 0

Formation of Approach Road.
J. Mowlem & Co., Ltd..... £1,031 0 0
J. Appleby & Sons..... £1,193 0 0 S. Kavanagh & Co. £77 0 0
H. Boyer..... 1,075 0 0 Surbiton*..... 977 0 0

LONDON.—For heating installation at the Ricardo-school, Poplar, for the London County Council—

J. Grey, Ltd..... £1,080 0 0
J. C. Christie..... 870 16 0
B. Harlow & Son..... 870 16 0
Brightside Foundry & Engineering Co., Ltd..... 833 0 0
Hayward Bros. & E. Keaten, Ltd..... 875 0 0
A. Macintosh & Sons, Ltd..... 785 5 6

LONDON.—For enlarging playground at the Randall-place School, Greenwich, for the London County Council—

Luster & Co..... £208 0 0 H. Bragg & Sons, Ltd..... £269 0 0
Galbraith Bros., Ltd..... 538 0 0 G. Parker & Sons..... 465 0 0
J. Appleby & Sons..... 457 0 0 W. V. Croft..... 419 11 0
T. W. Heath & Son..... 450 0 0 E. Mills..... 437 0 0

LONDON.—For the erection of a bandstand shelter in Springfield Park, for the London County Council—

Newell..... £257 0 0 J. C. Mather..... £323 0 0
R. Harding & Son..... 375 10 0 Marchant, Hirst & Co. Godson & Sons 356 0 0 & Co. 293 0 0

PORTLAND.—For erection of a new elementary school. Mr. E. J. Brett, architect, Wimborne—

Jesty & Baker, Portland, Dorset*..... £3,949 0 0

LONDON.—For adaptation of part of manse, Golden's Hill as a residence, for the London County Council—

G. Godson & Sons £297 0 0 Marchant, Hirst, & Co. 285 0 0
Rowley Bros..... 270 0 0 J. Grover & Son.....
C. C. Mather..... 270 0 0 Stevens & Sons.....

WINCHMORE HILL (Middlesex).—For the erection of a new Council school, for the County Council, Middlesex. Mr. H. G. Crothall, Architect to the Council Committee—

J. C. Tennant & Co. £12,219 0 0 Fitch & Cox..... £11 0 0
A. Porter..... 10,772 0 0 W. J. Dickens.....
H. Knight & Son..... 10,585 0 0 W. Lawrence & Co. 10,490 0 0
G. Neal..... 10,490 0 0
Rowley Bros..... 10,456 0 0 Fairhead & Son.....
Brand, Pettit, & Co..... 10,452 0 0 A. Monk.....
W. Lacey..... 1,418 0 0 Maitock Bros.....
W. Wood Green*.....

† Recommended for acceptance.

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A JOURNAL FOR THE ARCHITECT

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CONSTRUCTIVE & DECORATIVE ARTS

DL. CIII.—No. 2641.

NOVEMBER 15, 1912.

ILLUSTRATIONS.

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WINNING DESIGN, BY MESSRS. TRACY & SWARTWOUT.
THE BRITISH SCHOOL AT ROME. MR. EDWIN L. LUTYENS, F.R.I.B.A., ARCHITECT.

BAROQUE ARCHITECTURE: VI.—
PALAZZO FRESCOBALDI, FLORENCE.
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THE NEW BRITISH SCHOOL AT ROME.

THE project, which is now well-under way, to expand the present British School at Rome and make it a centre, and a residential centre, for picked students in architecture, painting, sculpture, and archaeology, will call for the cordial good wishes of all. Up to now the British School at Rome has been the focus of much archaeological work, and particularly under the gifted guidance of now Messrs. Danister Plitcher & Sons. But it has been cramped for space and limited in scope, unable to receive the many students of art who come to Rome more than the hospitality of its common room in the Odescalchi Palace, and the ready advice and sympathetic help of its directors in the framing of plans of study. With the help of funds obtained from the Commissioners of the 1851 Exhibition will before long be possible to substitute for this a new school more spacious on the lines of the French School at the Medici Villa; each of the branches of architecture, sculpture, painting, and archaeology will then be free to develop its own lines of study, drawing at the

same time inspiration from its sense of being one part of a great whole.

It is a scheme quite new to British ideas. Hitherto our schools both at Rome and Athens have been essentially archaeological, rather for the scholar than the artist. It is now proposed to combine the two. And there may be some who would at first sight be inclined to look askance at the suggestion where it touches the training of architectural students; some who feel that we are now to conceive of architecture as essentially something alive, a thing of the future, not of the past, "a living architecture" (to quote Professor Lethaby), "always being hurled forward from change to change."

We must at once confess to a large amount of sympathy with this view of architecture as a something vital which is looking to the future, but not with the further implication that in order to see the future we must turn our backs upon the past. If the student is to deal finely with the architectural problems of the future he must add to his knowledge of structural mechanics, his familiarity with materials, his grasp of arrangement, a faculty of imagination without which

these various factors cannot be fused into a single whole. Imagination, that most elusive of faculties, might perhaps be provisionally defined as the "power of detachment from the present, the power which can make the past live for the poet or historian, the future for the artist. Rome is so permeated with the spirit of the past that it is difficult to be there long and escape the infection. And from the earliest days of the settlement on the Tiber hills, when the "bridge-builder" was "pontifex" and chief priest, to the audaciously dominant memorial of King Victor Emmanuel in our own day, Rome has tended to express herself in 'building. This in itself naturally stirs the architectural imagination, and the student will feel the force of this appeal strengthened in proportion as he feels himself, not a unit in a multitude of sightseers, but in a measure a citizen of it, through his membership of the British School, as an undergraduate feels himself a citizen of his University town.

So much by way of general reply to those who might be led to consider the whole project a step back rather than forward. The details of the method of

selecting students have already been published. There is to be, in the first place, an open qualifying examination, the subject set for this being worked out as far as possible concurrently in this country and in the colonies. The designs must be submitted by competitors in Great Britain not later than December 7 of this year, and by those in the Colonies not later than January 20, 1913. This will be followed by a first competition, open to candidates selected in the open examination, to the winners of certain scholarships, and to candidates nominated by certain bodies, and to colonial students upon certain conditions. It will be judged on the designs of given subjects worked out in the students' own time and at home. Out of this competition will emerge ten tested men qualified to sit for the final competition, which will be held on the premises of the Royal Institute of British Architects. These candidates will work *en loge*, and at the end of the first day the sketch designs will be sealed down under tracing-paper. The designs will then be worked out in the three weeks allowed *en loge*, on the lines of the first sketch design. Candidates must be British subjects and less than thirty years of age at the date of entry for the final competition in September of each year. The general control of the examination will be vested in the Faculty of Architecture of the new School, with Professor Reginald Blomfield, A.R.A., as Chairman and Professor Reilly as Hon. Secretary.

The Rome Scholarship will be tenable for three years, and will be of the yearly value of 200*l*. When the scheme has been working three years there will be at Rome three architects, three painters, and three sculptors, working there in any one year exclusive of the archaeologists, who will be on somewhat different lines, each drawing 200*l*. per annum. Similar in every way, except that it is open to all Associates and students of the Royal Institute of British Architects under the age of thirty years, and to them alone, will be the scholarship which is now being founded by the Institute from money left by the late Mr. Jarvis. And no doubt other exhibitions and studentships will be founded in connexion with the new School.

We are further enabled in this issue, by the courtesy of the Commissioners and the architect, to reproduce plans and the principal elevation of the new School on one of our Plates. For the British Fine Art Section in last year's Rome Exhibition Mr. E. L. Lutyens designed a temporary building in the Borghesi Gardens; this has been generously given by Colonel Humphreys to the new School, and the Syndic of Rome has given the freehold site. The original building was of timber framing and plasterwork, built with that remarkable skill in counterfeiting stonework which the Italians possess. The general design of the façade is not unfamiliar to students of Wren's work. The timber and plaster façade is to be replaced by brickwork similarly plastered. The Italians thus perpetuate the methods of Imperial Rome, using, however, the dust of Tivoli stone in place of powdered marble. It is, of course, an imitation of stonework, as is nearly

the whole of Palladio's work at Vicenza. Though it may seem an insincere method to the Englishman, it is almost the normal to an Italian. All the same, it might be wished that the Commissioners had seen their way to using travertine. But the additional cost, we understand, would have been prohibitive.

The immediate intention of the Commissioners is to build the part distinguished by a slight tint on the plans we reproduce, omitting at first the Director's room and the common-room at each end of the façade, and also all the residential quarters. We must strongly express our hope that it will be possible very soon to build the students' rooms, and further to lay out a garden. The idea of the School as a hostel—a college where students can live together—is one of the most attractive points about the scheme, and one fullest of promise.

A certain amount of criticism has been directed against the system of the Final Examination, and particularly against the *en loge* system. No doubt this method is unfamiliar to British students, but the architectural schools can remedy that. It is questioned further whether the best designs are going to be produced on these lines, whether it is not likely to be most fruitful to encourage the slow maturing of an idea and its rapid working out, rather than a swift conception elaborated at leisure; or at least whether it is wise to tie the competitors down to any particular method. We gather that in France one result of the *en loge* method has been to develop the facility of sketching out a first design which is so vague that it will not hamper later and happier ideas. In any case, however, the system of examination is at first necessarily experimental, and we do not suppose that there will be any difficulty in modifying it later. This is only a criticism of detail. The larger question of administration is no doubt being thoroughly considered. We imagine that each of the four branches of the School will be eventually under its own Director. The appointment of the Director of Architecture naturally concerns us most here. He will need to be a man of wide sympathies and infectious enthusiasm, and at the same time able to hold his own in an intellectual centre such as Rome. We shall look forward with interest to the appointment.

The lines of study to be pursued by the prizemen will naturally be left to the Director and the Faculty. They will no doubt be guided to some extent by the experience of the French School, but the model will not be servilely copied. A vast amount of restoration work on paper has already been done; without doubt the French School has made that field peculiarly her own. The educational value of some ambitious restoration work, such as that of M. Chedanne at the Pantheon, or M. Hulot more recently at Selinus, is very great. It is a big work, needing all a man's energies, a systematic and exacting piece of training, demanding observation, accuracy, and imagination. And it is lit by the glory of the explorer. The major portion of the student's time as scholar of the School at Rome will doubtless be devoted to one large

and absorbing labour, whatever it be, whether recording masterpieces of the Renaissance in Italy, collating plans of Baroque churches, or investigating the ancient Etruscan remains scattered about the country about which all too little are known. For Rome will be the headquarters, but not necessarily the field of action. Advantages will naturally be taken of its position as centre of the Mediterranean world. But we hope a *chef-d'œuvre* will be an essential part of the course. The butterfly habit is too largely ours. And it is important that the student should have the stimulus of the feeling that he is really doing a work of importance, adding to the world's stock of knowledge and inspiration. "Self-improving" is abhorrent to the right-minded.

Will this great adventure be backed up? Will men be found ready to devote three years to further study? For by the nature of the competition only mature students, who have already undergone a stringent apprenticeship, are contemplated. We may say at once, fully and frankly that the whole scheme is in jeopardy unless there is some guarantee that the Rome prizemen will be marked men in after life, reasonably secure of work under Government patronage. Even the French, who have far more a nation of students than we have this stimulus, in addition to the distinction of the Prix de Rome, of an assured career. We have reason to believe that the Commissioners are by no means blind to this aspect of the question. And the success of the scheme is largely bound up with it.

It is, indeed, a notable adventure, a promise. Should it succeed it may react upon the intellectual as well as the artistic life of the nation. To have in Rome a great college of scholars supported by public and private money and devoted to the study of what has been that we may know more clearly what shall be—a building which will naturally tend to become the centre of English life there—is to take our place again among the cultured nations in the eyes of Europe, a place we have lost since the Napoleonic wars. To the Commissioners and the Committee we have carried on the preliminary negotiations we owe a debt of gratitude. It can only be hoped that the response will be adequate to the opportunity.

A CITY IMPROVEMENT.

WE are glad to note that the Corporation of the City of London appear to be taking a keen and intelligent interest in the possibilities of improvement brought on the tapis in connexion with the building of St. Paul's Bridge, and we may congratulate the newly-formed London Society on the useful public work they appear to be doing in initiating interest in these improvements.

A brief résumé of the various steps which have led up to a meeting of the Corporation, which we understand to be held next Thursday, at which some general settlement may be arrived at, may not be out of place.

In answer to a question asked in the House of Commons on July 24 last

whether street improvements in
ity to the Post Office could be
ered, the Postmaster-General re-
that if the City Corporation desired
any suggestions he "would be
de to consider them."

holidays intervening, the Secre-
the London Society wrote to the
Commissioner to ask whether the
operations at the south end of
General Post Office site could be
over till the end of October, and
er was received in reply stating
it would be some time before
ag operations on that part of the
uld be commenced.

sub-committee of the London
y was then appointed to consider
atter, and on October 30 a depu-
from the Society waited on the
ation and placed before them
plans embodying suggestions
by Mr. Crow, to which we referred
issue of August 16, and also a
tion of Mr. Leverton for con-
g the new road in a straight line
would absorb Foster-lane, open
Vedast, as well as the fine front
Goldsmiths' Company's Hall, and
place an additional site at the
al of the General Post Office.
ewly-formed street would form at
point a wide access into Aldersgate-

latter scheme has much to recom-
it, and from a descriptive article
Daily Telegraph of November 11
uld appear that the Corporation
sympathetically consider what
be a very important improvement.

NOTES.

THE eminently weighty
and balanced Presidential
address delivered by Mr.
ald Blomfield, A.R.A., at the
ng meeting of the Institute is
stive and stimulant of thought in
directions. None of his utterances
n appear to us to be more cogent
rgent with vital interest than those
the relation of architecture and
ssional training to science. Living
s age of science, in which its appli-
s to and developments in building
ther industries have been so many
so rapid, the modern architect, in
ion to the wider range of attain-
s and of responsibilities required
n, finds his domain in the construc-
t invaded by others, and his work
to criticism by a standard which,
limitations and one-sidedness, be-
s unfair and irrelevant. Brick and
as Mr. Blomfield says, must always
their place in building; but new
ms such as steel construction and
concrete have their undeniable
ntages and are not to be ignored.
ar they fall short in aesthetic expres-
the artist constructor is in no
ion to complain that others have
ly usurped his realm, for, though the
tions have been against him, it
as fairly be retorted upon him that
as not held his own, that he has
d behind and failed to make use
w knowledge and opportunity. In
nthusiasm and search for beauty he
lwt too much in the past, paid too
sive court to the elder and fairer

of architecture's handmaidens, and been
somewhat prone to condemn unreasonably
her vigorous younger sister, science. And
so perhaps has tended to forget that
beauty in all its infinite variety, whether
it be sensual, intellectual, or of that
deeper kind we call spiritual, must be
organic, having its being in serviceable-
ness. We find a sensuous and intel-
lectual satisfaction in Greek and Gothic
art as well as an æsthetic, of profounder
quality, in their several kinds. There
is but one art, and its territory is as wide
as all creative industry of human brain
and hand. It has no fence dividing it from
applied science, for science and scholar-
ship are its ministers. Our task is now
to reclaim lost ground, to reintegrate
things wrongly separated. We must
remember there is a science as well as an
art of architecture, and bring the scien-
tific and æsthetic study of it into a
closer unity; for not use alone, or beauty
alone, is our aim, but use and beauty in one.

The Problem of Steel. THE fine constructional
drawings and views of
the Birmingham Council
House extension we were enabled to
publish last week afford a case in point,
and contain an excellent instance of
how a fitting architectural expression
has always lagged behind constructional
science. Saying this, we are not, of
course, offering any criticism upon the
high merit of this particular building,
but pointing only to what has become
an admitted and common practice, to
wit, the clothing of the real—in this case
steel—construction in a sheathing of
stone in the irrelevant forms of an earlier
structural system. For a bridge span-
ning a street to connect two buildings
there are obvious practical advantages
in steel construction; while there are
equally obvious difficulties in its naked
use, not alone on account of the present
purely utilitarian stage of steelwork,
but also the difficulty of combining
in any recognised historic style two
materials of such different physical and
constructional qualities; the airy light-
ness of steel with the massive solidity
of stone in the prevailing severe manner
of classic. It seems to us that the
solution of such problems as this of the
aesthetic treatment of steelwork in con-
junction with brick or stonework is the
philosopher's stone of a modern style.
The intelligent study of the beauty of
past art will still help us here; not by
direct copying or adaptation, for indeed
there is no precedent, but by learning
how it grew in very large measure out
of the full use of such knowledge—science
as well as scholarship—as was available
and the application of it to practical
purpose with the utmost possible tech-
nical efficiency.

Sta Sophia in Jeopardy.

SOME months ago it was
reported that the dome of
Sta Sophia was in danger
of collapse and that the tell-tale strips
fixed in various places had cracked. The
danger now, however, is not that part
only of this superb building is likely to
collapse, but that the whole is threatened
by the infuriated Turks, who, beaten
up to the present by the allied Christian
States, threaten to demolish the whole
of this ancient edifice rather than let it

fall into the hands of their victorious
enemies and allow the Cross once more
to stand over the first Christian church
which has for some 500 years stood
under the Crescent. If the rumours of
pillage and massacre by retreating
Turks be true, the fear that their revenge-
ful spirit will vent itself upon inanimate
matter is likely to be only too well
founded, and the threat of demolition
of this masterpiece of domical construc-
tion by them, as reported in the daily
Press, is likely to become an accom-
plished fact when and if the forts at
Chatalja fall into Bulgarian hands and
the investiture of Constantinople be but
a matter of time. Such a threat shows
a lingering of a barbarous spirit, and
it were a pity that such things should
be allowed to be. It has been wished
by many that this church were in
Christian hands, as it has been argued
that then it would have been kept in
proper repair and not allowed to be the
home of pigeons, who alone have done
irreparable damage. It is to be hoped
that this destruction will not be allowed
by the authorities, but whether they
will be in a position to enforce their
authority—provided they are so inclined
—upon an infuriated mob of armed men
if Constantinople is likely soon to be in
the hands of their enemies is another
matter. We can only hope that events
will prove our fears to be groundless,
rumour being a lying jade, and that
this priceless jewel of construction by
master-minds will be left alone in its glory.

The Insurance Act.

A QUESTION was recently
raised under the Insurance
Act at the West London
Police Court. A carpenter and joiner
took out a summons against a firm of
builders for having failed to deliver to
him his unemployed insurance book.
It was alleged that the defendants, having
omitted to apply to the Labour Exchange
for the insurance book, were unable to
deliver it to the workman, and the
workman claimed damages, 30s. 8½d.,
for having in consequence been prevented
from obtaining employment for four days.
The point raised in the case was whether
under the Insurance Act there was any
jurisdiction to entertain a claim like this
for damages which is in the nature of
a civil action. The magistrate decided
he had no jurisdiction, but said the point
was of importance. We dealt with the
question of penalties under the Insurance
Act for failure to deliver up insurance
cards and books in our issue for October 4.
Under Part II. of the Act relating to
unemployed insurance there is nothing
to suggest a claim being made such as the
above for damages, and the complainant
had to invoke the provisions of the
Employers' and Workmen's Act, 1875,
which relates to "disputes between an
employer and a workman arising out of
and incidental to their relation as such."
In the present case, even if this Act
applied, the relationship would seem
to have been at an end, as the cause
of damage arose in connexion with the
detention of the book after the contract
of service was determined, but no doubt
the case will be taken to a higher Court.
The merits of the case were not entered
into as to whether there had been any
default on the part of the employers.

THE ARCHÆOLOGICAL CONGRESS AND THE CONGRESS OF THE HISTORY OF ART IN ROME, OCTOBER, 1912.

THERE could, from many points of view, have been no city more fitted to be the seat of the third International Archaeological Congress than Rome—the centre of the ancient world during the period of her greatness. Homage had been done to earlier ages of the world's history by the first Congress held at Athens and the second held at Cairo; and now it was the turn of Imperial Rome.

In a way, perhaps, the very wealth of material available in her museums and monuments was a hindrance; those who came for a brief stay from a long distance were often irresistibly drawn, in the fine October weather, from the discussions of the Congress to visit some of the many sights that the Eternal City has to show. It is true that a certain number of such visits were on the programme. Comm. Boni conducted members of the Congress to see his new excavations on the Forum and the Palatine, after having facilitated their comprehension of what they were to see by an eloquent lecture in the hall attached to the new Forum museum, which is housed in the former monastery of S. Francesca Romana, ensconced in the ruins of the temple of Venus and Rome. There were, too, two whole day excursions, excellently arranged, in which the members of the Congress were the guests of the local Committee. The first led them to the necropolis of the ancient Etruscan city of Caere, the modern Cerveteri. Here one saw the discoveries made by Signor Mengarelli, who has been conducting excavations on behalf of the Government, and adding new tombs of great interest and importance to those already known. Some of these contain interesting architectural features, and the circular mounds in which many of the rock-cut chambers are hewn have boldly profiled architectural mouldings hewn round their bases, in imitation of masonry, the upper part of the mound being composed of earth.

The second excursion was made to Ostia, where the excavations in progress are leading to discoveries of the highest interest and importance. Ostia was the port of Rome, and the remains now being laid bare are most imposing, and show us something of the life which must have flourished in this great commercial harbour. They belong, it seems, in the main to a reconstruction on a new plan in the time of Hadrian, but traces of earlier periods are not lacking.

The Congress itself was divided into twelve sections, but these were reduced by fusion to nine, some of which hardly met at all, while others had very full programmes. There were also, especially towards the end, joint meetings of several sections. Even so, however, it was felt that there was too much subdivision. Cognate subjects were often dealt with simultaneously in different sections, so that it was difficult to be present at all the papers which one might have desired to hear. Had there been fewer sections, and these mutually exclusive, it might have been easier. There were, too, frequent postponements and changes of programme—a defect common to all Congresses, but none the less annoying to those who wish to hear particular papers bearing on their special subjects of study. Among the papers most interesting from the architects' point of view, besides Comm. Boni's lectures, may be mentioned M. Balanos' paper on "The Consolidation of the Buildings of the Acropolis of Athens"; Mgr. Bulic's paper on "Two Christian Basilicas Recently Excavated at Salona"; Miss Van Deman's papers on "The Development of Brick-faced Concrete Construction" (in which a serious attempt is made to provide a trustworthy system of dating the brick-faced walls so commonly used in Imperial Rome, previous criteria having proved unsatisfactory); the communication of Professors

Hampel, Hekler, and Kuzinsky on "The Excavations being carried out at Aquinum and Interisra, in Pannonia, by Hungarian Archaeologists"; Mr. O. L. Richmond's exposition of his theories in regard to the temple of Apollo and the palace of Augustus, on the Palatine; Professor Spinazzola's account of the recent excavations at Cuma, Paestum, and Pompeii* (a visit to these places was organised as a sequel to the Congress); Dr. Fritz Weege's paper on "The Paintings of the Golden House of Nero," in which he described a number of paintings in rooms not accessible to the public, many of which have been drawn by artists of the Renaissance, and even in the XVIIIth century, which, owing to their beauty and interest are deserving of being rendered generally known; and Dr. Ashby's paper on "The Aqueeducts of the City of Rome."

The next Congress is to be held in the South of France and in Algiers, in 1915.

The Archaeological Congress was immediately followed by the Tenth International Congress of the History of Art. The succession of the two was appropriate, inasmuch as Ancient Art was fully dealt with at the Archaeological Congress, while the four sections of the Art Congress dealt respectively with Christian and Medieval Art, Renaissance Art, Art from the XVIIIth century onwards, and the Methods of Publication and Study. As, however, it is not likely that the two Congresses will coincide in the future, it is not unlikely that a section dealing with Ancient Art may be added at the next Congress, in order that what is really an artificial division between the various stages of a continuous development may not become stereotyped.

The discussions in the various sections took place in the mornings, while the afternoons were devoted to plenary sittings, in which the more important papers were read before the whole Congress.

The discussions on the relations of Italian art and architecture to that of the rest of Europe (which was, appropriately enough, the special subject to which the Congress devoted its attention) were so many and diverse that it would be difficult to fix upon particular points more deserving of emphasis than others, and those who were not able to attend the Congress must rather be referred to its *Transactions*, which will appear in a few months' time.

As in the case of the Archaeological Congress, much had been done by the local Committee to render the visit of the members of the Congress pleasant and profitable. Many of the private collections and galleries of Rome, which are often inaccessible to the ordinary visitor, were thrown open to them (such as the private rooms of the Palazzo Doria, with their splendid pictures and furniture; the Villa Albani, with its fine collection of ancient statuary; the magnificently decorated saloons of the Palazzo Farnese, the Palazzo Barberini, etc.). A visit to the villas of Frascati was organised; while the excursions to Viterbo and Subiaco were unfortunately spoilt by bad weather.

There were interesting exhibitions of works relating to the History of Art, both generally and specially, and of specimens of processes of reproduction.

Both Congresses held their meetings in buildings architecturally interesting. The Archaeological Congress met in the University (1575-1650), with its fine two-storied colonnaded court—the work of Giacomo della Porta and others (it is said from a design of Michelangelo); while the Art Congress held its sittings, by courtesy of the Academy of the Lincei, in the Palazzo Corsini, which formerly belonged to the Riario family, and owes its present Baroque form to Fuga (1729-32). It has a fine and very large staircase, and a curious well-opening, lighting the large hall on the first floor, which gives access to the various rooms.

The next Congress of the History of Art is to be held in Paris in 1916; and it would

be a very great boon to students of art and architecture if the following Congress were to be held in London.

In Great Britain instruction in the History of Art, in comparison with what is done in other countries, more especially in Germany and Italy, practically does not exist, and there can be no doubt that it should be recognised as a subject of study at secondary schools and at Universities and colleges. In the present, as the Preface to the first annual volume of the Walpole Society complains for some reason not easily to be understood, the history of the Fine Arts in Great Britain and Ireland has attracted but a small number of students, even among our countrymen. The consequence is that British art, as a whole, does not occupy the place it deserves in general estimation, either at home or abroad. The subject might be added in regard to the scientific study of the art of other countries in the periods than the classical; and the mass of the Congress of Art in England would be more than anything else to reveal the necessity of such a study, and to stimulate interest throughout the country.

A NEW HISTORY OF ARCHITECTURE.

He who undertakes to write a history of architecture may be likened to the navigator who sets sail on a dangerous sea beset with perils which may cause shipwreck. It is necessary to generalise soundly and to bring to the critical faculty in a high degree to assist in giving what is necessary and germane to the subject in hand, while at the same time avoiding unnecessary detail.

To this task Mr. Statham has brought an immense fund of knowledge and the sympathy and insight which can only come from a lifelong study of the subject; and may say that he has produced a book which will prove most useful to the student, and will also be a treasured possession to all who are interested in architecture.

In the introductory chapter the author criticises the usual division into styles, being likely to convey a false impression. Every work of architecture is but a transitional link between past and future, and only style we know of to which this does not apply is the Egyptian, and if we have fuller knowledge of past history we shall probably find in it, too, a link with a superior development.

Mr. Statham accordingly divides his history into seven sections, which may be described as periods of development, viz.:—(1) Architecture before the Greek Period; (2) Greek and Rome, the Great Columnar Styles, the Domed Styles and the Byzantine Type; (3) From Romanesque to Gothic; (4) Saracenic Interlude; (5) The Gothic Period; (6) From the Renaissance to Modern Times; (7) From the Renaissance to Modern Times.

Architecture is described as "a symbolism." "Symbolism controlled and expressive of, structure might be defined as architecture in the highest sense." The three great culminations of architectural achievement are instanced as being the Greek of the Vth century B.C., Hagia Sophia, and XIIIth and XIVth century Gothic. In the two latter the author was to "eliminate everything which was not required in working out a difficult form of building construction in a complete manner in the former, as the author puts it, there is "no constructive problem."

Architecture is defined as being more imaginative than painting or sculpture, inasmuch as the latter "address our mind through objects that are familiar to our human senses," while the appeal of music and architecture is rather "metaphysical than physical."

The review of the first period is very able, complete, and a clear and lucid description.

* Cf. *Builder*, October 4, 1912, p. 876.

* "A Short Critical History of Architecture." H. H. Statham, F.R.I.B.A. (Batsford, 1912, 10s. 6d.)

period anterior to Greek is given in sixty-five pages. Mr. Statham appreciates of the fine qualities in architecture, taking a judicious between critics like Mr. March Phillips, who have unsparringly condemned, and who have equally extravagantly praised it. We are reminded both of its beauties and its failure in detail and pretence in the distribution of

architecture is fully and carefully shown, and, as we should have expected from the author's thoroughness, a careful study is given of the refinements and beauties of this wonderful phase in the artistic history. He very truly writes of the Orders that "there is nothing to be gained for training the eye and taste. If we were made to go through a course of the Orders as part of their training they would not startle us by those coarsely carved and disproportionate mouldings, rude attempts at ornament which are so unfortunately characteristic of their early and important and valuable works."

The great subject of Roman architecture is treated as completely as it can be within the limits of some forty pages. We feel that, in writing, architectural writers have less to do with the great works of Rome than they deserve, and it has always been to us unfortunate that this chapter in the history of architectural development so fully follows one characterised by the refinement met with in the history of the

art, showing crudities of design we sometimes forget that under the Roman the art of architectural planning was perfected, and perfected as it never had before and never has been since, and it constitutes a contribution to our knowledge second to that of Greece.

The mind of man being finite, and architectural possibilities almost infinite, it is impossible to expect the highest measurement in the whole field at one and the same time.

The chapter on Romano Egyptian building is important, for in one respect it is unique. "The Serpent of Old Nile" absorbed the land in Egypt alone of Roman times was the architecture of the country race not only modified but completely transformed.

The succeeding section dealing with the style of the conditions of domical construction are thoroughly and carefully written, and the Persian domical buildings under the Sassanids are first treated. Mr. Statham points out that "it is Asia Minor and the East, not to the West that we must look for the suggestions culminated in Byzantine Art." The church of Sta Sophia and the ramifications of Byzantine influence in Greece, Italy, and the South of France are well described. The Sophia the author observes that the "is a remarkable combination of styles not often found together; it seems to combine the refinement of Greek detail with the warmth and colour of Oriental

The succeeding section deals with the development from Romanesque to Gothic. Vivid and striking are such sentences as the following:—"Romanesque, though it opened into Gothic, was in itself a kind of architectural culmination, the achievement of a consistent style of round-arched vaulted buildings still retaining in the arch the reminiscence of its Roman

The germ of the mediæval arcade is found in Diocletian's Palace at Spalato, for the first time arches were used directly from columns without the intervention of an entablature. This section with a long series of buildings from the Christian basilicas to the great German, Italian and Italian cathedrals and our own churches.

Mediæval architecture is entitled to conclude"; it is described as continuous

with Mohammedan religion and Mohammedan conquest; yet at the outset that religion had no traditional form of temple, and was affiliated with no traditional form of architecture. The difference between a mosque and temple or church is well defined; the mosque is not "erected in honour of the Deity; it is erected for the shelter of the worshippers and the provision of a place of prayer and temporary seclusion from the outer world." In the fact that the Mohammedans were not of one race but many, simply united by a common faith and unlike the Romans having no style of their own, lies the reason for the great difference between their buildings in different countries. The various developments in Egypt, Spain, and India are touched on. Mr. Statham, in concluding, says:—"Just as the Jews have remained a distinct people through all the phases of human history, Saracenic architecture remains a thing apart from all other phases of architectural history, preserving everywhere its own marked character and, like the religion of which it is the expression, owing no community with anything outside its own limits."

The next section covers that crowning glory of the great mediæval epoch, the Gothic period, which was the culminating effort of the newly-formed countries of Western Europe enthusiastically expressing their vitality and love of life and the ideals of a great church in stone. It is impossible to think without wonder of the great structures of the Ile de France, built among all the difficulties of a rude age, and which enshrined their beliefs and hopes. Mr. Statham, in his introductory chapter, very picturesquely says:—"The mediæval mind was too restless to seek out and bind itself down to the perfection of detail in a single building which was the ideal of the Greeks," but we must, all of us, feel in our blood how glorious were the achievements of this great age in spite of its occasional defects. The author's analysis of the development of vaulting is an able one, and his description of typical buildings as complete as is possible within the limitations imposed by the size of the book. The analysis of the relative merits of English and French Gothic is fair and well presented. The radically different way in which scale was interpreted by the Greek and mediæval architects is touched on; the Greek only considered the "relative proportions of the building itself," the mediæval architect taking as the standard of scale the human figure.

The concluding section brings the book to modern times, architecture in the Renaissance—"for the first time in her great history looking not forward but backward to the precedents of what was considered to be, and was, in some senses, a greater age." "Architecture became, not an automatic evolution of style influenced by construction and material, but a conscious artistic effort, the outcome not of habit, but of choice and culture, the expression not of national but of individual taste and style." A review of the Renaissance buildings of various countries follows, analytical and critical; and very clearly and concisely put. The work is brought to an end by a description of some of the more notable modern buildings, and finishes with a protest against the new spirit shown. "The ultra-commercial spirit which began in America, the spirit which regards a building merely as a thing to be run up as fast as possible to bring a commercial return, has invaded London and is beginning to invade Paris; and unless it is checked will be the death of architecture."

We make no excuse for so frequently quoting the author, as nothing can better indicate the admirable nature of this last addition to architectural literature.

We may, with others, not be able to accept all of the author's views and to agree with all his theories. Mr. Statham is far too original a worker to confine himself to safe platitudes, but no one can escape the conviction that the book is one of which architects

will value and from which the student will benefit.

Like all of Messrs. Batsford's works, the book is admirably produced and very well illustrated, and can with confidence be recommended to all who are interested in the "Mistress Art."



An ordinary general meeting of the Architectural Association was held on Monday, at the Rooms, Tufton-street, Mr. Gerald Horsley (President) in the chair.

Mr. Hall, Hon. Secretary, announced that a visit has been arranged to the Wesleyan Church Hall, Westminster, on Saturday, November 16. Members are requested to meet outside the main entrance at 2 p.m. Also that the Annual Conversazione will be held at 18, Tufton-street, Westminster, on Thursday, November 21, at 8 p.m., and in connexion with this function a "London" exhibition is being arranged by the London Society; and that an exhibition of sketches will be held in connexion with the Camera, Sketch, and Debate Club on November 23, when criticisms will be given by eminent artists.

The President proposed the election of Mr. W. G. Newton as Hon. Librarian and Mr. H. M. Fletcher as an ordinary member of Council to fill the present vacancies.

This was agreed to.

It was further resolved, on the motion of the President, to record a vote of thanks to Mr. T. H. Watson for presenting 233 slides to the Association.

New Members.

The President announced the election of Messrs. R. B. Carruthers and Kozo Kitamura as members of the Association.

Architectural Education.

Mr. Sydney Perks said that lately there had been a letter in the lay Press calling attention to a kind of system of architectural education, and he thought the general impression of the public was that there was no good system of architectural education in existence. He had heard a good many men say that they thought the Architectural Association should have caused a letter to have been sent to the Press calling attention to the magnificent work the Association was doing. He did not know whether the Council had had the matter before them, but he did not think it too late now to let the public know that the Association did exist.

The President said the point would be considered.

MARBLES USED IN GREEK, ROMAN, AND BYZANTINE BUILDINGS.

Mr. J. A. Marshall then read a paper on "Marbles Used in Greek, Roman, and Byzantine Buildings." He said:—

"In this country, where marble is almost an exotic, not yet acclimatised, the subject of to-night's paper can scarcely be considered of vital interest; yet, as students devoted to architecture, you are expected, I assume, to acquire some knowledge of the noblest material ever utilised by man for building and decorative purposes. Apart from its utility, marble has an

inherent and mysterious beauty that appeals to everyone, and especially to those who can study its infinite variations in the light of modern geology. The sparkling fracture of white marble interested the ancient Greeks, but they did not know, as we do, that the minute cleavage planes or facets that cause the lustre denote a molecular change in the structure of ordinary limestones.

We are told by geologists that this change has been produced by "pressure metamorphism," a high-sounding term, implying that the crust of the earth is mobile, and subject to crumplings, foldings, squerings, shearings, and other ailments, mostly very insidious in their attacks.

By this gentle treatment sedimentary rocks, such as limestone, can in the course of ages be altered beyond all recognition; what was once a limestone mud becomes a hard crystalline rock by pressure, friction, heat.

How the chemical or electrical forces act on the minerals of a rock to form crystals I cannot tell you, but it is known that crystals develop according to the freedom given them, and to the length of time they are under the influence of the forces that produce them.

In a compact rock like simple marble, where the crystals have not had room to develop, there is merely a confused aggregation, but if you could find a small cavity, or shrinkage fissure, left in the mass when it cooled and crystallised, you would see the crystals of calcite, beautiful and fragile, protruding from the sides of the cavity.

Most crystalline marbles, when seen in a large way, bear evidence of the flow or movement to which the material was subject before it crystallised or became firmly solid; the lines of disturbance are perpetuated by folia, streaks, or veining, that sometimes represent the thin beds of clay, shale, or other impurities with which the original limestone was interstratified. They are often associated with silvery mica or greenish chlorite, developed under pressure during the movement of the mass. In some instances the pronounced development of these minerals along the planes of contortion makes the marble almost schistose in structure, it readily cleaves along these planes, but is broken with difficulty in a transverse direction.

It is not uncommon for marbles, like human beings, to show "faults"; this is a geological term applied to rocks that have been split in a direction opposed to the veining, and, after having slipped, had again become united. In some of the strongest marbles the only evidence of the rupture is a sudden break in the continuity of the veining; the scar itself has healed so perfectly, by a mysterious process of chemical secretion, that the strength and homogeneity of the mass are not in the least impaired.

Needless to say, the metamorphosis of limestone may take place at any time after its deposition and consolidation; the great formations of marble in Greece and Italy owe their present structure, it is believed, to comparatively recent geological periods, when the main upheaval of the mountain ranges took place; yet countless ages have passed since then, and thousands of feet of contorted strata have been "denuded" or worn away, leaving exposed, for the benefit of man, the upturned edges of congealed streams of marble.

Marbles Used by the Greeks.

The traditional forms of classical Greek architecture demanded that marble should be used in massive blocks, so that it expressed the construction, without being, in the ordinary sense, a decorative material; applied decoration was provided by sculpture and painting. This being so, we can understand why, in the classical age, the Greeks preferred the white marbles of their country to the variegated species. The latter, so much sought after by later generations, were never thought of while the art of Polygnots flourished, and they were utterly incompatible with Hellenic building construction and design.

Before the Persian invasion common limestone was mostly used for building purposes in Greece; this applied even to Athens, although that city is only a few miles from an unlimited supply of the purest white marble.

Later, during the years of comparative peace, the statesman Pericles gave to the public buildings of Athens a crystalline aspect that made the city the most magnificent in Greece. It must not, however, be supposed that this emphatic choice of marble was entirely independent of precedent, any more than the surpass-

ing genius of Phidias, Ictinus, and Mnesicles, was spontaneously developed for the occasion. Long before the time of Pericles marble was used for a part of the Temple of Apollo, at Delphi, and for parts of the Temple on the island of Egina.

In Athens itself the early Propylæa of Kimon was partly of limestone and partly of marble, and on the opposite shore of the Ægean, the Ionic Vth century Temple of Artemis, at Ephesus, was entirely of marble.

Pentelicon Marble.

For the consummate work of the Periclean period, in Athens, the white marble of Mount Pentelicon was exclusively used. Though brilliantly crystalline, this marble is intercalated with thin seams or ribbons of greyish mica shale, derived from the shaly deposits of the original limestone, and liable to disintegration more than the harder parts. If a piece of the marble is broken along one of these planes, the newly-exposed surface, smeared with mica, will clearly show the direction of the strain when the materials were escaping from enormous pressures. Specks of ferric oxide will also be noticed that have been developed just as garnets commonly are in schistose rocks. When exposed to the weather they produce that mellow tint that comes with age, and which all travellers admire who visit the ruins, grand and beautiful in their desolation, on the Acropolis at Athens. In the British Museum the student will find the structural peculiarities of Pentelicon marble clearly indicated by the scarred and furrowed surfaces of the matchless fragments from the Parthenon.

Hymettian Marble.

The bluish-grey marble of Mount Hymettos, that overlays the white, was not, I believe, much used by the Greeks, but 5 miles nearer Athens, on Mount Hymettos, they quarried a white marble streaked with grey. These quarries were probably worked before the Pentelicon, and their close proximity to the city accounts for the prevalent use of Hymettian marble for secular buildings, especially for the steps, pavings, and thresholds. The grey veining of this marble—straight, nebulous, or jagged, according to the direction in which the blocks are cut—was, perhaps, not greatly valued by the Greeks, and when the marble was used for statuary, during the archaic period, no doubt its natural markings were concealed by decorative painting.

Some years ago an inscribed slab of Hymettian marble was found, which proved to be the specification for building an arsenal at Zee, the principal war harbour of Athens. A Greek named Philo was the architect, and the date of the inscription is about 346 B.C.

There is a flavour of the sea about this "document" quite refreshing. I should say, to the archaeologist whose time is mostly spent amid the dust of ages. Intended for the storage of gear, sails, cordage, tackle, etc., the building was devoid of architectural refinements, yet it was famous for its great size. Four hundred and five feet in length and 55 ft. in width, it was divided into three aisles by two rows of columns. At each end of the central gangway were doorways with inner vestibules and bronze doors, and in the side walls were small windows with bronze shutters. There are no remains of the building, but we learn from the specification that the walls were to be of local limestone; the vestibules were to have independent ceilings of Hymettian marble, and thresholds of the same material; the doorways were to have lintels and linings of Pentelicon marble; the columns were to be constructed of seven drums of Hymettian, while the capitals were to be Pentelicon.

Parian Marble.

The most beautiful of white marbles is that of Paros, where it occurs on Mount Marpesias, between beds of grey, or shallow streams, limpid and brilliant. Out of it were fashioned many masterpieces of Greek sculpture, and thousands of roofing tiles for the temples of Greece. The Athenians built a Treasury of it, by the Sacred Way, at Delphi; so did the Siphnians; and later some of it was used for the monument of Prince Mausolos of Caria.

As an early instance of the use of marble I have mentioned the Temple of Apollo at Delphi, built 530 B.C. It was agreed that this temple should be built entirely of local limestone, but, according to Herodotus, the contractors won a reputation by using Parian marble for the columns of the façade, and declining to

make any claim for the "extra." It need lessen our interest in this statement by "Father of History" to know that no column of Parian marble belonging to this temple has been found.

The archaic pedimental sculptures from Æginetan Temple are of Parian marble, but these were partly painted, we may conjecture that the material was used in this instance not merely for its intrinsic beauty, but because it was most suitable for figures possessing certain slenderness and tenuity, reminiscent work in bronze.

The little Treasury of the Æthionians at Delphi, built just after the battle of Marathon, is like that of the Siphnians, an invaluable example of Attic art at the time of its transfer into the perfect work of the Vth century. From the point of view of our subject it is interesting to note that the sculptured members of the frieze are of the finest white variety of Parian marble, while the triglyphs are of grey and coarser kind.

In Bloomsbury Prince Mausolos of Caria and his consort are familiar figures, as they passively survey the relics of a monument, one of the "seven wonders of the world," if the student wishes to see specimens of Parian marble from this building he must turn to the fragments of the "chamfron" frieze and others in the wall cases of the "Mausoleum" room. The marble used in the main parts of the structure, including colossal statuary, is not as translucent as Parian, and it is not scarred by mica laminae like the Pentelicon; it more closely resembles a marble of the Carian mount, exemplified by the magnificent fragments in the "Ephesus" room of the Museum; and the Temple of Athens Polias, Priene, in the "Mausoleum" room. The main parts of the temple were built of a local bluish marble quarried on Mount Mycale.

The Use of Marble by the Romans.

The Romans by their conquests had facilities which they could not resist for obtaining marbles from all parts of the known world. They eagerly quarried and sent to the capital of their empire not only the simple white and greys of Greece and Italy, but also coloured marbles disregarded by the Greeks, and it is chiefly to their enterprise we owe knowledge of the finest species.

Like the Greeks, the Romans were accustomed to build with enormous blocks of monolithic stone and white marble, but they found the process slow and costly, and the building of the empire practised another, less expensive and more rapid, besides being more durable and more lasting in its results. The concrete and brick called for decoration that could be applied, and as the idea of applying the "Orders" to façades, in connexion with the fenestration, was probably derived from the Hellenistic cities of Asia Minor, so perhaps we may accept the suggestion of the elder Pliny that the Romans derived the art of using slabs of marble for decoration from the Sicilian cities. The statements that the Palace of Mausolos at Halicarnassus and a chamber of the Mausoleum were plated with marble may be true, though there is always the possibility that the incrustation was not completed by the erection of the building. The instance given by Pliny of the early use of marble in Rome cannot be verified from existing examples, yet they are none the less interesting on account. They take us in imagination to the residential quarter on the slope of the Palatine overlooking the Forum, where dwelt many of the rich and influential citizens famous in history.

From Pliny's account it seems clear that the introduction of foreign marbles into Rome was not due to a desire to embellish sacred edifices or public buildings, but rather gratify the private interests of certain officials of the State. After the Roman arms had been carried into Greece, Africa, and Spain, the Romans had increased facilities of enrichment themselves, and with a view to their election for another term of office some of them did not scruple to expend vast sums on the purchase of games, banquets, and dramatic representations, which it was their duty to superintend, besides looking after the streets, sewers, and public buildings. It was in this connexion that a certain Lucius Crassus when he came into office saw an opportunity of getting marble columns over from Greece which he wanted for his house on the Palatine. At this time few, if any, of the public buildings

Rome possessed pillars of marble, and the use of this material by a private individual is certain to be deprecated as savouring of ostentatious luxury; so, to put a fair complexion on the matter, when the columns arrived, they were "offered up" in the temporary theatre as decoration or background for the stage. From the front row of the stalls the Right Honourable Lucius Crassus noted the effect, and when the festivities were over he was in no doubt about the columns, for they were next in erected in the *atrium* of his house, half a dozen of them, 12 ft. in height, the first monoliths of Hymettian marble imported into Rome. This happened about 91 B.C. Later, about 80 B.C., another rich *exile*, *Æmilius Scaurus*, by the instincts of a millionaire and a great collector for columns, imported 360 that were of the black. For nearly a month these supported the upper stories of a temporary theatre, and then the largest of them, 38 ft. in height, were carted away by *Scaurus* to the Palace in the *atrium* of his house.

We need not stay to inquire how columns of enormous dimensions could be utilised for their entirety for an ordinary house; but they may note that their removal through the narrow streets of Rome was not a light affair. It could not be done by stealth, nor without the aid of the authorities, and this "First Commissioner of Works" had to give security for any damage it might be done to the public sewers. It is not known where this marble came from, but Pliny only names it after *Lucullus*, a general, who greatly admired its funeral, and died 56 B.C.

On the authority of *Cornelius Nepos*, who wrote in the reign of Augustus, Pliny tells us that a military engineer, called *Mamurra*, was the first person in Rome who covered the whole of the walls of his house with marble, and who had all the columns of solid marble from *Carystus* and *Luna*. This was about 48 B.C.

Luna Marble.

When referring to the works of certain sculptors Pliny says:—"They used nothing but the white marble of *Paros*, but since their time many other whiter marbles have been discovered, and very recently that of the quarries *Luna*."

It is impossible to say what Pliny meant by "very recently," in view of the statement implying that *Luna* marble was used for columns about seventy years before his birth; perhaps to Pliny's comprehensive mind "one hundred years was one day."

Luna marble was undoubtedly used during the Augustan period, and a block has been found with an inscription cut during the reign of *Tiberius*. The marble was also known as *Ligurian*, from the ancient district in which was found. The nearness of the quarries to the sea facilitated the transport of the blocks to Rome, but their passage through the streets of the city was not without danger, as *Juvenal* reminded his readers, near the close of the 1st century. "Imagine," he says, "the awful consequences of a dray loaded with *Ligurian* marble, that turns over on to the passers-by, when every one of their vulgar carcases is pulverised and vanishes like a breath." Fine in grain, and with only a small percentage of iron in its composition, this white marble does not, like the *Pentelicon*, readily get bronzed by exposure to the air, although after an experience like that of *Trajan's Column* and the *Arch of Constantine* it does get to look a little seasoned or mature. The drums of *Trajan's Column*, about 12 ft. in diameter, and of its counterfeits in the *Piazza Colonna*, are of solid blocks of *Luna* marble, in which the winding stairways were hewn.

The white marbles of *Luna* and *Athens* were used impartially by the Romans for columns, entablatures, and wall linings. The well-known circular temple in the *Forum Boarium* of solid blocks of *Paros* marble; this marble was also used, according to *Procopius*, for the stupendous *Mausoleum* of *Hadrian*.

Hymettian marble was used for paving the vestibules of the Temple of *Faustina*, in the *Forum Magnum*; and antique columns of this marble, futed and unfuted, are to be seen in the churches of *S. Sabina*, *S. Pietro* in *Vincoli*, and *S. Maria Maggiore*. The columns on each side of the *Arch of Severus* are of *Hymettian* marble.

Excepting the grey and black marbles, most of the coloured species known to the Romans have been identified; they were named after the places they came from, and hundreds of roughly-hewn blocks, many engraved with the name of

the quarry and of the *procurator* who managed it, were discovered some years ago in an ancient *emporium* near the *marmorata*, or landing-stages, on the banks of the *Tiber*. Most of these blocks, I regret to say, have been cut up for the churches of Rome.

From the inscriptions collected and explained by an Italian priest, *Fr. Bruzza*, much information has been obtained about the origin of the marbles and the way in which they were brought to the capital. The quarries belonged to the Emperors, and in the course of time the number of convicts employed in them became so great that in *Trajan's* reign a special administration had to be formed to look after them. Each quarry was managed by a *Steward* or *procurator* of the Emperor, who had under him numerous officials. The blocks, before being shipped off, were usually numbered, and frequently marked with the name of the reigning Emperor and that of one of the officials in charge of the quarry. Shiploads of marbles were continually being sent from the ports of Greece, Asia, and Africa. At the port of *Ostia*, near the mouth of the *Tiber*, the Government had an administration to receive the blocks, which were then forwarded in smaller vessels to the *marmorata* at Rome. To convey monolithic columns and obelisks vessels of enormous size were specially constructed. One of these "empties," like the Roman galley recently found in the *Thames*, is still in existence at *Ostia*, where it was utilised by the Emperor *Claudius* for the foundations of a harbour. It is now impossible to realise the quantity of marbles sent to ancient Rome, but it impresses one to know that there is scarcely a church or a palace without columns and wall linings taken from the ruins of the city. Then we must not forget that enormous quantities were burnt into lime in the Middle Ages, and broken up for concrete, and the hard white stucco used by the architects of the Renaissance.

Typical Coloured Marbles Used by the Romans.

The coloured marbles used by the Romans are not only more complex than the marbles used by the Greeks but there are so many varieties of each species that the mere accident of colour cannot be taken as a standard for classification by the student who wishes to have more than a superficial knowledge of the subject; indeed, he should try to realise, difficult though it may sometimes be, that the typical colour of a species, like the flush on a maiden's cheek, is not always present.

For our purpose to-night we may place the coloured marbles in three groups.—Firstly, the foliated and schistose species, in which the folia are sharply defined by colour; secondly, those species that exhibit both the spathic and the brecciated structure; and, thirdly, the true breccias that seldom degenerate into a streaky formation.

The marbles of the second group are the most complex, and they sometimes, I believe, indicate a secondary or later process of metamorphism.

The rock may have been fractured, crushed, or remelted, and invaded by viscous material, or thermal waters; these carried with them fragments, often split across, corroded, and discoloured by the magma, or drawn out into streaks until their identity is lost. The true breccias may consist either of fragments that have been pressed into a viscous material, or of detritus deposited in a fine sediment, which has hardened into a calcareous, siliceous, or ferruginous cement.

The mystery of the origin of most metamorphic rocks will probably always remain. As creatures of a moment we cannot follow a process, plutonic and slow, yet ceaseless in its energy; the change has been revealed to us; but, as *Ruskin* has said in one of his geological disquisitions, the mode of it is "concealed in a deep obscurity."

I will now, before resuming the historical phase of our subject, ask your attention while I very briefly describe a few of the typical coloured marbles used by the Romans, keeping mainly to the sequence indicated by our three groups.

The antique specimens I am permitted to show you, chiefly through the kindness of Mr. *Ernest W. Savory*, of *Bristol*, and Messrs. *Arthur Lee & Brothers*, of *Hayes*, are very interesting and valuable; but you will understand that no single specimen of marble, however large, can represent the variations of a species, just as the varied splendour of a sunset cannot be seen through a telescope.

Marmor Carystium.—From the white and grey

marbles of *Attica* it is an easy transition to the more highly foliated and schistose marble of *Carystus* in the neighbouring island of *Euboea*.

You are no doubt familiar with its bold markings of restful green, grey, and white that made the labour of fitting undesirable when the marble was used for columns. The cloud-like sinuosity and crinkling of the strata are probably due to lateral pressure, just as the grander foldings of the Alps are in Switzerland and Italy; and perhaps from no other species of marble can such decided variations in the veining be got out of a single block, according as it is sawn longitudinally, horizontally, transversely, or obliquely, in relation to the bed. Dislocations or "faults" are often indicated by a sudden break in the veining, and fine shrinkage fissures or cracks, filled in with white crystalline material, sometimes cross the veining; these are not, however, a source of weakness, and the Romans very soon appreciated the strength of the marble for columns. Its weak point is due to talc and chlorite, closely interlaved with the crystalline calcite, that forms the main constituent of the marble.

This intimate admixture makes the marble absorbent, and eventually, when exposed to the weather, the surface peels away. If this marble is infixed with a high polish it soon recovers and the colours become tender. The finest *Carystian* columns in Rome are those ten monoliths, said to be 38 ft. in height, that form the portico of the Temple of *Faustina* in the *Forum*. The antique columnar pedestals of *Carystian* marbles in the *British Museum* can be distinguished from the unripe modern representatives in the same galleries by their mellow tint.

We will next group together three species in which the general structure may be described as a condition between the spathic and the brecciated; both conditions may be present in the same mass, or either altogether absent. The marbles I refer to are the *Marmor Numidicum*, from *Simnitia Colonia*, near *Tunis*; the *Marmor Chium*, from the island of *Chios*; and the *Marmor Scyrium*, from the island of *Scyros*.

Marmor Numidicum.—This yellow marble was greatly prized by the Romans, if we may judge from the quantity found in Rome and from the frequent allusions to it by the classic writers.

It seems to crop up everywhere, from the sacrificial depths of the *Heron* of *Romulus* to the enormous rubbish heap of *Mount Testaccio*. Besides columns, it was largely used for wall decoration and pavings in connexion with other marbles.

The primary colour of this calcareous rock was a creamy-white, but the presence of iron has deepened this to a crocus colour, rose and purple. The excessive induration of the rock with iron has made it very hard and rather brittle. The texture is very minute. The rock invariably shows evidence of having been shattered or cracked after consolidation; and patches of true breccia occur in fissures or cavities, the fragments being cemented together by russet metallic oxide. Some of the spathic rose and purple varieties are very beautiful and baffie description, but the Romans preferred the monochrome yellow variety, and when this was used for columns I believe they were always fluted.

Rough blocks of *Marmor Numidicum* have been found inscribed with the names of the Emperors *Trajan*, *Hadrian*, and *Marcus Aurelius*.

When *Hadrian* visited Africa he constructed a road from the quarries to *Tebarsa*, on the coast, whence the marble was shipped to Rome.

According to *Sententius*, the first *Numidian* column brought to Rome was that erected in front of the *Rostra Julia*, at the east end of the *Forum*, on the spot where the body of the great *Dictator* was burnt; but, according to *Pliny*, some blocks were brought over from Africa, ten years before the assassination of *Cæsar*, by the Consul *Marcus Lepidus*, for the doorway of his house.

Seven "Numidian" columns from the destroyed *Arch of Trajan* now enrich the *Arch of Constantine*, and one is in the *Lateran Basilica*; another in the same church came from the *Basilica Ulpia*, built by *Trajan*. The eight columns in the *Pantheon* are probably of *Hadrian's* time. The paving of the central part of the *Basilica Julia*, probably a restoration by *Severus* or *Diocletian*, is mainly of "Numidian" marble. With the close of the Roman Empire the use of this marble for columns seems to have died out, and, so far as I know, it was not revived during the Byzantine

period, although the marble continued to be used sparingly for inlay.

Marmor Chios.—The marble of Chios, one of the Ionian Islands, was known as early as the IVth century B.C. to the Greek philosopher, Theophrastus. I have not consulted this rare classic, as Pliny did, neither have I looked up the geology of Chios; but Mr. William Brindley has told us he found ancient workings there that yielded a marble very similar to that known as "Porta Santa" by the Italians. This marble is not an easy one to describe, so manifold are its

varieties, which seem to have been most in favour with the Romans, have been found in the ancient *emporium* on the Tiber, with inscriptions of the time of Nero; and many fragments have been discovered among the ruins of a villa, dating from the time of Hadrian, near the Via Tuscolana, five miles from Rome.

According to Strabo, monoliths and large slabs of Scyrian marble were to be seen in Rome near the close of the 1st century B.C., and it became so fashionable there that the price of white marble greatly declined.

basilica are said to have been taken from a triumphal arch erected in honour of Marcus Aurelius, and destroyed in the XVIIth century. I regret I do not remember seeing these columns, but they are probably not fluted.

The main constituent of *Marmor Atracium* is serpentine, mixed with carbonate of lime. For a description of serpentine I must refer you to the text-books on mineralogy.

The calcium carbonate is not all intimately mixed with the green serpentine; some of it appears as pure white fragments, with nebulous edges, suggesting dissolution from the surface inwards. Besides these white calcareous fragments, there are others nearly black that are rather siliceous, and always retain their outlines sharply defined, though they are often split and permeated with the green magma, which, of course, has modified the intensity of their original colour. In an inferior and darker variety the movement of the material while in a viscous condition is indicated by a streaky or spathic arrangement, and the total obliteration of the fragments. The transition may sometimes be seen in a single block. This is also the structure of the serpentinous limestone of Tenos in the Grecian Archipelago, and of the "Rosso de Levante," and the "Verde de Ponsivera" in Italy. The variations in colour, from green to red, that are sometimes met with, though rarely in *Marmor Atracium*, depend on the proportion and degree of oxidation of the iron they contain. Pedestals and slabs of all these marbles are in the museums. In the Victoria and Albert Museum a beautiful Renaissance pedestal of typical *Marmor Atracium*, "becked with snow," ought to arrest your attention.

[The second half of Mr. Marshall's paper and some notes of the discussion which followed will be given in our next issue.—ED.]



Llangar Church, Merionethshire.

From a Sketch by Mr. C. P. Wade.

variations; and its nondescript character is shared by several kindred species, found not only in Italy, but in the "Devonian" series of our own country. Assuming the ancient *Marmor Chios* to be correctly represented by the marble used for the Renaissance framing of the "Holy" doorways of the four great Christian Basilicas of Rome, we may safely say its colours are not decided—neutral greys, reds, and yellows, none of which predominate, if the marble is looked at in a large way.

Opaque and close in texture, the rock is nearly always confusedly spathic. Streaks and patches of grey, mingled with the red, are apparently sometimes due to the dissolution of fragments which in places give to the marble a brecciated appearance. Masses are also found of a tawny colour, tinged with grey and finely reticulated with yellow; this variety is often fractured, the interstices being filled in with dark chocolate-coloured cement. A small antique pedestal of this kind, discoloured by age, is in the "Roman" gallery of the British Museum; and a columnar pedestal is in the "Ephesus" room, faintly reticulated, but not brecciated. Like some other coloured and spathic marbles, *Marmor Chios* is occasionally traversed with streaky infiltrations of white. A great quantity of "Porta Santa" remains in Rome, but not much in its original position, only, so far as I know, a few slabs in the Forum and fragments on the Palatine. Two fluted columns of this marble, found near the tomb of Cecilia Metella, are in the Capitoline Museum, and others are in the Church of Sta Agnese, outside the walls.

From the very early notice of *Marmor Chios* by Theophrastus, and the fact that the walls of Chios were built of it, Pliny concluded that variegated marbles were first discovered by the people of Chios. This simply means, I take it, that the builders of the walls availed themselves of the materials nearest to hand, but when the rain brought out the tints, the delighted inhabitants showed the walls to everybody as something quite new and magnificent.

Marmor Scyrium.—The marble of Scyros is also perplexingly varied, both in structure and colour, as anyone may see while taking refreshment in some of the popular tea-rooms of London; and, although the quarries were once imperial property, the material cannot be said to possess that unfading stamp of nobility that distinguishes the species already described.

The white ground and the colour contrasts are often harsh, and the stone is brittle. Some varieties are minutely brecciated, others are untidily streaked and blotched with red, yellow, or purple. Blocks of the brecciated

Marmor Synnadicum, perhaps the most beautiful marble known to the ancients, deserves to stand alone. The typical variety may be described as a fractured rock of ivory-white crystalline limestone, with purple infiltration in the fissures and cavities. The fragments are very unequal in size, and the veining is always mottled by an intimate admixture of the calcite that forms the main constituent of the marble. Sometimes the limpid white fragments disclose faint tints of amber, purple, and grey. The quarries are at Docimium, a village thirty-two miles from Synnada, in Phrygia. Strabo records that only small blocks were extracted at first, but in his time larger blocks were got as translucent as alabaster; and, although their transport to the sea was difficult, yet columns and slabs of stupendous size and great beauty were sent to Rome. Rough blocks have been found with inscriptions dating from the time of Augustus to that of Marcus Aurelius, and from this time onward the quarries supplied Rome until the division of the Empire, when the exportation of the marble was diverted to Constantinople.

Columns of this marble, of the time of Hadrian, have been found near the *marmorata*; and, if we are to believe the ancient writers, it was Hadrian who sent columns from Phrygia "by the hundred" to Athens and Smyrna, just, I suppose, as you might send a friend a box or two of choice cigars.

According to the legend, as related by Statius, the white marble of Synnada was stained with the blood of the Phrygian shepherd, Attys. An unflinching portrait of this unfaithful swain is in the "Ephesus" room of the British Museum; yet I need hardly say geologists have not accepted the legend as an explanation of the marble so beautifully "inscribed with woe."

Columns of this marble were invariably fluted; those in the Pantheon possibly reflect the partiality of Hadrian. Other columns of Phrygian marble are in the basilicas of S. Lorenzo and Sta Agnese, outside the walls. *Marmor Atracium.*—The green serpentinous breccia from Atrax, in Thessaly, is well known to you by its Italian name, "Verde Antico." I believe the earliest description of it is by a Christian writer of the VIth century, and its introduction into Rome was probably late.

Small pieces have been found in the Tiber excavations, but no rough blocks in the deposits of the *marmorata*. Of the 200 columns in the churches and palaces of Rome, two in the Church of Sta Agnese, in Piazza Navona, and two in the Corsini Chapel of the Lateran

LLANGAR CHURCH, MERIONETHSHIRE.

The church at Llangar has no village attaching to it, but is placed apart in a most charmingly-situated valley. The approach to it is through a meadow which abuts on the upper road from Corwen to Bala, in North Wales, about a mile and a half from the former. There is a wide expanse of water and meadow below the church at the part where the River Dee is joined by one of its beautiful tributaries, the Alwen. Llangar is a shortening of the old Welsh place-name Llan-carw-gwyn—"The Church of the White Hart." According to an old legend, the church was finally built on the spot because it was revealed to the builder in a dream that they were to place it where a white hart was seen to run across the foreground. Previous attempts to erect the church elsewhere had all ended in disaster.

Externally this little church is typical of the rude, weather-beaten buildings of the Welsh hillsides. The walls are of rough grey local stone, many of the stones being merely large, undressed slabs, and the roof is covered with thick grey slates. The south-east side is now quite buried in the churchyard. The interior presents a dilapidated appearance, as services are only held there once in the year, but there are some fine old high-backed pews and a three-decked pulpit, which, with the cool whitewashed walls, produce a distinct feeling of old-world charm. It is regrettable that the church has been allowed to deteriorate, and a few pounds judiciously expended would go far towards its repair and clearance.

ARCHITECTURAL SOCIETIES.

Glasgow Technical College Architectural Craftsmen's Society.

At the fourth meeting of the session, under the auspices of the Architectural Craftsmen's Society, held in the Royal Technical College, a debate on "Single v. Separable Contracts" took place. Mr. A. H. Purvis presided. The debate was opened by Mr. A. Davidson, architect, and Mr. A. Smith, builder. The former advocated the "contractor" system, and gave instances of situations best suited to such an arrangement. Mr. Smith took the opposite view, separating contracts being, in his opinion, the best method of accommodating the ambitious tradesman who was anxious to start business on his own behalf. A discussion followed.

THE SURVEYORS' INSTITUTION: PRESIDENT'S ADDRESS.

The opening address of the session of the Surveyors' Institution was delivered on Monday by the President, the Hon. E. Gerald Stuart, M.P., at No. 12, Great George-street, Westminster, S.W. The address dealt almost exclusively with agricultural questions, and in the course of his remarks the President said: "In speaking of rural depopulation and its antidotes, among the latter may be placed a proper and convenient means of cheap transit. This might be provided in some districts by an extension of light railways, and in others by a system of motor cars in connexion with the great railways or the centres of population. Mr. Rowntree in his book describes of what great assistance the former are in Belgium, how little the cost to the community, and yet how material the benefit to the rural population.

An extension of forestry is also proposed by many as a means of increasing the country population, but while much might be done to improve our existing woods, and possibly to plant some waste places, I hesitate to accept the optimistic views of the enthusiasts. It is difficult to see how planting on land of fair value could be made a commercial success when compound interest on the original outlay is taken into consideration, there being in addition the annual charges for rent, rates, and taxes—though possibly as a form of compulsory saving to landowners it might have advantages."

In reference to rural housing, he said: "Much has been done by the larger and richer landowners in the building of healthy cottages on their estates, and though in most cases the smaller landowners have done their best with considerable self-sacrifice and pluck, it is difficult for those whose sole income is derived from land to face the cost of erecting cottages which will not return 2 per cent. on the outlay. The problem, however, is one which must be faced in a serious spirit if anything is to be done materially to increase the numbers of those employed on the land, so that those who are interested in the prosperity of agriculture should use every endeavour to impress the importance of this question upon the Government of the day. It is possible that something might be done to reduce the initial cost of erection by amendment of the building by-laws, permitting the use of a greater variety of materials, or by taking advantage of the public credit to provide loans to landowners or local authorities at a low rate of interest, while additional garden ground attached to cottages might enable higher rents to be paid in many instances. But when the difficulty could not be met in this manner it might become advisable to follow the example of Ireland under the Labourers Acts. There the district councils formulate schemes for the erection of houses and securing garden plots in accordance with the requirements of their districts, the Local Government Board being the department responsible for holding local inquiry into any schemes put forward and for sanctioning them if satisfied that they are reasonable.

If a scheme is sanctioned the necessary capital is advanced by the Land Commission, repayable in 6½ years by equal payments. The interest is 3½ per cent.—2½ per cent. representing interest and ½ per cent. sinking fund. The number of houses authorised to March 31, 1912, was roughly 49,000, of which 40,000 have been built and occupied, and 9,000 are in process of erection. Parliament voted 5,250,000*l.* altogether in connexion with these Acts, and it has all been ear-marked for housing purposes.

Some such scheme would surely be justified in this country even though it might necessitate a call upon the national purse; for it would do much to assist in the solution of the housing problem of rural England. If, however, such legislation were passed it would be incumbent upon landlords to do their part by finding the necessary sites for the cottages at a low rate.

Whatever may be done, either in the direction I have indicated or in others, it is essential, if the rural population is to be increased, that the cultivation of the soil should be a paying business. The English cultivator has to compete with all parts of the world, and no undue burden, therefore, should be placed on his industry. A wise Government should give him every assistance possible, particular care being taken to encourage the expenditure of capital on the land, and so far as possible to

assure to all those engaged in the industry a reasonable reward for their enterprise.

The remedies for staying the depopulation of England may, therefore, be summarised as follows:—

1. A large increase in the acreage of arable land, which would necessitate the employment of more agricultural workers, and would probably raise the standard of their wages;
2. An extension of the area under small holdings; of co-operation and credit banks; and of profit sharing and co-partnership in the case of large farms, in order to give the workers some opportunities of improving their position and obtaining independence;
3. Additional and more practical assistance in agricultural education; a wider dissemination of practical information useful in rural work; and further investigation into animal and plant diseases;
4. The extension of light railways and other methods of transit;
5. Government assistance in the erection of cottages in country districts; and
6. Assurance that capital invested in the soil will not be subject of adverse legislation.

If these remedies were applied, and an effort were made to introduce into the life of the countryside more of that pleasure and amusement which is lacking in so many villages, I believe a marked increase in the rural population of Great Britain might be anticipated."

As to the breaking up of large estates, the President said: "This is being caused by the fact that many large landowners have either sold—or have decided to sell—their outlying properties, while the owners of smaller estates have in some cases come to the conclusion that it will be wiser for them to invest their money in other securities.

This breaking up of estates has probably two main causes: the chief one is, I fear, the Finance Act of 1910 and the increase of death duties, which press with peculiar severity on agricultural estates, together with the promise of further legislation which may be antagonistic to the landowning class. On the other hand, there has, no doubt, been a revival of agricultural prosperity during the last five or six years, prices of agricultural produce having considerably increased, and the scientific use of artificial manures has added to the productiveness of the soil. Many landowners had reduced farm rents to an extremely low figure during the period of extreme agricultural depression, and rather than go through the unpleasantness of raising them again they have taken advantage of the increase in the economic value of the land to realise their property, and thereby to obtain a considerably higher income. It is possible, however, that this latter reason would not have influenced the landowners so much had it not been for fear of the former."

A hearty vote of thanks was accorded to the President for his address.

BRITISH SCHOOL AT ROME.

THE following is the scheme of competition for the Scholarship in Sculpture at the British School at Rome, offered by the Commissioners for the Exhibition of 1881:—

The scholarship will be of the value of 200*l.* per annum, and will be ordinarily tenable for three years. Candidates must be British subjects, and less than thirty years of age on July 1, 1913.

The competition, which will be conducted by the Faculty of Sculpture of the British School at Rome, will be in two stages:—(a) An open examination; (b) a final competition, open to not more than four candidates selected from those competing in the open examination.

(a) The Open Examination.—Competitors in this examination must submit the following works:—(1) A model of a nude figure in the round from the life, half life size. The model to be executed by the competitor. (2) A model in bas-relief, 2 ft. 6 in. by 1 ft. 6 in., modelled and designed by the competitor, the composition representing not less than two figures. (3) Four drawings from the life, two of which must be of the nude figure, one of drapery, and one of hands and feet life size. The drawings must be the work of the competitor, and must be on sheets of paper 30 in. by 20 in. (4) Some drawings or photographs, or both, of original

works which have been designed by the candidate. (5) Not less than two photographs or drawings of designs for decorative purposes with architectural features, the designs to have been the work of the candidate.

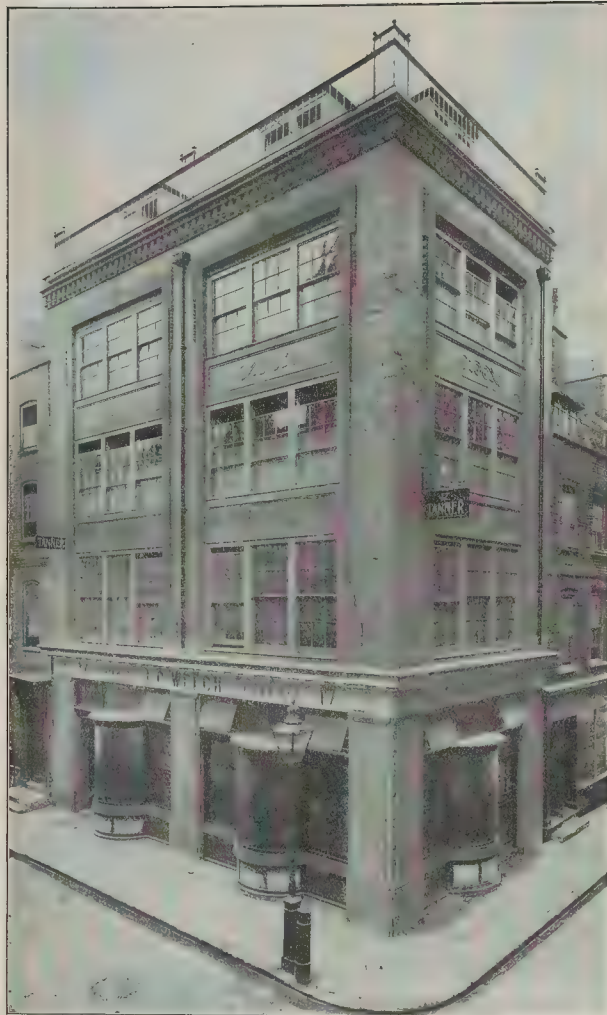
Competitors must notify the Hon. General Secretary, British School at Rome, 54, Victoria-street, London, S.W., of their intention to compete in this examination not later than February 15, 1913, and with such notification must enclose a certificate of birth or a declaration as to age and nationality, duly attested by two responsible persons. The models must be cast in plaster and, together with the drawings and photographs (which must be unframed and unglazed), addressed to the Hon. General Secretary, British School at Rome, care of James Bourlet & Sons, Ltd., 17, Nasseau-street, London, W., and delivered at that address not later than April 5, 1913.

(b) The Final Competition.—This competition will be held in London from June 30 to August 23, 1913, and will be open to not more than four candidates selected from those competing in the open examination. The subject will consist of a design for a figure, group or relief (as determined by the Faculty of Sculpture), to fill a given space for a given purpose and to a given scale. Eight weeks will be allowed for the execution of the design.

SOCIETY FOR THE PROMOTION OF HELLENIC STUDIES.

SIR ARTHUR EVANS presided on Tuesday at the Rooms of the Society of Antiquaries, Burlington House, over a meeting of the Society for the Promotion of Hellenic Studies.

Sir Charles Waldstein gave an illustrated address on the head of Phaidian style now in the museum at Holkham House, Norfolk, in support of his conclusion that it is probably from the eastern pediment of the Parthenon. The head, he explained, is in the possession of Lord Leicester, and was added to the collection at Holkham in the XVIIIth century. It was made of Greek marble, but was partly restored, probably in the early part of the XVIIIth century in Italy, and with Italian marble. They first heard of it from Matthew Brettingham, the architect who carried out the general design of Kent for the building and decoration of the house, and who travelled through Italy, where he bought most of the marbles and works of art for the Earl of Leicester in 1755. In his book he referred to it as a head of Juno, and it was so described in other works. In 1882 Michaelis published his important book on marbles in Great Britain, and he realised with all others that in the head they had to deal with a Greek masterpiece and not a Roman copy, and he described it as one of the most striking specimens of a collection which richly merited being known. The illustration in Michaelis's book was, however, somewhat misleading, for the head was tilted too far backwards, and, further, it conveyed an expression of softness not to be found in the original. Michaelis placed the head between the Aphrodite of Melos and the Cnidian Aphrodite, but he (the speaker) considered distinctly that it was not derived from these, but was of an earlier period. He believed that everyone conversant with the study of Greek works of art could not possibly doubt that the head had not the characteristics which were attributed to later Roman art. If it was a Greek head, then it was not likely to be a copy, for a copy made in the Vth century would be unique. Taking it to be original, it would not be likely to be either a temple statue or a sepulchral monument, as it would be too large for that. If earlier than the Cnidian type, the question would be asked whether it might not be earlier than the IVth century, but not as early as the great Phaidian period. Professor Waldstein discussed the conditions of modelling in the Praxitelean Age, and in the period following this master, and said he was strongly convinced that the highest development of modelling as such was in the period following on Scopas and Praxiteles. With the development of tinted and coloured statues in the Scopasian and Praxitelean period, modelling and the indication of different textures was to a great extent supplied by the colour. Then came the new



Business Premises, City, E.C.

Messrs. Banister Fletcher & Sons, Architects.

period with Lycurgus when they returned to more vigorous mainly art. The public eye demanded greater perfection in the modelling of surface and indication of texture, which had to be supplied by modelling as such; and thus in the works which succeeded the IVth century he found that, whatever the other artistic qualities might be, the modelling reached a greater stage than in the preceding periods. He considered on these grounds that the heads from Chios and Athens in the Boston Museum were later than Praxiteles. The Holkham head distinctly went back to the Vth century B.C., for the construction of the head and the modelling of the surface clearly pointed to Attic art of the Vth century B.C. They further pointed to its being a part of architectural decoration, to be viewed by the spectator from one point. The treatment of the brow, the accentuation of the straight lines of the nose, the half-opened lips and mouth, and chin and various other features went to show that the statue was intended to be seen from a distance. He had made measurements, and would place the statue on the eastern pediment of the Parthenon. Its natural position was on the spectator's left of the centre of the pediment,

the third or fourth figure from the centre. Mr. A. B. Cook had made a restoration of the eastern pediment of the Parthenon, which he would publish, and he accepted the view that the head would be suitable for the statue of Aphrodite. If he was right in his view, they had in the head at Holkham a work of Attic art of the Vth century B.C., which in all probability ought to find its place in the Parthenon pediment. It was a great deal to claim, and, if it was not absolutely demonstrable, they certainly had a very valuable specimen of the type of Aphrodite of the great Periclean Age.

Professor Ernest Gardner said that one must have time to think over the suggestions which Professor Waldstein had made, but certainly he had made out a *prima facie* case. The cast and the photographs did not enable one to come to a final conclusion, and doubtless Sir Charles's conclusions were drawn from the original. That it was earlier than the Praxitelean type one might certainly admit, but he did not feel sure as to how much earlier it was.

Mr. Forsdyke said he felt they could hardly give a head like the cast before them to Pheidias. Firstly, the method of assigning

the head to the Parthenon by what one might call the process of exclusion was hardly to be justified. It came close to the style of Pheidias, but there was a separation in style between the upper and lower parts of the head. If they compared it with the head of Theseus they would find the lines of the nose and brow were not so sharp, but the lines of the cheeks and mouth and chin were very much harder. He did not think it could be called Greek of the Vth century B.C.

Sir Charles Waldstein, in reply, said he did not bring the Theseus head because all detail was lost in that. The corruptions were such that any lines which might have existed were entirely obliterated. He certainly disagreed that the head was a Roman copy.

Sir Henry Howarth suggested that perhaps the Earl of Leicester might be induced to allow the original to be placed in the Elgin Room of the British Museum for some months. He considered that, wherever it came from, it was a pedimental statue.

BUSINESS PREMISES, CITY.

THE business premises 17, Kingly-street and 25, Ganton-street, here illustrated, have lately been erected by Messrs. W. S. Shepherd & Co. The building is constructed with ferro-concrete floors and staircase on the expanded metal system.

The piers to the shop-front are of Aberdeen granite, with the entablature in White Portland stone, the upper part of the walling being carried out with dressings of red gauged brickwork and Crowborough bricks.

The panels between the windows are made in cast lead. The wrought-iron guard railing at the top of the cornice is provided for a means of escape from fire. The shop-front is constructed in mahogany, and the bays have been arranged symmetrically, and occupy part of the site of the old projections. The building has been planned for use as a warehouse, and a plain treatment has been carried out consistent with its use. The architects were Messrs. Banister Fletcher & Sons, 29, New Bridge-street, E.C.

GENERAL NEWS.

Professional Announcements.

Mr. Evelyn Hellicar, A.R.I.B.A., has moved his offices to No. 7, Quality-court, Chancery-lane, W.C. His telephone number remains as before, Holborn 5410.

Appointment: Admiralty Office.

Mr. Thomas Sims, C.B., M.Inst.C.E., Assistant Director of Works, has been appointed Director of Engineering and Architectural Works to the Admiralty, vice Colonel Sir Edward Raban, K.C.B., R.E., retired.

A Painting of Old Lud Gate and St. Paul's.

A large picture that has lain for many years in the cellar of an auctioneer's premises in Cheltenham was bought a few days ago by Mr. Wm. Jones, the curator of the local Art Gallery, and will, it is said, be sent to the London Museum, Kensington Palace. A cleaning of the canvas has revealed a painting of the Old Lud Gate, with (old) St. Paul's in the background.

The Layard Collection, Venice.

Consequently upon the death of Lady Layard, widow of Sir Henry Austen Layard, the Assyriologist and archaeological explorer, the nation succeeds to the magnificent collection of pictures, mostly Italian, which for some years have been hung in his house, the Ca' Capello, on the Grand Canal, Venice. It is stated that the restrictions against the exportation of works of art from Italy imposed by the Facca laws have been removed, in this case, by agreement with the Italian Government. In the gallery are Gentile Bellini's portrait of Sultan Mahomet II., 1480, and "Adoration of the Magi," Carpaccio's "Departure of St. Ursula," examples of Moroni and Cosimo Tura, and a bust portrait by Vandyck.

Admiralty Arch.

Captain Murray asked the representative of the First Commissioner of Works on Monday whether he was in a position to make any statement as to the group of statuary which it was proposed to place upon the Admiralty Arch and Mr. Benn replied that the proposal had been abandoned.

ART EXHIBITIONS.

The present exhibition at the Leicester Galleries, Leicester-square, consisting of works by Mr. George Clausen, R.A., Mr. Arthur Mackham, and the late Phil May, will close on Saturday, and will be succeeded on the 23rd inst. by recent water-colour drawings by Mr. Edmund Dulac, illustrating the poems of Edgar Allan Poe; another exhibition will be a collection of water-colours of "Harbours and Towns," by Mr. Torrick Williams, R.L.; and lastly a series of paintings in tempera and water-colour usurping the life of the Virgin Mary by that able decorative artist, Mr. R. Anning Bell, R.W.S.

BOOKS.

The Living Wage. By PHILIP SNOWDEN, M.P. With a Preface by Harold Spender. (Hodder & Stoughton. Price 1s.)

THOROUGHLY no candid onlooker in the commercial arena is really more satisfied with the conditions of labour to-day than were Kingsley and Carlyle fifty years ago. Conditions have improved since then, but standards of living have advanced also. We are no longer quite satisfied with that point of view which includes labour under the law of supply and demand. The claim for a "living wage" is nothing new, but "there is a great appealing force in a telling phrase," according to Mr. Snowden. We are sure that mere phrases really do assist social progress. They are effective in advertising certain goods, where they appeal to an unthinking public. But in any such cause as that we are now considering it is the thinking public that must be captured.

Such a form of claim would seem to break down at the start since a living wage for the single man would not be so were a family dependent on him. The claims of a "minimum wage" may be more scientifically considered, and since the establishment of the Wages Board in 1909 such consideration has received organic shape. This Board was created to deal with grievances of certain trades only, such as the chainmakers. The Coal Miners' Minimum Wage Act of this year was a further application of the principle. Greater progress has been made in the colonies. Both in Australia and New Zealand arbitration courts are established. From their findings there is no appeal, and to strike is illegal. Canada is not so advanced. There are arbitration courts there, but strikes and lock-outs are only illegal prior to arbitration. What keeps us back at present is a shyness on the part of both masters and men towards compulsory arbitration, towards yielding their respective rights to lock-out and strike. "The strike spirit" is considered a necessary element for preserving solidarity amongst the men. So, strangely enough, the Minimum Wage Act was opposed by the trade unions and their representatives in Parliament. They said the Government "must not dare" to fix a minimum rate for any other industry than the one immediately in question, and that any Bill must be temporary in operation, and arbitration must not be compulsory. The first two of these conditions are embodied in the Act, the last is not, but an infringement is not illegal and punishable as in the colonial examples. A defaulter must be sued in a court of law.

At present, therefore, we have not gone very far towards the establishment of a minimum or living wage. But a discovery has been made within the last six months that is likely to have far-reaching effects in the handling of trade disputes. "The right to strike" has been shown to be by no means so valuable an asset as the labour leaders thought it. It is the labouring classes that suffer first and last. The public, who it was intended should be terrorised towards intervention, has never been reached at all. Compulsory arbitration will not do, it is not probably the most advantageous claim labour can make, and the masters will doubtless be wise not to push their newly-established power unreasonably. We doubt if any theory of wage will go very far with the public. It is a subject where even expert opinion must await the result of statutory interference, and Mr. Snowden, amongst others, is obliged to recognise that one of the first effects of a minimum wage will be to throw the older and less skilled men out of employment. But where public opinion may assist, and has assisted, toward better conditions of labour, is in the matter of housing. Much has already been done in this direction and much still remains to be done. If rents are not any less in the cities, the working-man gets something

better for his money than formerly; while such experiments as garden cities are evidence of a popular interest in this direction. The enterprise, too, of some of the larger manufacturers in providing homes for their workpeople have furnished examples that are familiar to all of us. Such social developments must be furthered by the interest which Mr. Snowden's book legitimately arouses in the welfare and future of the working-classes. It is written with a knowledge of the difficulties which beset labour, and its arguments are not impaired by unreasoning hostility to the employer and the capitalist.

Notes on the Florentine School. By THOMAS L. TUDOR. Price 4d. *Umbrian, Venetian, and Other Masters of Italy.* By THOMAS L. TUDOR. Price 3d. (Published by the Central Educational Company, Ltd., Derby.)

IT is the practice of the authorities of the National Gallery to lend to the various provincial galleries their collection of the original drawings from which the "Arundel" Prints were made. It is with reference to an exhibition of these drawings at the Municipal Art Galleries, Derby, that these short summaries of the Schools of Italian painting have been written. Such enterprise on the part of the author is in the highest degree praiseworthy.

These drawings scarcely pretend to be more than careful reductions prepared for a commercial purpose. In some instances, however, particularly as regards the copies from Benozzo Gozzoli, a distinctive decorative effect is obtained. They are in any case of value in creating an interest in Italian painting, an interest which cannot fail to be assisted, and indeed demands such assistance, as these little books give. The classical schools must always be important subjects of study whatever be the tendencies of the time toward the romantic or psychological aspects of art; perhaps the more so as one or the other of these tendencies presumes to dominate. These drawings will, in all probability, be dispatched to other centres, and we recommend these carefully-prepared handbooks by Mr. Tudor to their visitors.

The Concrete Institute: Transactions and Notes. Vol. IV. Part II. 1912. Published at the offices of the Concrete Institute, Westminster, S.W.

IN this part of the *Transactions* will be found the text of, and discussions on, papers read by Professor Fite, F.R.I.B.A., Mr. Reginald Ryves, A.M.Inst.C.E. and Mr. Maurice Béhat, C.E. (Ecole des Ponts et Chaussées), and various reports, including that of the Tests Standing Committee on the "Testing of Reinforced Concrete Structures on Completion." The paper by Professor Fite on "The Aesthetic Treatment of Concrete" is one of considerable interest to our readers. As most of the contents of the publication have been reported and commented upon in our columns from time to time, we need not refer to them at length on the present occasion.

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held in the County Hall, Spring-gardens, S.W., on Tuesday, Lord Chylesmore, Chairman, presiding.

Temple Bar.—The Chairman of the Local Government Committee was asked whether, in view of the great historic interest of Temple Bar, and its intimate connexion with the life of London for over 200 years, he would ask the Committee to consider the desirability of taking steps to approach the present owner, Sir Hedworth Beux, with the intention of negotiating for its re-erection in London. The Chairman replied that he would bring the matter before his Committee.

Loans.—The Finance Committee recommended and it was agreed to make a loan of 3,900l. to the Bermondsey Borough Council for repaving works; and of 16,785l. to the Wandsworth Borough Council for contribution towards the cost of street widenings.

Theatres, etc.—The following drawings have been approved by the Theatres and Music Halls Committee:—140, Maids-vale (proposed cinematograph hall)—ventilation and lighting arrangements and rearrangement of seating. New Cross Hall, Lewisham High-road—lighting installation. 226, Commercial-road—provision of cinematograph chamber. Battersea Palace, York-road—

provision of a cinematograph enclosure. Bowman's-mews, Holloway-road (Globe Cinema)—heating installation; arrangement of the exit doors to Bowman's-mews. Carlton Hotel, Haymarket—arrangement of electric lighting and power installations. New Kilburn Empire, High-road, Kilburn—means of escape from the prompt fly. Walham-green (Broadway-gardens Cinematograph Theatre)—raising of the level of the floor in the front portion of the hall, and the erection of a shelter from the southern corner of the hall to the station arcade.

Drawings have also been submitted to the same Committee for new cinematograph theatres as follows.—By Messrs. Isaacs and Cannell, for a proposed cinema to be erected in Arnside-street, Walworth; by Mr. P. H. Adams, for a cinema proposed to be erected in Osborne-place, Stepney; for a boxing-ring and cinematograph hall proposed to be erected at 100, Whitechapel-road on a site formerly occupied by Wonderland and the East London Palace. Messrs. W. Deves, Max Clarke, and Garbutt have also submitted drawings for proposed alterations at the Florence Restaurant, Rupert-street, W.

FIFTY YEARS AGO.

From the *Builder* of November 15, 1862.

Life, Growth, and Development in Architecture.

IT is strange and curious how, starting with the avowed intention of correcting prevalent fallacies, in the rising school of architects, who have set themselves against the omnipotence of precedent, they adopt ideas first promulgated by those they wish to refute and parade them under a slightly changed name or aspect; leaving the reader to infer that they are the result of their own investigation. Though the leading axiom that the principal styles have resulted from the combination of blending of the features of opposite styles individualised by after development has been conceded by contemporary writers, yet, fearing, I suppose, to travel too far at one stage, they urge that the combination is always effected by gradual growth.

To say that a style must be the result of centuries of labour is simply to prohibit invention; and it is no less humiliating than distressing to think that we are all contributing towards some result in the far-off future, which no one can understand or interpret, but which only future generations are to enjoy. Such labour would prove more unsatisfactory than that of Sisyphus; for we should roll up our rock for the sole pleasure of future generations seeing it roll down again. What interest can any human being feel in his work unless directed by a definite aim and he sees some prospect of beholding his endeavours realised; or, at all events, can trace the tendency of his work? He can find no more pleasure in his pursuits than a blind mill-horse, whose continual occupation is an eternal going round and arriving nowhere! Indiscriminate combination is what no man, to my knowledge, has recommended; and the accusation is only the invention of some one who spends his time in beating the air and slaying shadows.

* * * The processes which time laboriously evolves towards the formation of style is anticipated by human consciousness. This is the mark of greatness, of great men who are spoken of as being born before their time. And there must be many gifted in the same manner, though not in the same degree. Were it not that folk will follow fashion as a flock of sheep follow a bell, while others in consequence of imperfect sympathies are devoted to specialising, a truer architectural acknowledgment might be found of influences, paramount at some period of our history, and which still appeal to us from the past. The calm and dignity of repose insisted upon by the English Renaissance did not steal from us our heritage of romance. To many who survey the past, the appeal of one is not less strong than the other, and both may find within us responsive notes which, sounded together, produce harmony.—Ed.

ILLUSTRATIONS.

Missouri State Capitol Building.

WE supplement this week, by illustrations of the designs of Messrs. Tracy & Swartwout, our notice of the competition which appeared last week (p. 534). We are indebted to our New York contemporary, the *American Architect*, for permission to use their original illustrations for the purpose of making our blocks. To that paper, dated October 23, Mr. Egerton Swartwout contributes a description of his firm's design, and the following paragraphs are quoted from this source:—

"The site of the Capitol is superb; situated on a great bluff 100 ft. or so above the river, on a promontory which projects so well into the stream that it can be seen 15 miles or so up and down the river, the bluff ending in a jagged cliff and with natural terraces to the water, with excellent soil and well wooded. It is not only naturally beautiful but presents an extraordinary chance for artistic development. The programme demanded that the dome should be on the axis of Main-street, but left unsettled the frontage of the building. In our judgment there was but one location for the Capitol; its longitudinal axis should be parallel with the river and on the axis of Main-street, and the approach should be from High-street, the transverse axis coinciding with that of the Supreme Court building. In this way the Capitol is nearly in the centre of the plot, slightly to the south of the location of the old Capitol building. The grades are an unusual feature of the plot, and, though steep, are fortunately located. The high point is about on the transverse axis, in front of the Supreme Court building, and as from this point is the main approach it is absolutely essential that the lowest steps of the Capitol shall be as high or higher than this high point, as otherwise the structure would seem depressed. This necessitated placing the building on a terrace about 14 ft. above the natural grade and a couple of feet higher than the high point. This terrace is approximately 30 ft. wider on all sides than the building, and will be constructed with masonry, with a simple broad flight of steps fronting the portico with ramps for vehicles at each side, the terrace becoming higher and the ramps of steps longer as the grade falls away on the sides.

As to the Capitol building itself, the requirements are in no way dissimilar to those of most of the existing Capitols, the Senate and House, with their dependencies, being on the second floor as usual, and the executive floor just below. This scheme, while general, is open to several disadvantages—an adequate approach

to the legislative floor is difficult, and is usually on the dome, or has to be reached through a rather low vestibule; while the space under the legislative chambers is dark and is usually made of use for storage space and vaults. These disadvantages we have tried to overcome in our plans. We started with a definite decision that the floor of the dome should be on the legislative floor, that the floor of the dome should be unnumbered by monumental stairs, that the legislative chambers should be as near to each other as practicable and the circulation uninterrupted. Also, we felt that the entrance should be through a portico and not through a series of congested arches in a basement; and, further, we did not consider it architecturally good to enter a low vestibule from a great portico; so we did the only logical thing—we placed the portico on the first floor level. This gave a flight of steps in front of the portico about 18 ft. in height, the portico giving entrance through a large central door to a barrel-vaulted vestibule about 60 ft. high, in which is a monumental flight of steps leading directly to the dome. This is the main principle of our design, a perfectly simple and logical feature, but which, strangely enough, has never been applied to a State Capitol, or, to our knowledge, to any monumental building in this country.

The exterior explains itself. The main thing noticeable is the relation of the exterior orders. The columns of the portico are 48 ft. high, somewhat on the lines of the columns of the Temple of Jupiter Stator, and are supported by the subordinate order, which is that of the Temple of Vesta. I know of no other way by which the scale could be maintained when the Corinthian Order is used in the relative proportion of 10 to 12. As to style, it is on the lines along which we have been working entirely for the last three years—that free adaptation of the classic which was beginning to be felt in this country in the early XIXth century. It is not Colonial, nor is it Georgian. It was only a suggestion found in some parts of the old work in Washington and in the more pretentious work of that period in other parts of the country. It is logical, adapted to modern conditions, and is capable of development with the utmost freedom, and is, in our opinion, a beginning from which a real national style can be developed."

Baroque Architecture.

OUR sixth article on Baroque architecture begins on p. 577, and the illustrations of the Palazzo Frescobaldi, Florence, and of the Fontana dei Fiumi, Rome, are in connexion with it.



Missouri State Capitol: Side Elevation.

Messrs. Tracy & Swartwout, Architects.

The British School at Rome.

EARLY in 1911 the Royal Commissioners for the Exhibition of 1861 decided to establish a system of travelling scholarships in architecture, sculpture, and decorative painting, of lines similar to those of the French Prix de Rome. After some correspondence with the British School at Rome information was received that the site of the British Pavilion of the Rome International Exhibition of Fine Arts, 1911, had been offered by the Italian municipal authorities to Sir Rennell Rodd, the British Ambassador, to be used for the purpose of a British institution of national interest. The Commissioners, with the concurrence of the British School at Rome, intimated to Sir Rennell Rodd that if the site in question were made over to them they would be willing to purchase and adapt the building for the purposes of an enlarged British School at Rome, which should be made thoroughly representative of art as well as archaeology. Arrangements were soon in progress, and matters were simplified by the gift to the Commissioners of the building itself, through Colonel Charles Humphreys, head of the firm of contractors who had built the pavilion, and to whom it would have reverted at the close of the Exhibition.

"Wisely directed," wrote Mr. Reginald Blomfield shortly afterwards, "the new British School may go far to remedy certain defects that lie at the root of much of our failure in modern architecture, both in training and practice. Particulars have been published of the competitions for the Scholarship in Architecture, the value of which is 200*l.* per annum for three years. Designs must be delivered as regards competitors in Great Britain by December 31st, and by those in the Colonies by January 20th, 1913. The conditions may be obtained from the Office of the British School at Rome, 54, Victoria-street. (See article on page 563.)

One plate shows the south elevation and the plans of the new building as designed by the architect, Mr. E. L. Lutyens, F.R.I.B.A. The walls shown in black on the plans indicate the area of the Exhibition building, and the alterations to adapt it for the purposes of the British School. The walls left in outline are the extensions to provide residential quarters for the students and Director. The portion of the plans tinted shows the extent of the work now in progress.

MEETINGS.

FRIDAY, NOVEMBER 15.

University Extension.—Visit to the Soane Museum, Lincoln's Inn-fields (Greek and Roman Antiquities 3 p.m.)

SATURDAY, NOVEMBER 16.

Edinburgh Architectural Association.—Forenoon visit of Associate Section to Messrs. Redpath, Brown, & Co. Ltd.'s works, Easter-noon visit of which is to the Association to (1) New Masonic Hall, (2) New Hall of United Free Church of Scotland, 121, George-street.

MONDAY, NOVEMBER 18.

Royal Institute of British Architects.—Mr. J. L. B. on "Bath: A Comparative Study." 8 p.m.

Liverpool Architectural Society.—Mr. J. A. Gorch on "The Original Drawings for the Palace at Whitehall Attributed to Inigo Jones." Lantern slides.

The Institute of Sanitary Engineers (Caxton Hall, Caxton-street, Westminster).—Mr. Ernest van Putte, M.Inst.C.E., Borough Engineer and Surveyor, Lewisham, on "Intercepting Traps in House Drains." 8 p.m.

TUESDAY, NOVEMBER 19.

London University (British Museum).—Mr. Kaine Smith on "Art and Humanity: The Need for Beauty." The Illuminating Engineering Society (Royal Society of Arts).—The Hon. Secretary will present a report on progress during the vacation, with special reference to his visits to the Continent and to the United States. Other items will include: "Ancient Forms of Lamps" (Mr. J. W. Johnston), "A New Illumination Photometer" (Mr. Haydn T. Harrison), "Some Simple Colour Boxes" (Mr. W. C. Clifton), "Photography in Illuminating Engineering" (Mr. J. S. Dow and Mr. V. F. Mackimney), and "Miner's Lamps." 8 p.m.

Royal Sanitary Institute.—An adjourned session meeting will be held at 30, Buckingham Palace-road, S.W., for the purpose of continuing the discussion of "The Report of the Departmental Committee on Intercepting Traps in House Drains," opened by Mr. H. Percy Boulnois, M.Inst.C.E. 8 p.m.

Institution of Civil Engineers (to be held at the Institution of Mechanical Engineers, Storey's-gate, S.W.).—Papers to be further discussed: (1) "The Construction of the New Dock at Methil" by Mr. Benjamin Hall Blyth, jun., Assoc. M.Inst.C.E.; (2) "Alterations and Improvements of the Port Talbot Docks and Railway during the Last Decade," by Mr. William Cleaver, M.Inst.C.E. 8 p.m.

WEDNESDAY, NOVEMBER 20.

Royal Society of Arts.—First ordinary meeting. Opening address by Lord Sanderson, G.O.B., K.C.M.G. 8 p.m.

THURSDAY, NOVEMBER 21.

The Architectural Association.—Conversations to be held at 18, Tuford-street, Westminster. 8 p.m.

Society of Antiquaries.—8.30 p.m.

THURSDAY, NOVEMBER 21.

Leeds and Yorkshire Architectural Society.—(1) Address President, Mr. A. E. Kirk, A.R.I.B.A. (2) Distribution of prizes. 6.30 p.m.
London University (Victoria and Albert Museum).—Kaines Smith, M.A., on "Decoration of Buildings: Painting and Mosaic." 3.30 p.m.

FRIDAY, NOVEMBER 22.

Glasgow Technical College Architectural Craftsmen's Society.—Mr. J. Allan, jun., on "The Manufacture and Use of Moulded Concrete Blocks." 7.45 p.m.

SATURDAY, NOVEMBER 23.

Aberdeen Architectural Association.—Mr. A. N. Paterson, M.A., A.R.S.A., Glasgow, on "French Influence on Scottish Architecture." 7.30 p.m.
The Royal Sanitary Institute.—Provincial sessional meeting, Doncaster, when a discussion will take place on "Town Planning in Relation to the Development of the South Yorkshire Coalfield." To be opened by Mr. A. B. Dume, M.B., D.P.H. 11 a.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 504.

Belfast Museum and Art Gallery.

Mr. John J. Burnet, LL.D., F.R.I.B.A., has consented to act as assessor in the competition for a Museum and Art Gallery, Belfast. Mr. Burnet will meet the Library and Technical Instruction Committee early next month, after which probably the conditions will be issued.

Glasgow and West of Scotland Teachers' Training College.

We understand that the conditions of the competition for the proposed Training College at Jordanhill have now been issued to the six competitors selected whose names are given in our issue of December 1 last, and that the date fixed for sending in the designs is February 22, 1913. The cost of the scheme is to be about £30,000.

Glasgow Municipal Buildings Extension.

One hundred competitive designs have been received, and the assessor (Mr. John J. Burnet, LL.D., A.R.S.A.) is now engaged in selecting from these the six designs whose authors are to be invited to join in the second competition.

British Institution Scholarships.

At a meeting of the Trustees of the British Institution Scholarship Fund, held on the 7th inst., a scholarship in architecture (50% a year for two years) was awarded to Mr. Frank K. Pope, of the Royal College of Art. Similar scholarships were awarded in painting, sculpture, and engraving.

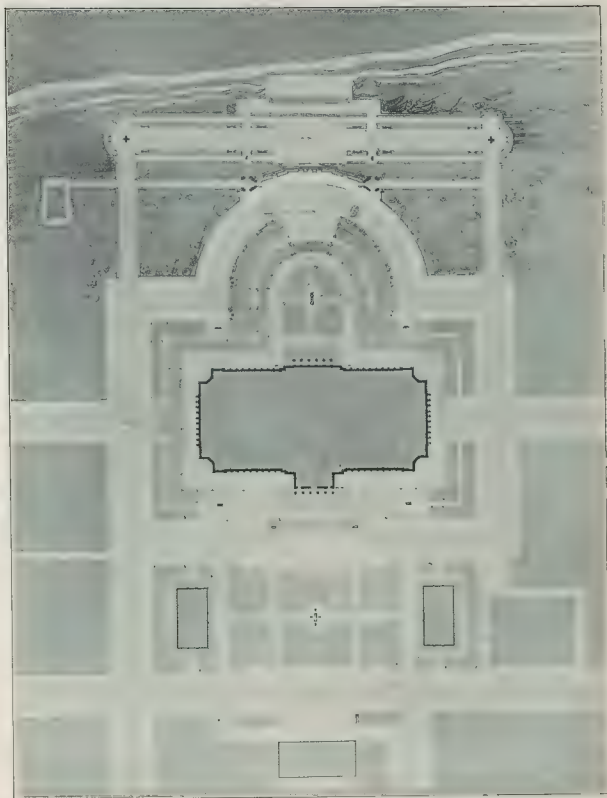
American Academy in Rome.

The annual scholarship (architecture) for the American Academy in Rome has been awarded to Mr. Kenneth E. Carpenter, of Boston, Mass. The subject set was "A Navy Yard on an Island in the Southern Pacific Ocean," and illustrations of the successful design appear in the November issue of the *Architectural Record* (New York).

New York Court House.

The names of the competitors for the new Court House, New York, have been announced. "Twelve architects were invited at first to submit plans without competition," says the *New York Times*. "This aroused such a protest from the architects who had not been invited to submit designs, that a competition was arranged through which ten names were selected. Thus twenty-two architects will submit plans from which the final designs will be accepted. The architects who are to participate in the final competition will start work on their designs as soon as Mr. Walter Cook, the Consulting Architect of the Court House Board, can arrange the terms of the contest. It is hoped to select the final plans for the new structure by January 1. The architects selected for the final competition will receive \$1,000 each for the designs they submit." Those who will compete are:—

Messrs. Howells & Stokes, 100, William-street; Messrs. Maynicke & Franke, 25, Madison-square; Messrs. Charles C. Haight, A. M. Githens, and Aymar Embury, 452, Fifth-avenue; Messrs. Griffin & Wynkoop, 30, Church-street; Messrs. K. M. Murchison and Howard Greenley, 298, Fifth-avenue; Messrs. Wilder & White, 155, Fifth-avenue; Messrs. Shure & Kaufman, 373, Fourth-avenue; Messrs. Walker & Gillette, 128, East Thirty-seventh-street; Messrs. George and Edward Blum, 205, Fifth-avenue, and Mr. Guy Lovell, 225, Fifth-avenue. The architects invited to submit plans without competition were:—Messrs. McKim, Mead, & White, Messrs. Carrère & Hastings, Messrs. La Farge & Morris, Messrs. Tracy, Swartwout, & Litchfield, Mr. James Rieley Gordon, Mr. H. V. Macgonigle, Messrs. York & Sawyer, Messrs. Charles Butler & Charles Morris, Messrs. Trowbridge & Livingston.



Missouri State Capitol: Block Plan.

Messrs. Tracy & Swartwout, Architects.

Mr. A. W. Brunner, Mr. Cass Gilbert, and Messrs. George B. Post & Sons.

The total cost of the new building is estimated at \$30,000,000, of which \$10,000,000 is for the site.

Palais Royal and Palais de Justice, Sofia.

Those who have read the conditions of the competitions for the Palais Royal and the Palais de Justice at Sofia, and have been at work on designs, will have wondered what effect the war would have on the ambitious schemes advertised. We are now informed by the Ministère Royal des Travaux Publics de Bulgarie, that the date for sending in designs has been altered to March 1, 1913, so that competitors will have a further three months to work at the problems.

Missouri State Capitol.

Last week (p. 534) we referred to the result of the competition for this building. In this issue we illustrate fully the winning design by Messrs. Tracy & Swartwout.

CORRESPONDENCE.

Teachers as Adjudicators.

Sir,—Your correspondent who signs himself "Cricket," has expressed thoughts that must have arisen in the minds of a great many of your readers.

The new regulations governing the R.I.B.A. Final Examinations, whilst admirable in many ways, have one weak point, namely, by attaching so much more importance to works which are not done in the actual examination it is impossible for the examiners to know just how much assistance the candidate has received in the preparation of his testimonies from students of the Liverpool School, and it is significant that all of them were

based on identically the same motif. Such instances as these lead one to wonder how much of the candidate's own individuality there is in the design.

To quote Mr. Kipling, "There are nine-and-sixty ways of writing Tribal lays, and every single one of them is right." The similarity, to say the least of it, between these designs, therefore, arouses in one's mind the idea that the "supervision" of the professors must have been very thorough; in fact, one might be pardoned for thinking that it amounted to "material assistance!"

Is it not time the R.I.B.A. examiners demanded that the testimonies of study should be the entirely unaided work of the candidate? If not, one fears that it will be possible to a very considerable extent for a student to "buy himself through" the examination. Most assuredly this is not what the examiners aimed at when revising the syllabus, and it would certainly not be "Cricket."

ALREADY AN ASSOCIATE.

House of Commons Ventilation.

Sir,—Your extract in last week's issue from Professor Lock's letter to the *Times* shows once more how varied are the ideas with regard to the principles of ventilation.

It is a beautiful idea that by warming the Cambridge examination hall with radiators placed against the walls "the air of the hall up to the height of the neck has little movement, and remains warm and practically unchanged," and that by forcing practically cold air into the room from a height of 8 ft. or 9 ft. "with a steady and almost imperceptible flow, spreading itself over the hall, slowly falls to the level of the face . . . is then breathed, made warmer and lighter, and rises through the outlets in the ceiling."

It may not be treating the subject with sufficient seriousness to suggest that Professor Lock only accepts students with the correct length of neck, or that those of stunted growth are handicapped in their examinations owing to the necessity of continually breathing that lower strata of air which "changeth not."

And I would suggest as a subject for a painter of the Futurist school a picture of the warm, moist microbe-laden air rising from the students' nostrils through the cold descending fresh air, and chasing the harmless microbes in the latter in the attempt to contaminate them.

Professor Lock's points are contrary to those accepted by the engineering profession, and still more contrary to the facts proved by Dr. Leonard Hill and others, whose revelations (recently related in your columns) clearly show that continual movement of air over the body is essential.

Apparently the air in the Cambridge examination hall is stagnant. "below the neck," though one can scarcely believe it possible, since the heat from the human body will cause it to rise continually. It is important that the whole body is in contact with moving air, or the pores of the skin become clogged and the moisture from the body cannot be evaporated.

Professor Lock will find that by keeping the temperature of the heating surfaces below 160 deg. Fahr. he will find nothing unpalatable about the air, since the dust impinging on the hot pipes is not affected by lower temperatures.

S. WHITMORE ROBINSON,
Consulting Engineer.

"Estimating."

SIR,—I have to tender my thanks for your kindly criticism of my book on "Estimating," which appeared in your issue of October 25. As you have been so kind it seems ungrateful to cavil at anything you have said, but I should be glad if you would allow me to reply to one or two points.

I prepared the articles for my book for builders in the Southern districts, and the rate of wages given are those adopted by our Municipal authorities and recognised by the

trade unions. I quite agree with you they are too low.

The difference in the price of brickwork between the London districts and ourselves lies in the fact that the "labour" shown in my book (although the rates are lower) is more than that usually adopted by the London builders, which is not sufficient for "all round" general building purposes, and again you would find this also applies to scaffolding. I took a great deal of trouble with the brickwork, and found that a bricklayer and labourer would lay generally seventy bricks per hour, but, as the question of footings had to be contended with, I adopted the system of "averaging" them as shown, which, as you say, is not proportionate to the remainder of the building. Again thanking you, T. D. L. PIREN.

Brighton.

INTERCOMMUNICATION COLUMN.

Maintenance of Party Wall.

SIR,—If it comes within the scope of the *Builder* to advise correspondents, will you kindly give me your opinion on the matter below? I own a property adjoining another. These have a dividing wall. This wall clearly shows that it was built on my neighbour's land, but, being a 4-in. it was necessary to build on my side several pillars to support it. These pillars are on my land. The question is—Does it necessarily follow that, because the pillars are on my land, that I am, equally with my neighbour, responsible for rebuilding the wall? It will render me a great service if you can assist me. F.L.K.

. It is very difficult, if not impossible, for us to express a definite opinion upon the point raised in this letter without having all the facts and circumstances of the case fully before us. The general rule is that where it is not known under what circumstances a wall was built the presumption is that it belongs to the two proprietors as tenants in common (*Wiltshire v. Sidford*, 1 M. & R. 404); but where the precise extent of land originally belonging to each owner can be ascertained the presumption of a tenancy in common does not arise, and so if two persons have a party wall, one half of which stands on the land of each, they are not tenants in common of the wall,

even though the wall was erected at their joint expense (*Matta v. Hawkins*, 5 Taunt. 20). In the case now before us there appears to be no doubt that the wall was built entirely upon the land belonging to our correspondent's neighbour, and, therefore, presumably belongs to him, with an easement of support, so far as the pillars are concerned; but as, generally speaking, easements impose no personal obligation upon the owner of the servient tenement to do anything, it would certainly appear that the burden of repair falls entirely upon the owner of the dominant tenement—that is to say, in this case upon the owner of the wall.—ED.]

Effect of Great Heat on Stone.

SIR—I was interested in the condition of the Portland stone after the fire at Messrs. Barker's premises. Perhaps some reader will be good enough to inform me, through your columns, as to the comparative merits of a dolomite and a sandstone under great heat. P. J. WESTWOOD.

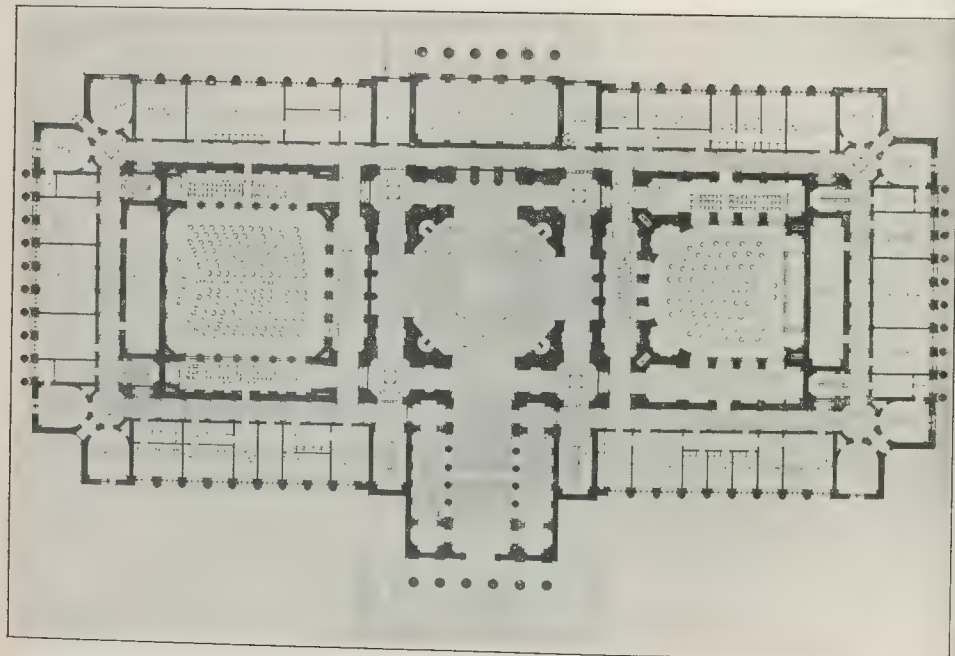
BOOKS RECEIVED.

DESIGN AND CONSTRUCTION OF ROOFS. By N. Clifford Ricker. (London: Chapman & Hall. 21s. net.)

ANCIENT CHURCHES ROUND CROYDON. By Lindley Latham. (Price 6d.)

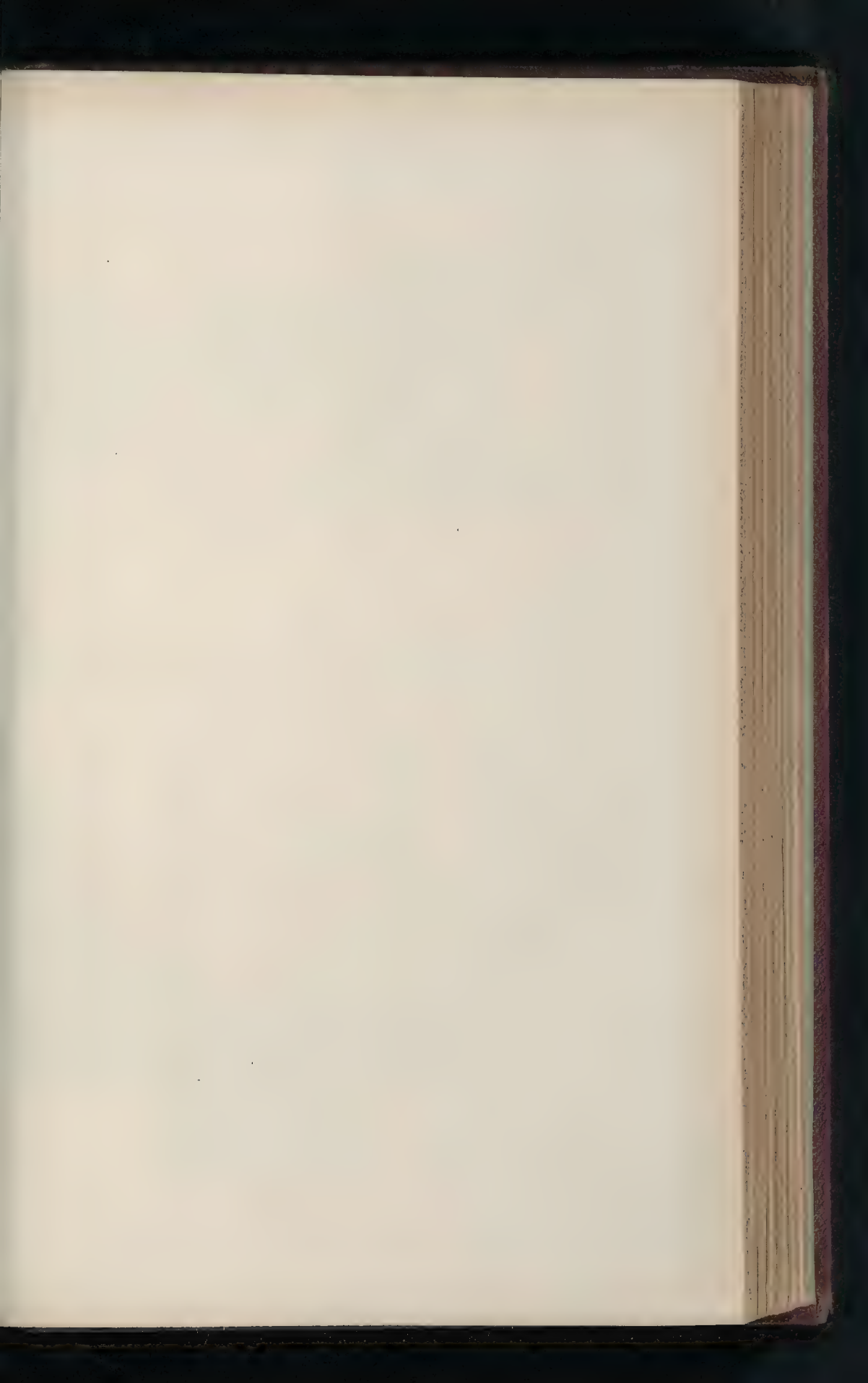
THE NATIONAL GALLERY.

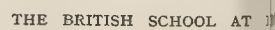
Mr. Ormsby Gore on Monday asked the representative of the First Commissioner of Works whether, in view of the overcrowded condition of the Venetian rooms in the National Gallery and the necessity of finding suitable space for the newly bequeathed Layard collection of Venetian pictures, it was proposed to further enlarge the Gallery; and, if so, whether he was prepared to receive representations of the subject before any action was decided upon. Mr. Wedgwood Benn replied that the First Commissioner was quite ready to receive representations on the question of enlarging the National Gallery. A request for increased accommodation could not, however, be considered until it had been put forward by the trustees.



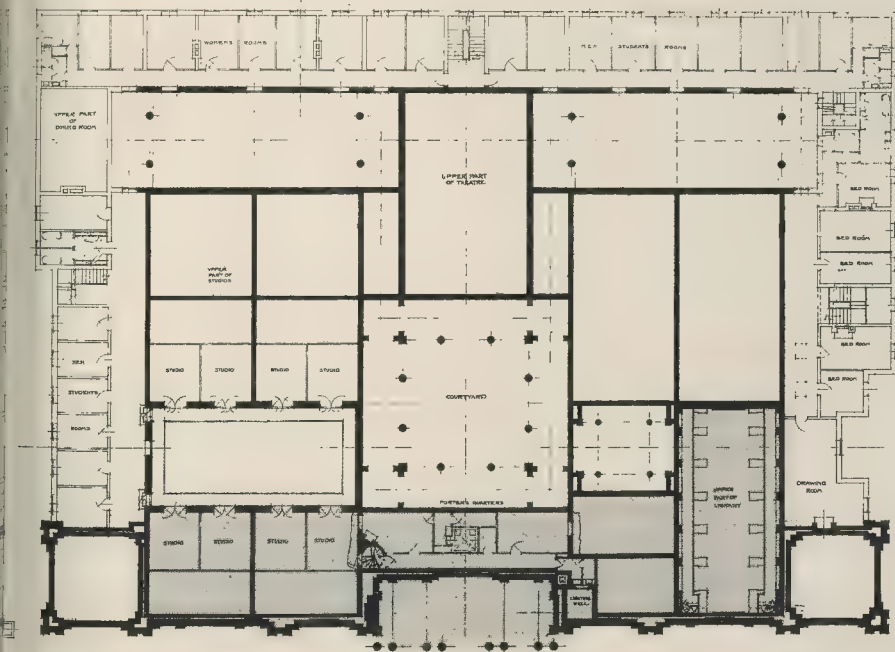
Missouri State Capitol: Third Floor Plan.

Messrs. Tracy & Swartwout, Architects.





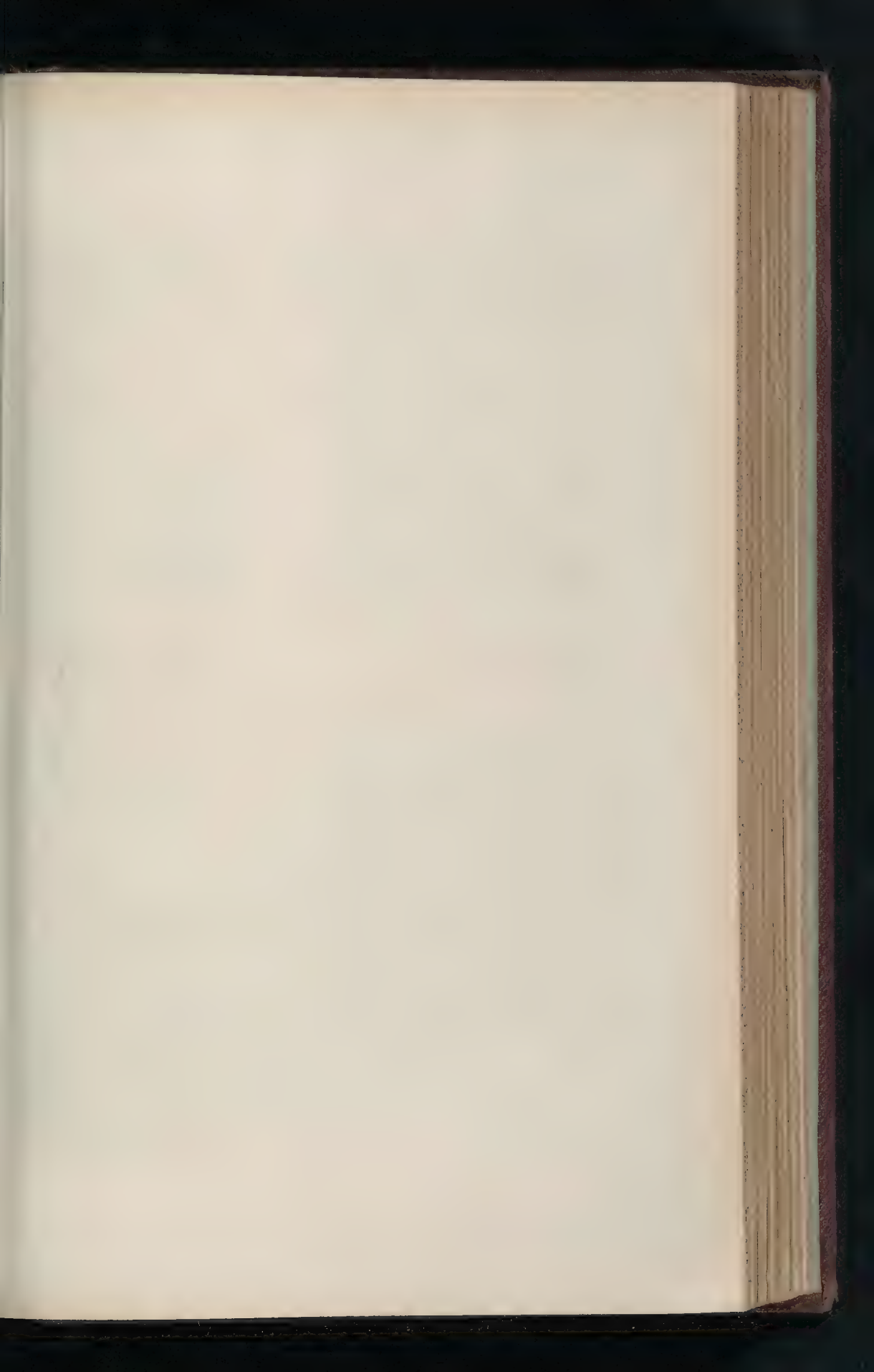
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L. LUTYENS, F.R.I.B.A., ARCHITECT.

THE BUILDER, NOVEMBER 15, 1912.







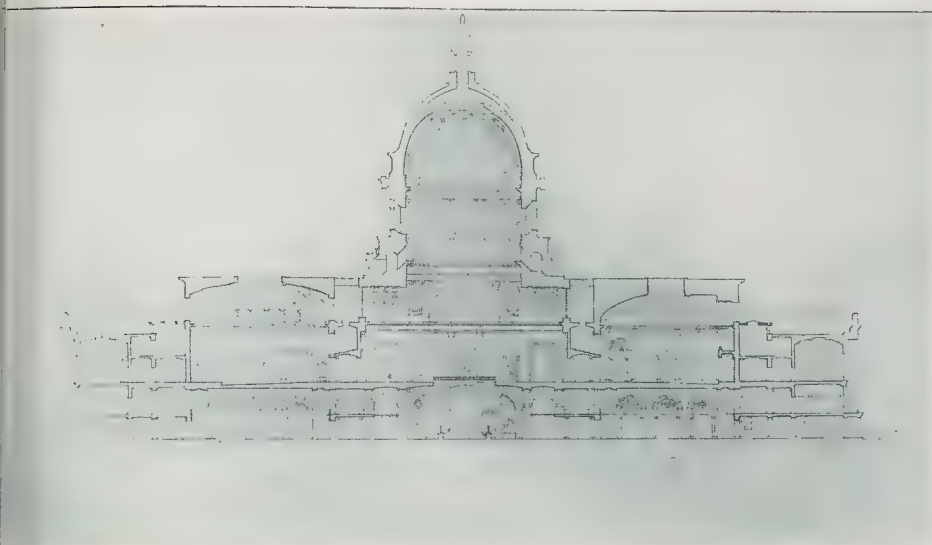
FRONT ELEVATION.



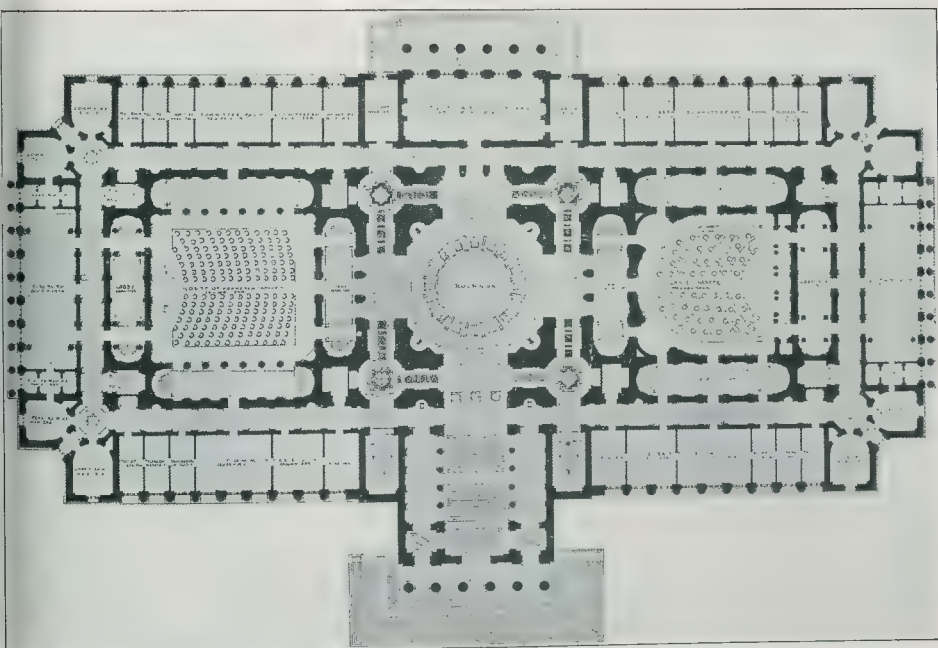
Spurne & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

DETAIL OF PRINCIPAL ENTRANCE.

MISSOURI STATE CAPITOL COMPETITION.—WINNING DESIGN BY MESSRS. TRACY & SWARTWOUT.



LONGITUDINAL SECTION.



Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W.

MAIN OR SECOND FLOOR PLAN.

MISSOURI STATE CAPITOL COMPETITION WINNING DESIGN BY MESSRS TRACY & SWARTWOUT.



PIAZZA NAVONA, ROME: FONTANA DEI FIUMI.
"BAROQUE ARCHITECTURE," VI.

Sprague & Co. Ltd. Printers 22 & 70, Dean St., Soho, W.

MONTHLY HISTORICAL REVIEW.



Chiesa del Carmine, Naples.

BAROQUE ARCHITECTURE.

VI.—A BAROQUE CITY.

(Continued from page 444.)

many countries or provinces there is some small town, perhaps a mere village, which by some curious chance escaped the ruthless hand of change preserves within its walls a little picture of days gone by. And of these dear to artists, those are most precious which enable one without undue labour to study some period of mediæval

or more recent history in its proper setting; not within the academic walls of a museum or between the sumptuous covers of some illustrated monograph, but in the place itself.

To students of Baroque architecture there is probably no town of Italy so little altered since it was laid out in the XVIIth century as unknown Lecce, in far Apulia. A smiling, sunny little city on the bare plain, near the

Adriatic, it has somehow survived to-day much as it was in the remarkable burst of building activity which made it a veritable Baroque museum. And, having concerned ourselves largely hitherto with the more celebrated monuments of the style in Rome, Genoa, and Venice, we must in justice pay some heed to its other aspect, to its far more numerous and far less famous examples in



[Photographie Artistique.]

Palazzo S. Croce, Rome. S. Carlo and Catinasi.

every country village, often the most charming of all. For in these minor buildings, seldom trumpeted by critics, we see its more picturesque side—the side on which it claims our affection rather than our respectful admiration. In the case of some colossal palace or church in Rome we solemnly weigh the architectural pros and cons of its façade or its plan, rigorously compare its proportions and details with accepted canons. An experienced or keen critic of our art carries this same spirit into less important matters, and mentally labels some little balcony which he passes in the street as Gothic of one period or another, as Cinquecento perhaps, or as Baroque. That plentiful class, the non-architectural critic of architecture, is less discriminating, and will only use the epithet "Baroque" for the numerous and widely-differing specimens of building which do not happen to suit his half-fledged mind, whether of the XIVth century or the XXth.

But there are laymen who are more enlightened, and one of them is Paul Bourget, the French essayist, who in a charming chapter tells how Lecce—"this precious jewel of a town"—altered his whole

preconceived idea of the style and made him one of its warmest defenders.

Why, one naturally asks, should such a city lie stranded away from the tide of celebrity? And why should it possess so strong a claim for recognition? Are there not other remote towns no less richly dowered in the wilds of Abruzzo or on the Romagna plains? If there was in reality a "Baroque period," one might surely find other places to dispute with Lecce its unique claim as a Baroque city.

He would be a bold man who could say that, after an intimate study of all the towns of Italy, he could assure us that Lecce occupied this position, and in making such a statement one runs the risk of probable contradiction and of possible error. But it is sufficient for the purpose of these articles to take Lecce as a most remarkably complete example of this style, and to draw from its completeness such general criticisms as we may.

During the earlier part of the XVIIth century the tide of reaction from architectural pedantry gradually filtered through the country, as we have already shown. It moved placidly, steadily, as is the way of

such things. Now and then it encountered local tradition, sometimes hostile, at times favourable. In hill towns of Umbria and Tuscany the seed fell on stony ground, but managed to produce some sort of result. In the Alban Hills, on the fertile meadows of the Papal States, and, indeed, where the great Papal families were supreme, it flourished exceedingly; but nowhere more than in the South, where the influence of Spain was particularly strong. Southern Rome there are few noteworthy monuments of the XVth and early XVIth centuries, the Renaissance age in Italy. Beyond the classic sites of Paestum and Pompeii, of which and Magna Græcia—nearly all buried and unknown in these days—a XVIIth-century architect in the Kingdom of Naples sought to draw his inspiration from a magnificent series of early Gothic buildings rich in naturalistic ornament and tinged with the romantic spirit of the Crusades. Among doors and windows, piers and vaults which recall the mediæval churches of Provence, germinated the predisposition to a free and luxuriant fashion in decoration. Then came two converging influences from widely-different quarters. The Jesuits, the Theatines, the Papal emissaries, princely families, brought from Rome the new Baroque movement already in vogue there, and where the scholarly genius of Bramante had failed to penetrate, the talents of Bernini and his kind were met with upon with admiration. The little towns of Sicily and the Adriatic seaboard, as well as great centres such as Palermo and Naples, bedecked themselves in the new manner and rejoiced at their added splendor. Meanwhile, political changes had so brought it about that Southern Italy was saturated with Spanish ideas and customs following in the train of those stern governors who held a little court in every provincial town of importance. Spanish architects already displayed some startling characteristics before other countries in Europe revolted against the schoolmen, and Spanish influence was for ostentation, elaboration, and outward show.

It is, therefore, hardly to be wondered at that the Baroque movement is particularly widespread in these provinces, and that the typical centre of the movement is to be found at Lecce.

The buildings of this town may be regarded as ecclesiastical, public, and private, and treated accordingly. All of them are compressed into small space by the medieval walls, and the streets are, to English eyes, ridiculously narrow. Lying on a level a few miles from the sea, there are no those effective stairways so characteristic of the hillsides of Naples or Genoa, nor there any of the monumental vistas which one associates with Baroque enterprise in Rome. It might even be said that the thing is against the picturesque, and without hills, without a harbour, without a river, or even a sleepy canal, in the midst of a sunbaked plain, Lecce is severely capped as a beauty-spot. Yet, admitting that it has an undeniable charm, we recognise the merit of architecture is independent of its surroundings; moreover, that the Baroque style, so relying on a theatrical setting for effect, in itself commands admiration.

The Lecce churches are in some ways representative series such as one finds in other towns, yet in a sense unique. Their number alone is extraordinary in proportion to the area of the city, there being forty within the walls and the immediate suburbs. With a few exceptions, they are all built within a limit of a hundred years, from about 1575 to 1730. The Baroque in character of these dates from the XVIIth century, say, from 1620 to 1710, therefore have here an epitome of the style applied to ecclesiastical buildings in its stages; firstly, a gentle breaking away from late Renaissance models; secondly, a period of anarchy and extravagance; and, lastly,

to return to more classic forms, first stage such churches as the Gesù Irene show us more classic inspiration and delicate Cinquecento examples which they; yet the former, though so early as 1575, is of fully-developed Baroque character, with its broken pediments, scroll brackets, and its unconfined detail. Alike in its façade and interior, with four chapels on either side of the nave, the ceiling of the nave is flat, domed roof over the crossing, and a vault above the choir. The pilasters are decorated with arabesques, and the interior is ornate in most respects. The most of Lecce churches, however, is S. Maria della Porta, a remarkable building. A national monument, it is being at present very carefully restored. The façade represents an extraordinary orgy of bold and intricate carving in the golden local stone, and, for that matter, its representation in photographs, for the sphere and surroundings lend it a certain which its unreality seems to call for. Baroque in a sense which cannot be traced even in Rome, recalling some of the grotesque marvels of Spain. The interior is no less singular, and only a little ornate, but, save for the transept altars, more attractive. For here we find an ably Baroque architect utilising all the delightful Gothic and Byzantine forms typical of Adriatic provinces and mingling them with Renaissance swags in his novel creation. A well-travelled and well-read architect suddenly placed in this church find it difficult to give a date to work in, he had probably never seen before, which forms so strange a combination of mental forms. To the writer's mind appears certain that architectural circles would be much exercised if a set of measured drawings of this unique edifice were to be made.

Croce was followed by a long series of churches of varying merits and fashions; some comparatively simple and academic, some rusticated and carved from plinth to cornice, and for the most part without any coherent logical sequence. Two or three of the most ornate were never completed (and hence an incomplete and lofty façade has been the charm of that old wisteria-enclosed palace basement which one recalls the Grand Canal at Venice). In a few cases, as in most other towns, the ambitions of the Baroque builders are confined to the old church being left standing and it. In Lecce, as in Rome, there was times a certain striving after originality for its own sake, at other times a too-flagrant display of display. Good interiors were often led by pretentious altars. The final stage building, in the XVIIIth century, though away a return to classical forms, is not marked by any very distinct line of difference, and is on the whole, a decline, architectural hardities being retained without the serious spirit of licence which made absurdity absurd.

In Lecce secular buildings one can write with enthusiasm, and that partly because of natural freedom in their design all too rare in a period when artificiality was the prevailing weakness. It is true that in some of the larger and more public institutions, such as the Seminario (or training college) and the Covado (or Bishop's palace), one finds the floridity as on the façade of the Prefettura (formerly the cloister of the Celestini, whose church of S. Croce adjoins it). But these were the handiwork of the same ambitious prelates who built the churches, and must have been in their day very much the most original folk in Lecce. One, at least, of the large city gateways, too, is due to them, and commemorates the virtues of theological founders and Christian saints

with an excellent breadth of outlook. Comparing the Prefettura and the Seminario with the Palazzo Doria at Rome, one sees the prevailing symptoms of an Italian Baroque palace of the grander kind.

In Lecce, however, one may study far better than in Rome the vernacular architecture of the period, for XVIIIth-century Rome was full of officials herded together in "colleges" and palaces, whereas Lecce, though abounding in clerics, retained its own domestic life. So, though Spanish grandees may have occupied one or two of its stately mansions, we may reasonably attribute Lecce's chief architectural attractions—its quaint little street fronts and sunny courtyards—to the prosperity of its merchants and professional men. No doubt Spanish manners helped to produce a love of heraldry at every possible corner, of enormous front doors to comparatively small houses, and so on; but in this case the influence has added to the interest. The infinite variety of design in so small a place shows the possibilities of Baroque as useful architecture compatible with ordinary life.

What we may call "civic art" is absent here more than one would expect in so gay a city. Fountains do not exist, there is only one formal square in the place, and the municipal spirit of the past appears for little

more than two great stone gateways in the walls and a small town hall. In this respect Lecce is not typical of the rest of Italy, where one finds in almost every village a fountain or two, an archway here and there, some small structure or ornamental feature forming part of a lay-out dating from the Baroque period, when a lay-out became a practical proposition with many city fathers. The port of Ancona, the Molo Vecchio at Genoa, the Dogana at Venice, Bernini's projects at Civitavecchia—all these were maritime schemes; others, again, call for canals or rivers, for a flow of water from spring or aqueduct; but Lecce, in its parched plain, served even now by a primitive supply, has always lacked one of the most frequent causes of monumental Baroque architecture.

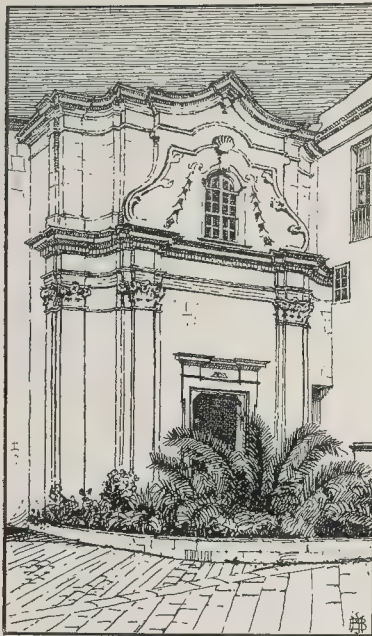
Looking back over this study of Baroque architecture in Italy, a study of necessity confined to two or three representative centres, one feels the need for some summary of conclusions, for drawing together the loose ends of discursive criticism. After six chapters of wandering among these interesting and misunderstood buildings it should be possible in a few paragraphs to estimate their value to posterity.

An unbiased opinion on Baroque architecture cannot be altogether laudatory. Its greatest exponents were not on the level of



A Lecce Street.

For further illustrations of Lecce buildings see "The Heart of Italy," by M. S. Briggs. (Mellrose, 1910.)



In Lecce.



In Lecce.

Praxiteles or Michelangelo, of the builders of Salisbury or Beauvais cathedrals. But, on the other hand, they were not all worthy of absolute neglect or of hasty condemnation. If they did not always touch the clouds, they were not continually grovelling in the mire of debased design. And they did, without doubt, stand for something important in architecture, which neither we nor our successors can afford to scoff at.

The highest aspect of architecture is presumably the ideal—the spirit manifest in a building. But the builder's ideal may be one thing and his critic's ideal some centuries later a very different one. Can we, then, hundreds of years after one of these old masters has perished, look back into his mind and read the thoughts he was thinking as he piled up these ancient stones?

There are some men who tread unhesitatingly on this delicate ground, and most of those who have made any general criticisms on Baroque architecture have neglected the possibility of any ideals, and have labelled it as false, pagan, and altogether degraded. Sweeping and didactic as this view may be, it is probably sincerely held, and is, at any rate, worth consideration.

In a previous chapter it has been pointed out how much this period owes to the militant vigour of the Church, and hence one would expect to find a deeply religious feeling exhibited in her works. But a would-be defender of Baroque cannot say much of deep feelings in this connexion, for the ruling passion blazoned from the stones of the Salute in Venice or the Gesù at Rome is spiritual pride—the pride of a powerful Church exulting over vanquished foes, strong in the confidence of her own integrity. The ambition of the Gothic cathedral-builders must have been a disinterested one—to glorify God and to efface themselves—for their churches bear few labels.

The XVIIth-century Popes may also have had lofty motives, but their desire for self-advertisement often overshadowed their better selves. One feels a subtle distinction between those Jesuit churches, crammed with marbles and gold, and the earlier

treasure-houses at Venice and Ravenna, where rich mosaics blaze from consecrated walls. In the one case a visitor's first thought is of the vast wealth of the ancient Church, in the other of the devotion which brings the wealth within her walls. Yet even in making so guarded a criticism as this one feels a certain diffidence, remembering how differently the present generation interpret architecture from their fathers' and Ruskin's day. Who knows but that in thirty years the religious feeling in architecture as we regard it may be eliminated altogether? The Gothic revivalists admired St. Paul's no more than Wren admired "Gothick." However, even at the risk of being jeered at by our grandsons, let us put it on record that the religious ideal in architecture of this period gave place to the glorification of the Church and her ministers.

Granting so much, we need not dwell on the reputed paganism of her statuary, her muscular saints, and her sensuous Madonnas. For religious ideals can be carried too far in such matters, and we need think no less of St. Peter if he be a fine figure of a man or of St. Clare if she be a type of full-blooded feminine beauty. Whether depicted on canvas or graven in stone, the human form need be neither stiff nor archaic because it happens to adorn a sacred building.

One other criticism should be admitted with reservations—that Baroque architecture is false. In certain instances, which may be grouped under two or three heads, this is unfortunately correct. It can only be relatively said of any style of art that it is false or truthful, and to say that Baroque *quâ* Baroque is false is absurd; to say that in many matters of detail it is untruthful is possible. Of all shames the one most commonly found is that of disguising a church with a façade having no reference to the construction behind it. The effect from any position but immediately in front is most despicable, and is worthy of the strongest terms of condemnation, which should be applied in all charity to many world-famed mediæval churches for the same reason. These, however, need not be extended to the

design of the façade itself as an architectural composition—the only aspect in which can conceive of its designer regarding it.

A kindred defect is to be found, not crowning such façades, but in many prominent places where the backs of statues are left unfinished so that, as in the instance, a spectator is limited to one view. Here we have not only untruthfulness but slackness. Another and petty deceit is confined chiefly to cathedrals and large churches, where marble is used to imitate other materials. Thus in the church at Venice we have a marble canopy for the chancel floor and marble curtains for the pulpit! If we are to discuss the propriety of drapery being imitated in coloured marble—as in various tombs in St. Peter's—whole problem as to whether coloured marble is justified in statuary comes up and involves us in elaborate points of aesthetics, but general such imitations partake of the vulgar and are to be discouraged.

Having said the worst that can be said of Baroque, we come to a more debatable issue (and here, be it remembered, we limit ourselves strictly to Italy), whether its decorative features are plentiful and too grotesque. Again a must tread with the utmost circumspection for who is to say with any finality what is good ornament and how much of it is necessary? Provided that due regard had to nature in adopting conventional forms, that the limits of the material used are borne in mind, and that decorative features do not disguise or hide construction it is difficult to make ornament more a matter of taste. Thus a panelled ceiling is used in nearly every style of architecture for ornamental purposes, and simple. That every line had a constructive significance could not be claimed for any period, even the purest of Greek. Nor would it be possible to lay down a law as to the amount of ornament which might be legitimately employed per square super., nor even the amount of relief which might be possible per yard of ornament. That, as a matter of taste, and varies in a country.

on, not only in a certain ratio to
ions, but also to his temper.
One is going to apply strict rules
rative detail, what becomes of the
han and Jacobean periods, of the
y of late Gothic work in all countries,
he architecture of some countries?
I to be reviled because it does not
within the architectural copybook
e at the moment, because a few
amateurs who may happen to be
ing architectural opinion for a year
are not in sympathy with it? If
st be so dainty in one's taste for
nt, such entrancing towns as Bruges
rause must put up their shutters.
e canons of decoration we will
e admirable quality of picturesqueness
at which makes a difference between
drawing of an old building and
d building itself. Architecture is
be examined with a microscope,
its effect, for its grouping, for its
n the landscape. Examine it this
nd much will be found in Baroque
ecture to be admired. Even under
roscope, the style need not despair
putation, for in the matter of work-
p, of detail, and of ornament it is
conspicuously behind other styles. All
an be said is that an unreasoning
ice has for long clouded Baroque
ent, that this prejudice is little more
an ephemeral fashion, and that study of
might completely change the situation.
now come, at this point, to cite the
of Italian Baroque architecture and,
might say, to sum up for the defence.
osecution has so far made two points—
of religious feeling and a tendency
truthfulness in certain cases, while in
atter of over-ornamentation neither
as scored.
haps the most admirable quality
roque architects in Italy was their
if appreciating the possibilities of a
they were aware of what we nowadays
own planning. A successful effect in
s of lay-out was seldom an accident.
hence we have brought up the matter of
it should be said that whereas these
ung cardinals or decadent nobility
t simply of aesthetic considerations
acing their vast schemes of building,
re-souled Norman knights or Saxon
who founded our greatest mediæval
nents had in mind little beyond reasons
ly. Defence from fierce neighbours
ally pure ideal, a disinterested desire
erical hunting-grounds or fishing-
s, such were the motives which inspired
saints of old. Architectural enterprise
t later days was more public-spirited
in the Middle Ages.
Italy we find the Baroque architect not
taking advantage of obstacles, but
ing them so subservient to his schemes
actually improve them. His motto
"Nature adorned by Art," and, even
sometimes failed in that lofty aim, he
ignored Nature as most of his pre-
sors had done. In his wilder moments
ay be guilty of trying to compete
a landscape, as when he raises some
al status on a striking skyline; but
often he seizes on some wonderful
point and renders it immortal, as in
respect of Rome from the Villa d'Este
voli.
other great quality was his ability
think imperially." In Rome especially,
n other cities too, it seems as though
heme defied the daring of those days,
ough the greatness of Imperial Rome
filtered through many generations into
eins. The Piazza of St. Peter and the
a Navona at Rome, the many other
cts of those Papal architects, Alessi's
e, and Bianco's three palaces at Genoa,
Salute at Venice—these were not the
s of men on a small scale.
preciative of possibilities, able to think
e grand manner, our Baroque architect
brought to his work a gift which alone

should prevent his being ignored—the
originality of an artist. For his immediate
predecessors, with one or two glorious
exceptions, seemed to be forgetting that
architecture was not an "exact science,"
that a knowledge of certain figures and
formula was not sufficient to produce a
great building. Michelangelo himself was
one of the exceptions—a painter born. He
brought into architecture a painter's mind,
percepts a sculptor's mind too, and designed
his buildings by eye rather than by formula.
It was his unconventional impulse which
drove his successors to fling away convention
in greater or in less degree and to plan their
buildings with a view to scenic effect. So,
whether in a case of grouping, in the framing
of a picture as part of a decorative scheme,
in the disposition or design of ornament,
in the silhouette of a campanile, in the
planning of a bridge, the Baroque architect
is striving for the picturesque. He takes
great pains in arranging his gardens and his
terraces in many such artificial problems.
His experiments often land him in difficulties
or turn out failures eventually; but surely
his conscious striving for the beautiful is to
his credit? One shivers to think of what
the world would have lost without the works
of this period, and not least what modern
architecture would have lost if no examples
existed in Italy later than the middle of
the XVth century.
For the objections which apply to some
Baroque churches, and some only, on the
grounds of religious aspiration and untruthful
design, do not apply to all the other buildings
of that great period. For the purpose of
expressing pride of birth the Baroque noble-
man's palace was perfectly suited; for the
purpose of beautifying a town the Baroque
fountains and gardens were unsurpassed;
for the purpose of providing gay vistas and
charming houses nothing in Italy rivals
the bright little Baroque streets of Lecce.
It might almost be said that in this period
were developed the piazza, the street, the
country villa, the monumental staircase,
and the congregational church plan. Even
in the vexed region of decoration few would
gainsay the charms of the dainty ornaments
and features which came into being, framing
the long lines of doors and windows which
otherwise would have resembled closely
Renaissance work in Italy.
The subsequent articles of this series
will show the effects which this remarkable
movement had in other countries.
M. S. B.

**THE ANCIENT WALLS OF
ATHENS.**

AFTER the Medes had returned from Europe
defeated both by land and sea by the Hellenes
at Marathon and Salamis the Athenians brought
back their wives, children, and such property
as had been saved in the various places in which
they had deposited them before the Medes
attacked Athens and prepared to rebuild their
city and its walls.
Thucydides, in his history of the Pelopon-
nesian War, says that only portions of the
circumference had been left standing by Xerxes,
and most of the houses were in ruins, though a
few remained in which the Persian grandees had
taken up their quarters. Thus, on their return
to Athens in 479 B.C., Themistocles advised
the Athenians to rebuild the walls with all
possible speed. The wall was to be built first,
and the whole population in the city was to
labour at the wall, the Athenians, their wives,
and their children, sparing no edifice, private
or public, which might be of any use to the
work, but throwing all down. Thus the
wall was erected with great dispatch, and as
can only be expected, the work was of the
roughest nature, for, to quote Thucydides,
"the foundations are laid of stones of all kinds,
and in some places not wrought or fitted, but
placed just in the order in which they were
brought up by the different hands; and many
columns, too, from tombs and sculptured
stones were put in with the rest. For the
bounds of the city were extended at every point
of the circumference; and so they laid hands on
everything without exception in their haste."

"Themistocles also persuaded them to finish
the walls of Piræus, which had been begun
before in his year of office as archon; being
influenced alike by the fineness of a locality
that had three natural harbours, and by the
great start which the Athenians would gain
in the acquisition of power by becoming a
naval people." By his advice it was that they
built the walls "of that thickness which can still
be discerned around Piræus, the stones being
brought up by two waggons meeting each
other. Between the walls thus formed there
was neither rubble nor mortar, but great
stones hewn square and fitted together, cramped
to each other on the outside with iron and
lead."
From this last we might infer that the
rapidly-constructed wall of Athens before
mentioned was filled with rubble and jointed
in mortar.
The foregoing description will be found in
Thucydides' first book, Chapter IV., as also
the means employed by Themistocles to deceive
the Lacedæmonians, who sent an embassy to
the Athenians asking them not to rebuild
the wall. This explains the reason for the
very hurried rebuilding.

HISTORICAL NOTES.

**"The Blue
Shop,"
Gloucester.**
THE premises of the City Tea
Warehouse, known as "The
Blue Shop," near the Cross in
the City of Gloucester, have
just been sold to the Corpora-
tion for 3,500*l*. Fortunately the Elizabethan
decorations of the interior will be preserved and
without disturbance, as also the two finely-
panelled rooms, in one of which is a handsome
mantelpiece bearing the coat-arms of Yale.

**Stafford
House,
St. James's.**
It is stated that Messrs. Knight,
Frank, & Rutley, on behalf of
the Duke of Sutherland, have
sold to Sir W. H. Lever the
lease of Stafford House, which
it was suggested some months ago would form
a suitable residence for the Prince of Wales. In
pursuance of the Acts 4 & 5 Vict., c. 27, and
5 Vict., c. 20, the Crown sold the house to
George, second Marquis of Stafford and second
Duke of Sutherland, for an annual rent of 758*l*.
and the cost, 72,000*l*, of the building—the latter
sum was devoted to the laying-out, by Penne-
thorne, of Victoria Park. The mansion, which
for its situation and interior is not excelled in
London, was begun in 1825 for the Duke of
York from the designs by Sir Robert Smirke,
who, however, was superseded in favour of
Wyatt when the building of the fabric had
reached to the ground floor. Two years after
the sale to the Duke of Sutherland Sir Charles
Barry remodelled the interior, added the
masked top story, and built the stables. For
clearing the site were pulled down Godolphin
House, a home of C. J. Fox, and Queen
Caroline's library, built by Kent in 1737. Sir
Charles Barry was the architect, too, for the
extension and improvement, together with the
erection of the central tower, for the Duke of
Sutherland, of Trentham Hall, Staffs, whereof
the greater portion was recently pulled down.
It is understood that Sir W. H. Lever will
devote Stafford House to some national or
public service.

**Paleolithic
Art in South
Wales.**
THE announcement of the
discovery of paintings of the
Paleolithic Age in the cave
known as Bacon's Hole near
the Mumbles, to which we
referred in our issue of October 18, has been
received with considerable incredulity in the
locality, and suggestions of a would-be
humorous and satirical nature of a much more
recent and romantic origin for the paintings
have not been lacking. Professor Sollas, how-
ever, has been convinced by what he observed
on a second visit to the cave that the theory
put forward by Professor Breuil and himself is
accurate. On removing a projecting portion
of the painted rock, it is seen that not only are
the red bands painted on a stalactite surface,
but that they have subsequently been covered
by a fresh layer of stalactite as thick in some
places as two millimetres, which conclusively
proves a considerable lapse of time since the
artist was at work.
The owner of the cave, Colonel W. Ll. Morgan,
has taken precautions against defacement of
this oldest example of the art of our island by
enclosing the entrance to the inner chamber of
the cave in which it occurs with a stout iron
grille, but admits visitors on personal application.

THE BUILDING TRADE.

BUILDING CONTRACTS AND CONTRACTORS.

THE case of Ramsden & Carr v. Chossum & Sons, recently heard in the Court of Appeal, is one of those cases which exercise the minds of those connected with the building trade. The case was reported in the *Builder*, January 26, 1912, and, on appeal, in our issue of last week, page 555. The defendants were contractors under a contract in the form approved by the Royal Institute of British Architects for the erection of a cinematograph theatre. The plaintiffs were designers and makers of articles in ornamental metal, and, as it was alleged, at the invitation of the architect quoted prices for the supply of door-handles and other articles. Their quotation was accepted, and the articles were supplied. Subsequently the building owners, the theatre company, went into liquidation. The plaintiffs sued the contractors for the price of the goods delivered, and alleged that the architect had certified for a sum which included the sum due to them. In the Court below it was held that no sum had been received by the defendants in respect of the goods, and that the architect had not acted as the agent of the defendants, but that, as the goods had been delivered to and used by the defendants, there was an implied promise to pay for them. The Court of Appeal agreed with the finding of the Court below as to agency and payment, but reversed the finding (Lord Justice Kennedy dissenting) as to the implied promise to pay. The two Lords Justices held that there was no acceptance of the goods and use of them by the contractors for the purposes of their contract from which an implied contract to pay for them could be presumed, nor had they received payment for them from the building owner.

If the fittings in question had been within the specification—that is, within the contract between the building owner and the contractor—then no doubt those clauses in the Institute's form of contract relating to special artists, etc., would have come into operation and the contractor might have been liable. But it would appear that the fittings in question were outside the contract, although the architect had power to order them as extras, but in doing so he would be acting as agent for the building owner and not the contractors.

For acceptance of the goods supplied or services rendered to serve to imply a contract to pay for them it is obvious that some benefit must accrue to the person who accepts them. Thus in cases where the contractor has become insolvent a contract has sometimes been implied as against the building owner who has benefited by the services rendered or the goods supplied (see *Crittall Manufacturing Company v. London County Council*), but in the case under consideration the Court found that there was nothing to show the contractors that the goods had been ordered on their behalf or for their benefit, or even that they could either accept or reject them, as for all they knew they might have been sent on the order of the building owner.

The law relating to building contracts is not so obscure as many persons suppose, and questions such as the above generally only arise when one of the parties becomes insolvent, a contingency which usually causes someone to suffer. The real lesson to be learnt from these cases is that litigation and loss can only be averted by precautions being taken by those entering into contracts and inquiries being made into the solvency of those to whom it is intended to give credit.

BUILDING IN PAISLEY.

Dean of Guild Barr, who presided at a meeting of the Paisley Dean of Guild Court on the 6th inst., made reference to the number of buildings which had been erected in the town during the year ending October. There were only thirty-nine plans submitted to the Court as compared with fifty-two for the preceding year. There was, however, an increase in the value of the linings passed, the total valuation being 76,620*l.* as compared with 76,310*l.*

THE TRADE UNION BILL.—II.

THE Standing Committee have proceeded with their consideration of the Trade Union Bill. The amendments to Clause 2 were not very important. By Subclause (2) the registrar may withdraw a certificate of a registered trade union if the constitution has been so altered that in his opinion the principal objects of the union are no longer statutory objects, "or if in his opinion it is no longer being carried on in good faith as a union"; for these latter words were substituted—"or if in his opinion the principal objects for which the union is actually carried on are not statutory objects."

On Subclause (4), which gives an appeal from the registrar refusing or withdrawing a certificate to the High Court, an amendment substituting the Secretary of State for the Court was lost by 28 votes to 6.

By far the most important discussion arose on Clause 3, which provides that the funds of a trade union shall not be applied to the political objects specified in this clause (which we set out in our former article) by a union, registered or unregistered, unless rules to be approved by the registrar are in force. An amendment was moved that the conditions to be secured by the rules should be statutory conditions, so that for any breach redress could be obtained in the Courts. This point is one of vital interest to the working classes, as the rules in question purport to secure the rights of those in the minority.

The rules have to provide—1. That the funds of the union shall only be applied to such of the political objects specified in the Bill as are approved by a majority of the members voting on a ballot. 2. That these objects shall be supported by payments out of a separate fund, and that any member intimating that he is unwilling to contribute to such fund shall be exempt from contributing. 3. That any member claiming exemption shall not be deprived of any benefits or placed under any disability or disadvantage except in relation to the management and control of such political fund.

These rules are the charter of the minority, and their liberty depends upon them, therefore it is important to see how they can be enforced. Under sect 3 of the Trade Union Act, 1871, the Courts are deprived from entertaining any legal proceeding instituted with the object of directly enforcing or recovering damages for the breach of any agreement (i.) concerning the conditions on which any members of a union shall sell their goods, transact business, or employ or be employed; (ii.) for the payment of subscriptions or penalties; (iii.) for the application of funds of the union to provide benefits.

It has been held over and over again that members cannot sue for benefits, but the latest decision is that in the House of Lords, *Russell v. Amalgamated Society of Carpenters (the Builder, April 5, 1912)*; see also *Thomas v. Portsmouth A. Branch of the Ship Construction, etc., Association (the Builder, April 26, 1912)*. The object of the amendment was to give recourse to the Courts to any member who was penalised by the union in dereliction of the rules because he declined to subscribe to the political objects, but it was lost by 26 votes to 14, great opposition being expressed to it on behalf of the Government. What real protection is there extended by the Bill to the minority? The Attorney-General in Committee stated that, if a minority claiming exemption could show that the executive were depriving them of benefits not for legitimate reasons, but because they had claimed exemption, he could not conceive of a general meeting of the union not giving redress at once. We venture to think there is no evidence to support this view. By the rules, as we have shown, a majority voting have to decide whether the union shall support political objects, and, where political feeling is concerned, the right of the minority are not likely to receive consideration. The Labour leaders have

openly declared that the minority are disregarded. A man is hardly likely to venture to dissent from the majority decline to subscribe if he knows his and his fines, etc., are entirely in the discretion of the majority from whose vote he has dissented and from whom there is an appeal. The debate in Committee has one useful purpose, as it has demonstrated the absolute futility of the rules which introduced with the estimable object of protecting minorities, and that this part of the Bill is for show only. If a dissenter were expelled the Courts could grant an injunction (see *Osb. Amalgamated Society of Railway S. No. 2, the Builder, March 24, 1911*), which is of little advantage for a man to retain membership of a society if the society can withhold all the benefits owing to membership. The Bill as it appears to offer no protection to those whilst joining a trade union for trade purposes, wish to dissociate themselves from the political propaganda.

A LARGE CRANE.

ONE of the largest cranes in the world erected at Govan, on the Clyde, in 1911, is a jib-head of the crane is of the hammer type, built on the cantilever principle, stands 160 ft. above high-water level, the jib, with a total length of 270 ft., is 160 ft. 6 in. outward from the centre, and is utilised within every point of 336 ft. in diameter. The motors for the gear vary from 60 to 90 horse-power, the crane, on slow gear, will lift 200 tons or 75 ft. along the jib, and on quick gear will lift 135 ft. The maximum load of 200 tons will be lifted from 30 ft. below to 140 ft. wharf level, a total lift of 170 ft.

The three controlling brakes are worm, magnetic, mechanical, and hydraulic. The stability of the structure of the crane depends on four huge steel cylinders, at each corner of the tower. These grow 15 ft. in diameter at their base, are filled with concrete and sunk 74 ft. below ground.

LIVERPOOL OPERATIVES' CLUB.

NOTICES have been sent in to the Builders' Association of Liverpool to test the present agreement under which bricklayers, masons, and slaters are employed, and new demands have been formulated, if accepted, will come into force next year.

The concessions now demanded by masons, bricklayers, slaters, and joiners is, per hour, bricklayers 1*s.*, masons and slaters 10*d.*, and slaters 12*d.* per hour in the first three cases, and 1*d.* in the case of the slaters.

There is no likelihood of a strike at even though the request is refused. The master builders refuse the demands, and go on automatically before its own Conciliation Committee; failing agreement, to the strike is unlikely for at least six months. The view of the cordial relations between master builders of Liverpool and the Amalgamated Society of Carpenters and the Operative Stonemasons, the Brick Society, and the Slaters and Plasterers Society, it is anticipated that there will be no cessation of work. It is nearly forty years since the last great strike in the building trade, and according to a well-known correspondent, "it is very likely that years will pass before we have another Liverpool Post."

GENERAL BUILDING NEWS.

NEW CHURCH, SOUTH KNIGHTON.

Mr. Stockdale Harrison is the architect of the new church of St. Guthlac, which is erected at an estimated cost of 5,000*l.* The nave will be 31 ft. wide and 40 ft. high, and will probably be extended in the future to 80 ft. The lighting will be by electric, the heating by hot water. The contractors are Messrs. Haskard, Rudkin, & Beal.

WESLEYAN SCHOOL, NEWLYN.

This new Wesleyan Sunday-school is erected at a cost of 2,700*l.* from the gift of Mr. Henry Maddern, architect, of P.

Building will include a large hall 36 ft., providing accommodation for small hall 40 ft. by 36 ft., six class-rooms, and other offices. The contract is secured by Mr. J. S. Tregenza, of

NEW OFFICES, NEWCASTLE.
New block of offices which has been on the Cross House site in Westgate (has been built in ferro-concrete from designs of Messrs. Cackett & Burns Dick, &c.). The building is faced with Portland stone and consists of seven floors, and on top of the building are two sculptured representing "Industry" and "Commerce." The contractors for the work were Davison & Miller.

JAM WORKS, BRISTOL.
Jam works are being erected at Bristol by Messrs. James Robertson & Sons, Paisley, London. The architects are Messrs. W. H. & Sons, Warrington-street, Ashton-Lyne.

SHEFFIELD TOWN HALL EXTENSION.
Proposed shortly to extend the Sheffield Hall at an estimated cost of 45,000. Present building, which has a front to the street and Surrey-street, was erected from plans by the late Mr. E. W. Ford, of London (illustrated in the issue of the time), at a cost of nearly £100,000. The proposed extension will consist of a rectangular, and will close up an unsightly gap on the Cheney-row side of the hall. It has been designed by Mr. P. Edwards, F.R.I.B.A. (the City Architect) who carried out the Bradford Town Hall extension, completed in 1900—to be in general harmony with the rest of the building, but it is carried to a considerably greater height in order to increase the accommodation as far as possible. The site originally available for extension contained 1,113 sq. yds., but this has been increased to 2,673 sq. yds. by addition of the adjacent churchyard of St. Paul's. The floor area of the existing hall is 9,455 sq. yds., and that of the extension will be 4,500 sq. yds. The whole of the ground floor of the extension will be allocated to the Overseers' rate-collecting department, and part of the court will be taken by a rate-collecting hall, with direct access from Cheney-row and Norfolk-street. Floors above will be used in amplification of accommodation now provided for the City Clerk, the City Engineer, the City Engineer, and the Water Department, and will be a new committee-room and spare room. The plans also provide for the erection of a new public gallery in the Council chamber, which will be so arranged as to take the space occupied by the existing gallery to be included in the floor area of the extension.

CINEMA PALACE, NORWICH.
Picture theatre has been erected in Talen-street, Norwich. The building occupies an area of 3,500 sq. ft., and will seat 850 people—600 on the ground floor and 250 in the balcony, which has been constructed of the same material. The operator's box is fireproof. The building has been erected entirely by local labour. Messrs. Dean & Buckingham were the architects, and the following were subcontractors: Messrs. Crotch & Son, plasterers' work, restricted stone, and glass mosaic; Messrs. E. Dunnell, & Co., terra-cotta; Messrs. Lee & Pye, ironwork; Mr. A. E. Chaplin, painting and decorating; Messrs. Curd & Co., reinforced concrete; the Norwichester Company, pavements; the Norwich Corporation, electric wiring, fittings, and gas; and the British Gas Light Company, gas and gas heating.

TRADE NEWS.
Under the direction of Mr. William Hucker, architect, Tring, Boyle's latest patent pump ventilators have been applied to the Natural History Museum, Tring, and to Plesley Hill Schools, Mansfield, and are ventilated by means of Shorland's patent dust roof ventilators, supplied by Messrs. J. Shorland & Brother, Ltd., of Fallowfield, Manchester.

BIRMINGHAM COUNCIL HOUSE EXTENSION.

Supplementing and correcting our article last week on the Birmingham Council House Extension (p. 543), we find that the plans for the constructional steelwork were fully prepared by Messrs. Whitaker, Hall,

& Owen, of 1, Gresham-buildings, Basinghall-street, E.C., who were the consulting engineers for the building, and are engaged at the present time on further work in connexion with it. Messrs. Charles Wade & Co., of Birmingham, were the manufacturers of the steelwork, and worked under the superintendence of the consulting engineers. We may add that Messrs. Samuel Elliott & Sons, Ltd., of Reading, carried out the whole of the joinery work, with the exception of the furniture, at this building. The work executed consists of a very large quantity of Austrian walnut oak and Spanish mahogany.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Act were dealt with. (The names of the applicants are given in parentheses.)

Lines of Frontage and Projections.
Chelsea.—Erection of an addition to the bay-window at No. 55, Pont-street, Chelsea (Messrs. Buckland & Gerrard for the Guardian Assurance Company).—Consent.

Hackney, South.—Erection of a projecting porch in front of the Homerton Public Library, on the eastern side of Brooksby's walk, Homerton (Mr. E. Cooper).—Consent.

Hampstead.—Buildings on both sides of a new street leading from Orman-road to Belsize-lane, Hampstead, and on the eastern side of Belsize-lane (Messrs. W. Woodward & Sons).—Consent.

Hampstead.—Bay-windows to a proposed house on the north-eastern side of Finchley-road, Hampstead, between Fernald-lane and Heath-drive (Mr. G. H. Fox for Mr. S. J. Hankey).—Consent.

Hampstead.—Porches and hoods to buildings on the northern side of Kingscroft-road, Hampstead (Messrs. Rix & Wilkins for Messrs. T. H. Perkins & Co.).—Consent.

Hampstead.—Two sign-boards in front of Nos. 254 and 256, Belsize-road, Hampstead (Messrs. P. Hilborn & Son).—Refused.

Lewisham.—Wooden bay-windows, hoods, and shawl half-timber work to six houses on the western side of Guibal-road, Lee (Mr. A. Roberts).—Consent.

Stepney.—Erection of an addition at the rear of "The Mitre" public-house, White Horse-lane, Stepney, next to Rectory-square (Mr. W. Park for Mrs. Waldorf Astor).—Consent.

Strand.—Erection of a projecting illuminated sign at No. 25, Villiers-street, Strand (Mr. W. E. Sanders for Mr. A. Grass).—Consent.

Waltham.—Addition in front of No. 55, Camberwell-road, Camberwell (Mr. A. R. Westworth for Messrs. Pettie & Mills).—Refused.

Width of Way.
Hampstead.—Erection of additions at "Wildwood," North End, Hampstead (Messrs. Read & MacDonald).—Consent.

Width of Way and Line of Frontage.
Mill End.—Erection of an iron and glass shelter, projecting steps, and a pay-box in front of No. 31, Globe-road, Mill End (Messrs. Lovegrove & Papworth for Mr. P. Abrahams).—Refused.

Width of Way and Construction.
Hampstead.—Retention of a motor-house of a temporary character at the rear of Rickford Lodge, The Grove, Hampstead (Messrs. Bannan & Rowe for Mr. W. H. May).—Consent.

Lines of Frontage and Construction.
Finsbury, East.—Retention of a steel and concrete gangway over the public way of Cayton-street, City-road, Finsbury (Mr. T. F. Summers for Messrs. Lipton, Ltd.).—Consent.

Hoxton.—Erection of a steel, iron, and concrete gangway over the public way of French-place, Shoreditch High-street (Messrs. W. G. Lark & Sons for Mr. A. C. Fowler).—Consent.

Lewisham.—Retention of a wood and iron building at No. 2, St. Fillan's-road, Lewisham, next to Elmer-road (Mr. F. Dis).—Refused.

Paddington, North.—Open shed of a temporary character at No. 335, Shirland-road, Paddington, abutting upon Bravington-road (Mr. G. R. Robins).—Consent.

Wandsworth.—Temporary wood and glass showcases in front of Nos. 2 and 4, Revelstoke-road, Wandsworth (Mr. C. Barwell).—Consent.

Width of Way, Lines of Frontage, and Construction.

Kensington, South.—Showcase in front of No. 6, Kensington Court-place, Kensington (Messrs. J. Poole & Son for Mr. M. Hirschkop).—Refused.

Marylebone, East.—Erection of an iron and glass shelter at the entrance to the Welbeck Palace Hotel, Welbeck street, St. Marylebone (the General Electric Company, Ltd.).—Consent.

Formation of Streets.
Kensington, North.—Formation or laying-out of a new street for carriage traffic to lead from Daigarno-gardens to Barby-road, Kensington, and a new street to lead from such proposed street to Highlever-road (Messrs. P. & H. W. Currey).—Consent.

Cubical Extent.
Brixton.—Additional cubical extent in respect of an additional story over the central division of the Bon Marche building, Fendale road and Stockwell-avenue, Brixton (Mr. H. Payne Wyatt for Bon Marche, Ltd.).—Consent.

Marylebone, East.—Rebuilding of Nos. 179, 181, 183, and 185, Great Portland-street, St. Marylebone (Mr. R. Angell for Mr. C. E. Pecenik).—Consent.

Marylebone, East.—Additional cubical extent in respect of the erection of a building upon the site of Nos. 7, 8, and 9, Union-street, and Nos. 46, 47, and 48, Foley-street, St. Marylebone (Mr. F. Foster for Mr. J. R. Foster).—Refused.

Peckham.—Additional cubical extent in respect of a garage addition, to abut upon Nunhead-lane and a roadway leading out of Nunhead-lane, Peckham (Milner's Safe Company, Ltd.).—Consent.

Uniting of Buildings.

City of London.—Consent to the enlargement of an existing opening, uniting Nos. 1 and 2, Finchchurch-street, with Nos. 3 and 4, Finchchurch-street, City (Mr. L. U. Grace for the Union Castle Steamship Company).—Consent.

Islington, North.—Uniting of Nos. 17 and 19, Archway-road, Highgate, by means of an opening at the ground-floor level (Mr. H. Goodchild for Messrs. R. Filby & Sons).—Consent.

Stepney.—Formation of an opening at the second-floor level between Nos. 127 and 129, Commercial-road East, Stepney (Mr. G. J. Clarke).—Consent.

Cubical Extent and Construction.

Holborn.—Additional cubical extent in respect of an additional story to a division of the premises of Messrs. Lambert & Butler, Branch of the Imperial Tobacco Company (of Great Britain and Ireland), Ltd., Nos. 20 and 22, Wild street, Drury-lane, and the erection of external iron gangways and steps (Mr. G. C. Lambert for Messrs. Lambert & Butler).—Consent.

Poplar.—Iron building at No. 84, West Ferry-road, Poplar (Electrical Power Storage Company, Ltd.).—Consent.

Working-Class Dwellings.

Dulwich.—Block of buildings approached out of the southern side of Melford-road, Dulwich, and the north-eastern side of Lordship-lane (Messrs. Watson & Ellwood).—Refused.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Three shops and store, corner of Orchard-street and Orchard-place; Messrs. Joseph Shirras & Son, builders, Clifton-road, Aberdeen. Additions to premises, Canal-road, Aberdeen, for Messrs. John Thirld & Son, granite manufacturers.

Accrington.—Weaving shed at technical schools (1,200); Mr. H. Luttler, architect, 16, Ribblesdale-place, Preston.

Barrow-in-Furness.—Baths, Abbey-road (16,000); also 200 houses; Mr. Arthur Race, Surveyor, Town Hall, Barrow-in-Furness.

Bailey.—Warehouse for Messrs. J. W. Blackburn, Ltd., cloth manufacturers, Old Mill, Bailey.

Bedwellty.—Thirteen houses off Pengam New-road for the Powell Duffryn Steam Coal Company, Ltd., 54, Butte-street, Cardiff.

Bentley (Doncaster).—Rebuilding "Three Horse Shoes" Hotel, Messrs. L. Tacon & Son, architects, 11, Westgate, Rotham, Doncaster.

Beltway-Cood.—Proposed school; Mr. E. R. Davies, County Education Officer, Carnarvon.

Bingley.—Electric theatre (3,000); Messrs. J. B. Bailey & Son, architects, Scott-street, Keighley.

Blackpool.—Primitive Methodist church; Mr. J. D. Thornley, architect, Market-street, Darwen.

Bridlington.—Residence (5,000); Messrs W. S. Walker & Son, architects, 77, Lowgate, Hull.

Burnley.—Schools, Padiham-lane (8,000) and Burnley-lane (8,000); Mr. H. Luttler, architect, 16, Ribblesdale-place, Preston.

* See also our list of Competitions, Contracts, etc., on another page.

Bury St. Edmunds.—Block of almshouses; Mr. S. Naish, architect, Norfolk-street, Bury St. Edmunds.

Chapel-en-le-Frith.—Alterations to parish church (1,000*l.*) for the Vicar.

Chelmsford.—Stable (1,550*l.*); Mr. C. Brown Engineer, Town Hall, Chelmsford. Municipal offices (8,000*l.*); Mr. P. Harrison, Council Offices, Chelmsford.

Chorley.—Alterations to premises, Cleveland-street, for the Maypole Dairy Company, Ltd., 27, Leonard-street, E.C.; alterations to premises, Bolton-street, for the Co-operative Society.

Clayton-le-Moors.—Proposed Sunday school; Rev. I. Jones, Pastor, Baptist Church, Clayton.

Cleckheaton. Stores for the Co-operative Society; Messrs. R. Castle & Son, architects, London County and Midland Bank-chambers, Cleckheaton.

Clitheroe.—Schools (1,500*l.*); Mr. H. Luttler, architect, 16, Ribblesdale, Preston; Messrs. C. Bosland & Son, builders, Clitheroe.

Colne.—Additions to Waterside Tannery for Messrs. S. Smith & Sons, hide and skin factors.

Consett.—Proposed Sunday-school for Trustees, Baptist Church, Consett.

Co. Durham.—Co. Hospitals at Bishop Auckland (3,200*l.*) and Helmsdon; Mr. R. Thompson, architect, Market-place, Bishop Auckland.

Cowshill.—Church (3,000*l.*); Messrs. Clark & Moscrop, architects, Fitchams, Darlington.

Croydon.—Proposed rebuilding of fodder stores and stables, Cherry Orchard-road, for Messrs. Hall & Co., Ltd., coal and builders' merchants, Croydon; proposed rebuilding of sawmills and joinery shops for Messrs. Halland & Harmer, limber and builders' merchants, Albert Wharf, Cross-road, Croydon.

Cudham.—School; Mr. W. H. Robinson, Architect, Kent Education Offices, Caxton House, Westminster, S.W.

Dalton.—Enlarging school (560*l.*); Mr. W. V. Dixon, West Riding Yorks Education Offices, Wakefield.

Darlington.—Proposed Sunday-school; Rev. J. G. Holburn, Vicar, St. Luke's Church, Darlington.

Deal.—Pavilion; Mr. T. C. Golder, Surveyor, Town Hall, Deal.

Dewsbury.—Receiving wards at workhouse (1,600*l.*); Mr. J. Pease, Clerk, Guardians' Offices, Dewsbury.

Doncaster.—Works for the Peat, Coke, and Oil Syndicate, Ltd.

Donington.—Parochial hall, additions at Sunday-school, etc., for the Vicar, Parish Church, Donington.

Ellesmere Port.—Chapel, Westminster-road, for the Trustees, Welsh Chapel.

Essex.—Cookery and handicraft centre, Burnham-on-Crouch; teacher's house at school, Chadwell St. Mary; handicraft centre, Frinton; special instruction centre, Salisbury-road, Romford; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Failsborough.—Shops, Gregory-street and Droylsden-road, for the Co-operative Society.

Flushing.—Houses; Mr. J. H. Chubb, Surveyor, Council Offices, East Kemmer.

Folkestone.—Band pavilion (2,000*l.*); Mr. A. E. Nicholls, Surveyor, Town Hall, Folkestone.

Gainsborough.—Additions to King's Theatre; Mr. E. Green, architect, 32, Caskgate-street, Gainsborough.

Glasgow.—Additions to wireworks for Messrs. Christie, Ltd. (2,000*l.*); Messrs. Miller & Black, architects, 58, Renfield-street, Glasgow. Stores and works for Messrs. Wallace & Co., East End; Mr. L. B. Buik, architect, 196, St. Vincent-street, Glasgow. Extensions to Knightswood Hospital (4,000*l.*); Mr. A. B. McDonald, Engineer, City-chambers, Glasgow. Additions to warehouse, Miller-street (3,000*l.*); Mr. J. A. Laird, architect, 45, West Campbell-street, Glasgow. Picture house, Argyle-street (3,000*l.*); Mr. G. Kay, 73, Quarry-street, Hamilton. Picture house, Sauchiehall-street (2,000*l.*); Mr. T. Baird, architect, 134, Bath-street, Glasgow. Stables, etc., for Messrs. Bilsland Brothers, Glasgow (3,500*l.*); Messrs. Frank Burnett & Boston, architects, 180, Hope-street, Glasgow.

Great Yarmouth.—Children's home; Mr. F. Harward, architect, Queen-street, Great Yarmouth.

Greenock.—Dairy, Moarns-street, for the Central Co-operative Society. Clubhouse; Secretary, Auchmountain Harriers.

Grimsby.—Children's homes, Brighwgate (8,000*l.*); Mr. J. F. Winttingham, Clerk, Guardians' Offices, Grimsby.

Gwynne Vawr.—Additions at waterworks for the Aberlilly and District Water Board.

Harrogate.—School, Skipton-road (675 places); Mr. J. T. Taylor, Education Offices, Harrogate.

Haslingden.—Alterations to old infirmary (321*l.*); Mr. J. H. Sinkinson, Clerk, Haslingden Guardians' Offices, Rawtenstall. Weaving shed for Messrs. James Rothwell (4,000*l.*); Mr. N. Sutcliffe, Dale-street, Haslingden.

Heysham.—Nine houses and two shops, Main-street and Barrow-lane, for the Lancaster and District Co-operative Society.

Heywood.—Enlarging mill for the Heywood Spinning and Manufacturing Company, Ltd.

Holmhrth.—Hippodrome (3,000*l.*); Mr. P. M. Brown, Hawthorn Bank, Holmhrth.

Huddersfield.—Receiving home, Ramsden-street; Mr. E. A. Rigby, Clerk, Guardians' Offices, Huddersfield.

Hull.—St. Peter's Hall, Southbank (1,610*l.*); Messrs. Lowther & Rigby, 77, Lowgate, Hull.

Hyde.—Proposed institute, etc., for the Truro, Baptist Church, Hyde.

Jarrow.—Power-station, etc.; Messrs. J. W. White & Co., builders, High Barnes Works, General Graham-street, Sunderland.

Koigley.—Cinematograph theatre (3,000*l.*); Messrs. J. B. Bailey & Son, architects, Scott-street, Koigley.

Kettering.—Additions to factory, Rutland-street, for the Kettering Corset Manufacturers, Ltd.; two houses, Kingley avenue, for the Kettering Industrial Co-operative Society; additions to factory, Haylock-street, for the Co-operative Boot and Shoe Manufacturing Society, Ltd.

Kingston-on-Thames.—Congregational church; Mr. E. Carter, architect, 86, Eden-street, Kingston.

Leigh.—Methodist church; Mr. W. H. Dimsley, architect, 12, Cleveland-street, Chorley.

Longford.—Electricity substation, Longford Bridge; Mr. George Tough, Electric Light Works Manager, Town Hall, Coventry.

Loughborough.—Refuse destructor house (720*l.*); Mr. A. Faulk, builder, 4 and 5, Sparrow-hill, Loughborough.

Luton.—Alterations at church (2,600*l.*) for the Vicar, St. Mary's Church, Luton.

Maidstone.—Alterations to premises, Week-street, for Messrs. Boots, Ltd., chemists, Nottingham.

Marsdon.—Additions and alterations to Old Red Lion Inn for Messrs. Benney & Shaw, Ltd., brewers, Lockwood, Huddersfield; Messrs. J. B. Abbey & Son, architects, 34a, New-street, Hyde.

Milton.—School; Secretary, Education Offices, Portsmouth.

Newcastle.—Picture hall; Messrs. Hope & Tasker, architects, Trinity Buildings, Newcastle-on-Tyne.

New Mills.—Alterations at Providence Congregational Church; Rev. W. D. Edmunds, Pastor.

Newtown.—Consumptive hospital near Newtown; Mr. G. A. Hutchins, Surveyor, County Hall, Welshpool.

Northampton.—Proposed technical school; Mr. L. Beattie, Town Hall, Northampton.

The following plans have been passed:—For stores, Albert-street, for Messrs. W. Wren & Co.; and for eighteen houses in Sharnham-road, for Mr. G. F. Sharnham.

North Ormsby.—Proposed enlargement of mission hall and alterations to Parish Church for the Vicar.

Nottingham.—Enlarging pupil teacher centre (2,500*l.*); Hucknall Torkard; school (500 places), Kirby-in-Ashfield; and school (400 places), Sutton-in-Ashfield; Mr. L. Maggs, Architect, Shire Hall, Nottingham.

Okhampton.—Territorial drill hall (2,000*l.*); Messrs. Ellis, Son, & Bowden, architects, Bedford-circus, Exeter.

Oldham.—Proposed additions to mill for the Belgrave Mills Company, Ltd., cotton spinners, Honeywell-lane, Oldham.

Oswestry.—Drill hall, Llanyfyllan; Mr. R. W. Davies, Carme, Montgomery.

Oxford.—School (7,200*l.*); Mr. W. H. Castle, Architect, Education Offices; Oxford.

Padiham.—Rebuilding shops, Burnley-road, for the Co-operative Society. Town and market hall, baths, fire and ambulance stations, etc., for the Urban District Council (30,000*l.*); Messrs. Pollard & Pollard, Architects, County Bank-chambers, Padiham.

Paignton.—Additions to Isolation Hospital; Mr. O. Baines, Architect, Town Hall, Paignton.

Prestwich.—Proposed church, Simister-lane (about 2,000*l.*); Rev. J. H. Kidson, Vicar, St. Margaret's Church, Prestwich.

Ruiddlan.—Alterations to New Inn for Messrs. Soames & Co., Ltd., brewers, Cowbit-street, Spalding.

Sheffield.—Laundry adjoining Attercliffe Baths; also alterations and additions to said baths (3,000*l.*); Mr. F. E. P. Edwards, Architect, Town Hall, Sheffield. The following plans have been approved:—Premises, Northfield-road, for the Sheffield and Eccleall Co-operative Society, Ltd.; alterations, Lyceum Hotel, Pond-hill, for Messrs. Tennant Brothers.

Ltd.; additions to premises, Eccleall-road, the Old Albion Brewery, Ltd.; additions to premises, Rotherham-street, for E. W. Oakes & Co.; additions to premises, Malindale-street, for Messrs. J. Elwell, Sons, Ltd.; additions and alterations to premises, Saxon-road, for Messrs. G. E. Co., Ltd.; additions to premises, street East and Scott-street, for Messrs. Brown & Co., Ltd.; additions to premises, Carlisle-street East, for Messrs. C. Lister & Co., Ltd.; additions to premises, Warren-street, for the Temperate Spring Company, Ltd.; eight houses, Walkley Bungalows, for Mr. B. F. Glossop; alterations to premises, Westbar, for the Don Picture Company; additions to premises, Sheffield Terrace, for Messrs. W. T. Flather, offices, Edingham-road, for Messrs. W. Biggin, Ltd.

South Bank.—Extensions to St. Roman Catholic School for the Trustees, Stockport.—Mill for Directors of the New Mill.

St. Neots.—Additions to factory, Outton-road, Messrs. Bostock & Co., boot manufacturers, Stretdorf.—Church for Vicar, St. Church, Gorse Hill; Rev. W. L. H. W. 2, Queen's-terrace, Stretdorf. The following plans have been approved:—Additions to offices, Westinghouse-road, for Messrs. path, Brown, & Co., Ltd.; additions to works, First-avenue, for the Ford Motor Company (England), Ltd.

Tavistock.—Almshouses (3,500*l.*); Pearn Brothers, builders, Gilwell-street, Tavistock.

Todmorden.—Pavilion, Centre Vale; Mr. J. A. Heap, Surveyor, Town Hall, Todmorden.

Tynemouth.—Extensions to Holy Sepulchre Church; Mr. A. B. Plummer, architect, Grosvenor-street, Tynemouth.

Walsall.—Proposed baths; Mr. John T. Surveyor, Town Hall, Walsall. Plans for extensions to factory, New-street, for Messrs. Thacker & Sons, have been approved.

Warsop.—School, Burns-lane (7,700*l.*); Greenwood, builder, 2, Wood-street, Mansfield.

Waterloo.—School (5,231*l.*); Mr. J. R. builder, Railway Saw Mills, Turners, Ashton-under-Lyne.

Westhoughton (Lancs).—School (10, Mr. H. Luttler, architect, 16, Ribblesdale, Preston.

Wolverhampton.—Works, Walsall-street, the Briton Motor Company, Ltd., Wolverhampton. Plans have been passed for houses, Lea-road, for Mr. L. Clarke.

FOREIGN AND COLONIAL

Building in Brazil.

The *Diário Oficial* of October 5 of Decree No. 3,783, approving a plan estimate of 874,000 milreis submitted by Pará Harbour Company for the construction of a building for the storage of inflammable and explosive materials. The building is situated at Miramar. The same issue of the *Diário Oficial* contains applications received up to December 30 at the intendencia da Defesa da Borracha, I. Janeiro, from persons who are desiring establishing buildings for the storage of inflammable and inflammable oil required by vessels engaged in the rivers of Amazonia. The containing further particulars, may be British firms at the Commercial Intelligence Branch of the Board of Trade, 73, Basin street, London, E.C.

According to a summary, published in the *Review*, of the recently issued plan of the Brazil Railway Company, the first-class hotels in Rio de Janeiro, São Paulo, and other important cities has retarded development of Brazil. The position has been carefully investigated by an English architect, who visited Brazil in order to make examination of the local conditions and result of his Report the company has decided to undertake the construction of first-class hotels at Rio de Janeiro and São Paulo have been acquired in both cities, and for the construction of the hotels are under consideration.

Building in Buenos Aires.

The *Boletín* of September 27 contains a decree authorising the General Directorate of Architecture to proceed departmentally with the supplementary work connected with the enlargement of the Casa de Moneda in Buenos Aires. The cost of this enlargement amounts to 381,162 pesos (about 33,300*l.*), same issue of the *Boletín* includes a decree of the said Directorate of Architecture to erect a night refuge home at Buenos Aires harbour, at a cost of 1,025,000 (about 90,000*l.*).

HERAN CHURCH, PORT ELIZABETH.

was the design placed first in a limited competition. As shown by the plan, the church includes a pastor's house and a schoolroom in addition to the church. It is intended to proceed with the church building shortly, and to the present the schoolroom only has been built. The principal materials used are washed plaster and a few facing bricks on stock brick backing, building stone being practically unobtainable in the neighbourhood. Mr. Orlando Middleton, A.R.I.B.A., Port Elizabeth, is the architect.

THE SOCIETY OF ARCHITECTS.

The opening meeting of the new session of the Society of Architects was held on Thursday, March 28, Bedford-square, W.C.; when the annual address of the President (Mr. Percy Lubbock, F.R.I.B.A.) was delivered. In the course of his remarks, the President said that the proposals for the re-organisation of the Society were already in the members' hands, and as no new principles were introduced it was confidently hoped that the Council's proposals would be confirmed.

Education and Elimination. The President said: "They are the introduction of a new class of students designated 'Graduates,' who will be those who have been examined as to their capabilities with a view of eliminating those who do not show sufficient artistic ability from successful practising architects of a high standard that the future will demand. Perhaps has done more in the past to lower the standard of architecture and to retard its progress than the entry into the profession of those who have not the instinct of architecture—it has been detrimental to all concerned."

The community has got common-place instead of architecture, and the profession has got discredit, while many very able architects have been placed in a false position, and those of special aptitude denied real and permanent success they might have achieved in some other and to them more congenial profession.

This raises the question of architectural training generally, in regard to which a special committee are already actively at work on the basis of a scheme for the establishment of architectural ateliers in the United Kingdom, the lines of those which are so successfully followed on in Paris. This Committee have already held several meetings, and I have no doubt will be able to arrive at a satisfactory conclusion in due course. I still hope to see their report adopted and carried into effect without delay, so that before ateliers may be established both in London

and the large provincial towns. The Council, in taking a step so fraught with possibilities for good, hope for and confidently anticipate the cordial approval and co-operation of that large and ever-growing body of professional opinion, which is alive to its value and necessity. A question of such vital interest to the future of architecture does not concern this Society alone. The idea being to supplement the existing methods of training rather than to supplant them, it should receive the support of every architectural Society. We therefore

invite the whole-hearted and active co-operation of the Royal Institute of British Architects and its allied Societies, and of all other interested bodies, so that we may accomplish more quickly and more efficiently a reform which we are convinced is in any event bound to come in the near future.

Those who have studied the various methods of architectural training are of opinion that while there may be some faults or weaknesses in points of detail in the French system, yet it has proved in principle to be of the greatest possible advantage to the profession where it has been adopted. This is particularly the case in America, where, since the introduction of the Beaux Arts system, the whole tone and standard of architectural design has been enormously raised within a comparatively short period. In the United Kingdom there are a number of architects of great ability and eminence, and we may be said to possess a distinctive architectural style particularly in domestic work, yet we are far behind other countries in the public appreciation of architecture as an art and in the standard of architectural design as applied generally.

Public Recognition and Appreciation of Architecture.

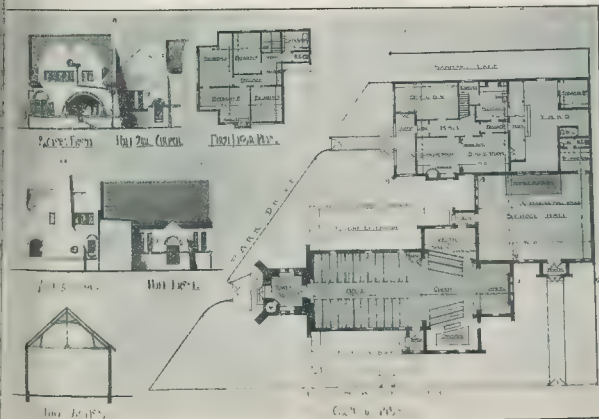
I think we may venture to believe, without undue optimism, that we are fast approaching a time when architecture will at last come into her own again and resume that place in the public estimation which is her due, and which she already enjoys in more favoured countries. On all sides we see indications of an increasing public interest in the greatest of the fine arts.

Parliament has recently for the first time in this country, so far as I am aware, taken architecture seriously, and during the debate on the proposed St. Paul's Bridge laid down the principle that no public improvement should be carried out without due consideration being given to the architectural aspect or without consulting those qualified by nature and training to advise. Then the Town Planning Act (again for the first time in this country) has officially recognised the value of architectural



Lutheran Church, Port Elizabeth, S.A.

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beauty and has given it the sanction and authority of an Act of Parliament, and the art of architecture is recognised and protected to some extent by the recent Copyright Act. These are what I believe to be signs of the times, signs that may be noticed with increasing frequency both in the Press and in ordinary daily intercourse.

It is for us to rise to the occasion: and if we expect recognition as artists, we must be artists, and well-trained ones too. Unfortunately, however, it has long been felt by those who have given much thought to the training of architects that our present system is far from satisfactory, and not adapted to produce the trained artist. Since the breakdown of the pupillage system, which was so scandalously exploited by a previous generation, great progress has undoubtedly been made in building up architectural schools to replace it. We have done the best we could, but, hampered as we have been by our own haphazard upbringing and by our own lack of theoretical and systematic training, it was not to be expected that we could know all at once how best to organise a perfect system of architectural education or be in a position to impart a theoretical training which we ourselves had not received.

It is generally conceded, I believe, that however well our schools may teach the various branches of knowledge with which an architect should be acquainted, they are not so successful in teaching the student the one thing needful, viz., how to apply this knowledge. They may teach everything connected with architecture, except the art of architecture itself, the art of design. I believe I am right in saying that the most enlightened opinion of the day realises how far we are in this respect below the Continental schools, more particularly those of Paris, to which so many architectural students are going every year owing to the lack of facilities in their own country. The Society of Architects has always striven in the cause of architectural education, and the Council are of opinion that the time has arrived to make a determined effort to lift our educational system to the level of that obtaining on the Continent. This is no light undertaking, and it cannot be brought about all at once, but your Council believes that an important step towards this end may be achieved by their proposal to bring within the reach of all concerned those educational facilities which have been responsible for producing most of the best architects of the day, both in Europe and America.

Registration of Architects.

The statutory education and registration of architects is a question which the Society has made its own and with which it has been identified for upwards of twenty-eight years, and in order to achieve the result which we all have so much at heart negotiations were entered into with the Council of the Royal Institute of British Architects more than two years ago. The negotiations were primarily on the registration question only, but the proposals of the Royal Institute Council differed so essentially in principle from those of the Society that we could not accept them, and the only way out of the difficulty, so far as the Institute was concerned, was to make provision for the members of the Society to join the Institute so that in any Registration Bill put forward by the Institute their interests would be protected. In other words, the proposed fusion was to the Society merely a means to an end, and that end was registration.

The Society have always stated that if the Royal Institute will produce a Registration Bill with which they can agree, they will step aside and let the Institute lead, and the Council of the Society kept their word by accepting the proposals of the Council of the Royal Institute. As you all know, the proposals were submitted to the members of the Institute in general meeting, but after a lengthy and somewhat heated discussion the whole matter was referred back to their Council for further consideration, and they have been considering it in Committee ever since. This action was taken by the members of the Institute more because the proposal was complicated by the introduction into the proposed agreement between the two bodies of all sorts of provisions, including the heads of a Registration Bill, than because the principle of the scheme was objected to.

Until the Committee's report is issued it is not possible for the Council of the Institute to make any official statement to this Society, but

the negotiations have not been broken off, which is a great advantage, as it is always possible that the two bodies may meet again and resume their deliberations. Unfortunately, we are not in a position to guarantee that the negotiations will be renewed, and in the meantime the work of the Society on behalf of Registration has been held up for two years, and if we are to await the result of the deliberations of the Committee of the Institute before taking any action, the whole question may be retarded for an indefinite period.

We feel that the more delay there is in introducing a Registration Bill into Parliament the less chance there is of its becoming an Act, consequently it would be unwise in the interest of our members to further delay the matter pending a final report from the Institute. Registration is of such vital importance that it cannot be left in abeyance indefinitely, and under these circumstances we feel it a duty to the members to introduce the Society's Bill into Parliament at the earliest possible moment, and we hope that it will be presented during the present session.

We do not yet know what attitude the Royal Institute of British Architects will adopt in this event, but we do know that the present Council, and the Institute as a corporate body, are pledged to registration, and further, seeing that the Royal Institute of British Architects' Council was returned last June for the express purpose of carrying the registration movement a step further, I do not see how they can consistently oppose the Society's measure, or what they can gain by doing so.

I am glad to say that a better feeling undoubtedly exists between the Society and the Royal Institute of British Architects than ever before, and if full advantage is taken of this on both sides, great progress may be expected in the near future, not only with regard to registration but in connexion with other necessary reforms that are urgently needed in the profession.

Official Architecture.

The question of official architects is one which most seriously affects the future of our profession. Just when a generation of able men has arisen who have devoted their lives to the study of the more monumental aspect of architecture, we find the growth of a system which threatens to deprive them of their livelihood and of any opportunity of placing their special attainments at the disposal of the community.

But, although the growth of the practice of employing official architects deprives the independent and specially trained men of the bulk of the public work, it is necessary to endeavour to approach the subject from the broadest possible point of view, in the interest of the public and the advancement of architecture, for, after all, architects exist for the good of the community. I think that the present system only exists because the public is misinformed, and it will only continue to exist just as long as the indifference and ignorance of the public lasts. The public has a right to the services of the best talent in the country, but under the present system it does not get it, although it may be under the impression that it does.

There can be no doubt that every building erected by public authorities should be designed by the one man in the country who is best able to solve the particular problem involved. The system of employing the official architect does not insure this, and the public interest suffers in consequence. Instead of securing the best available architect by public or limited competition or otherwise, we find Corporations and Government departments entrusting important buildings, requiring special skill in design, to the officials who were appointed to their positions for qualities of an entirely different character, such as administrative ability or because of their special qualifications as surveyors.

The public does not seem able to discriminate between knowledge and skill, the knowledge of the requirements of a building or of a public department, which other than architects may acquire, as distinct from the trained skill of the designer in the use of that knowledge when acquired, which no one but an architect can possess.

The public does not realise that the arguments which apply to the appointment of surveyors and medical officers of health do not apply to the appointment of architects. One never hears of a medical officer of health being

called upon to perform a serious abdominal operation on a Lord Mayor, he calls in a specially trained man to do it; but we do hear often of an official architect being called to design a building requiring special knowledge and skill, and it seems to me that a public official routine faithfully performed does foster the development of the imagination, faculties or make for the high standard of design, obtained only by long year practice, which all our public buildings show. Neither does the public realise, I think, the lower standard of design which designers we possess do not and will hold official positions under present conditions and that when a public body advertises for an official architect the very men to whom the work should be entrusted refuse to apply for the post.

Figures have lately been produced to show that it is as economical to employ officials as to employ independent architects, but even if it is true the value of the article obtained is the lower standard of design produced by officials compared with what would be produced by the very best of our designers, which destroys the value of the comparison.

If the conditions of official service were revolutionised as to tempt the most gifted designers to sacrifice their independence, to produce the best possible architecture in capacity as officials, the cost of official architecture would be far in excess of what it is at present and far in excess of what it would cost to employ the same man as an independent architect under conditions that entail no sacrifice on part.

It appears to me that there is a great obligation resting on the President of the Society as this to place these facts before the public without fear or favour, for after a public suffer most by the present system it must be clear that if the present system increases till at the public work is done by officials, the ablest men, finding no opportunity in this direction, will no longer devote attention to public work, but will concentrate on private work, and the standard of buildings will be permanently fixed at that of respectable mediocrity that is characteristic of nearly all the official architecture in the country. I venture to think when the public realise that they get their work for less money by employing an independent architect they will not hesitate to demand an alteration in the present system and will not be content till they get it.

It must not be supposed, however, that the architectural department for routine advisory work is not capable of doing a public service; on the contrary, I think it is indispensable; but it should not be employed in original creative works of architecture. Many of our public authorities maintain a staff of assistants of a high standard of knowledge and experience who are intimately acquainted with the practical requirements of every type of public building, and if this knowledge and experience could be placed at the disposal of the most brilliant creative designer obtainable, any original work was contemplated, the result would be a blending of the practical with the artistic and the production of a well designed and thoroughly satisfactory public building.

The Royal Institute of British Architects and the Society.

With regard to the future of the two Societies which represent the profession of architecture, there is a point I should like to bring forward which I venture to think is worthy of the earnest consideration of the Royal Institute of British Architects and of this Society, as each have the same object in view, viz., advancement of architecture and the protection of the rights and privileges of architects. As at present constituted and administered, each is of necessity a certain amount of overlap and clashing of interests which is much to be regretted.

The Institute has a Royal Charter which granted "for the general advancement of architecture and for promoting and facilitating the acquirement of knowledge of the various arts and sciences connected therewith, it is an art esteemed and encouraged in enlightened nations as tending greatly to promote the domestic conveniences of citizens and the public improvement and embellishment of towns and cities."

One gathers that the Council of the Institute is very much overworked. This somewhat involves considerable delay in dealing

ant points that are constantly arising, of which are perhaps not directly connected with civil architecture or the various sciences connected therewith, but more to do with the business side of the

in the medical profession there are the Colleges of Physicians and Surgeons, and the Medical Association, and what happens in this case is that matters of business interest and things affecting the interests of the members of the profession are left to the latter body to deal with while the Royal Colleges confine their attention to examinations and ethics, and to holding generally a high standard of medicine. Why should not architects work on similar lines? The Royal Institute of British Architects might be the sole examining body and be responsible for a standard of

Relieved of routine work of a business nature, which now appears to cripple them, it would be free to devote all its time and duties imposed upon it by its Charter to work for the advancement of architecture and the mistress art regardless of all other considerations. It would find more time to give new ideas, to discuss and formulate them for the future progress of our art, and to be the lead in the artistic, scientific, and other aspects of our work of which we always are in need. Freed from considerations of decency or suspicion of personal interest, it would speak with greater authority, would take a higher place in public estimation than which it now rightly holds, and be a Society which it would be a still greater honour to join. But no art can flourish unless those who practise it can live by it in decency and honesty, and receive that consideration from the public which the value of their work deserves. The Society, by giving its undivided attention to studying the welfare and the business interests of all members of the profession, and to doing a work of paramount importance necessary to the advancement of architecture, even if less ornamental than that demanded by the Institute. It would then be more to the interests of every practising architect to join the Society.

From the mere increase in the number of practising architects, the increasing complexity of civilisation entails upon a profession such as ours, which touches life at all points, an increasing number of problems that call for solution; our interests from day to day are more varied, our responsibilities more numerous. But although one Society, if properly used to that end, might be capable of dealing with every aspect of our responsibilities and interests, I think it would be a distinct advantage to have two Societies in London going in perfect harmony, each supplementing the other, each with its clearly defined duties and sphere of influence. I am of opinion that the best such arrangement as this could be based upon by the Royal Institute of British Architects and this Society, it would be a great advantage to the profession and to architecture as an art. There should be no real difficulty remaining the functions of each body, they would naturally fall under the two headings of architecture and architects."

Professional Defence.

dealing with the development of the city, the President said: "A very important question of the work of the Society is the formation of an Advisory Committee to deal with questions arising out of professional practice. A considerable sum has been set aside for this Committee to practically and impartially assist members in any litigation or question which involves questions of principle and not only their own interests, but those of the profession generally. The fund, which is for present needs, is only a nucleus, and it is the intention of the Council to add to it as may be necessary, so as ultimately to be in a position to pay any case which, in the opinion of the Council, acting on the advice of this Committee, is of sufficient importance to the profession as a whole."

Architectural Competitions.

The remedy for unsatisfactory competition conditions rests very largely with the profession. The promoting bodies do not always wisely err, but are sometimes in ignorance of the existence of the conditions which they are considering should be laid down for future competitions. Something might be done by a statement issued in the first place to

every local authority in the Kingdom, and from time to time to other promoters of competitions giving the general lines on which it is suggested a competition should be conducted, and making it clear that if these lines are departed from, architects who are members of architectural societies will refrain from competing. This circular should be signed by the responsible officials of every architectural society in the Kingdom. I also feel that an advertisement inserted each week in the professional journals making it clear to all promoters of architectural competitions that the conditions have to be approved by the Society before any of their members will compete, and suggesting that the conditions governing the competitions should be drawn up to agree with the printed particulars issued by the Society and the Royal Institute of British Architects, it would very soon educate the promoters up to a proper standard, and the competitions of the future would be much more satisfactory. Much could also be done if the Competitions Committee of the Royal Institute, for example, were to give notice of any objectionable conditions to every architectural society, so that all might act in unison.

Some architects hold the view that in the case of limited or local competitions if the invited competitors or the architects within the defined area are agreeable to the conditions laid down, whatever they were, such competition should not be barred by architectural societies, but I personally feel that all competitions should be conducted on recognised lines and that there should be no exception to the rule."

The President also referred to the good work carried on by the Architects' Benevolent Society—work which was hampered by the want of funds—and to the formation of an Approved Society under the Act for architects and surveyors' assistants.

The Unattached Architect.

In referring to "the unattached architect," he said: "A great deal of interest has been shown in the proposal of the Society to publish a code of ethics for the guidance of members, but the main difficulty has been that of dealing with the unattached architect. The ideal arrangement would be a Board of Professional control for the whole profession, but this could only be effectively constituted under a Registration Act. It remains in the meantime for the various Societies to insist on a high standard of professional morals and conduct, on lines somewhat similar to the Society's proposals."

Whilst on the question of the unattached architect, I should like to point out that the ranks of the Royal Institute of British Architects in any class are now closed to candidates other than those who have passed the Associateship Examination, but there are still very many qualified architects in practice who are unattached and are consequently "free lances," and this seems to me to be a disadvantage to the profession, which would be the stronger for their co-operation, and I think it should be the aim of this Society to do all in its power to enroll such of these gentlemen as are eligible and qualified in our ranks as members.

It must not be forgotten that if a Registration Act was passed it would, no doubt, recognise all vested interests, and consequently all *bona fide* qualified architects would be entitled to register, and we, by adopting the policy I have outlined, would only be anticipating what would be compulsory when the Act became operative.

The Royal Institute of British Architects have succeeded in getting some 2,000 architects to become licentiates, but numbers of these appear to have joined under the misapprehension that it would be quite easy, in fact, more or less a matter of form, for them to become Fellows of the Institute. As a matter of fact, only ten have been able to satisfy the examiners, and qualify as candidates for election as Fellows, at the first examination which has been held. This examination proved not to be a mere matter of form, but a very real test extending over six days. How licentiates feel about this I do not know, but possibly some or even many of them would rather be corporate members of a progressive and thoroughly up-to-date society, making for reform all the time, than merely non-corporate members of the senior body. I, for one, shall watch future developments in this respect with great interest.

The President also referred to the work of the South African branch of the Society, and said that the passing of the Transvaal Architects' Registration Act was largely due to the energy

and initiative of the branch, backed by the financial support of the parent Society, and further efforts were now being made by the branch towards extending the Act to the Union of South Africa. In conclusion, the President detailed some advantages of membership of the Society, which has now a total membership of 1,200.

A hearty vote of thanks was accorded to the President for his address.

INTERCEPTING TRAPS IN HOUSE DRAINS.

A SESSIONAL meeting of the Royal Sanitary Institute was held at No. 90, Buckingham Palace-road, S.W., on Tuesday, when a discussion took place on the "Report of the Departmental Committee of the Local Government Board on Intercepting Traps in House Drains." The discussion was opened by Mr. H. Percy Boulnois, M.Inst.C.E., Chairman of the Council of the Institute, and in the course of his remarks he said that the report practically condemned the intercepting trap.

He then dealt with the various indictments which are raised in the report against the use of the intercepting trap, and the conclusions at which the Committee have arrived in each case.

No. 1.—That as the trap forms an obstacle to the passage of sewer air through the house drain its use renders the ventilation of sewers more difficult and costly.

This contention, he said, raised the whole question of the ventilation of sewers. We were all of us acquainted with the difficulties which surround this subject, and the Committee had evidently been thoroughly aware of these difficulties, with which they deal at some length, and it was interesting to observe that on page 41, paragraph 119, they state:—

"Too much importance has been attached to the question of sewer ventilation, for there is a considerable amount of evidence which indicates that the necessity for ventilation of sewers has been exaggerated."

The report went very fully into this question of ventilation of sewers, and arrived at the following conclusion:—

"If, therefore, the objection to the intercepting trap rested solely or mainly on its interference with sewer ventilation, we should be inclined to question the importance of such an objection." [Page 42, par. 121.]

He agreed with this conclusion, though no doubt the advocates for the abolition of the trap might have many arguments in favour of the free ventilation of sewers through the house drains as being the solution of the problem. It was contended by many persons, and the report also dealt with the question, that the presence of the trap in the house drain containing sewage, often in a state of decomposition, largely contributed to the formation of gases and offensive smells in the sewer, and there was some considerable weight in this contention, if it could be shown that a house drain, without an intercepting trap, would never contain decomposing sewage.

As to the second contention, *i.e.*, that the fresh-air inlet necessitated by the provision of an intercepting trap, often acts as an outlet for foul air and creates a nuisance, Mr. Boulnois said:—"This contention is supported by considerable evidence in the report, especially by Dr. Butler, of Willesden, who stated, *inter alia*, that diphtheria had prevailed in his district, more over a series of years in areas where the intercepting trap is universal, than in other areas where the trap was absent."

The report says [page 3, par. 10]: "With few exceptions the evidence was unanimous that the inlet is an objectionable feature of the house drainage system," not only as an outlet for smells, but also as being sometimes responsible for blockage of the trap through earth and detritus getting into it.

The Committee, moreover, were not sure that a fresh-air inlet is essential for an intercepting trap, and they quote some experiments made by Mr. Steele in support of this contention.

We shall, I think, all agree that if the fresh-air inlet is placed in an inappropriate position, it may at times become a nuisance by acting as an outlet for drain air instead of as an inlet, even if provided with a mica flap; but even if this is so, it may be argued that a smell coming from the inlet indicates that there is "something wrong" with the drain which requires remedying. In other words, the fresh-air inlet becomes a useful "detective." The remedy also, if a remedy is required, would appear to be that of placing the mouth of the inlet in such a position that, even if it did act as an outlet, it would be harmless."

As to contention 3, i.e., "that the provision of a trap and its companion ventilation of the house drain increases the cost," that, he said, was obvious, and the report did not deal with this question beyond stating it as a fact.

Contention 4 was the final indictment, and that which was of the greatest importance, i.e., "that the intercepting trap 'forms a serious impediment to the passage of sewage from the house drain [to the sewer, and that this frequently results] in more or less complete blockage of the drain.'"

It was, he said, this alleged blockage by the presence of traps in the house drains at Willesden that first called the attention of the Local Government Board as to whether the intercepting trap was not more of a danger to the occupiers of a dwelling-house than a safeguard against the intrusion of the air from a sewer. The whole trend of the report was in the direction of proving that this indictment was correct, that such blockage may, and does often occur, by reason of the trap failing to clear itself, and that this objection caused a greater danger to health than the possible admission of sewer air into the house drains.

Proceeding, Mr. Bonhous said:—"The report gives the result of the systematic examinations by Dr. Butler of intercepting traps in his district, which show a total number of blocks of 3.7 per cent. of the total drain inspections. In addition to this the Committee caused examinations to be made of traps in other districts throughout the country, with the result that of the traps examined 6.9 per cent. were found to be blocked at the time of examination, and 16.2 per cent. "gave evidence that at one time and another they had been blocked sufficiently to cause an accumulation of sewage in the inspection chamber." The total number of traps either blocked at the time or indicating previous blocks, amounted to no less than 23 per cent. of the total traps examined for both purposes.

But this is not all. Mr. Patten Barber, the Borough Surveyor of Islington, carried out a series of exhaustive trials in order to ascertain what amount, if any, of the solid matters, usually flowing in a house drain, would be retained in an intercepting trap, placed in the usual manner upon a house drain. These experiments showed conclusively that with every class of trap he tried (seven in number), more or less solid matter was always retained in the trap. In some cases this amounted to from 42 to 49 per cent. of the solid matters, and in others from 73 to 78 per cent.

If it were not for these experiments, it might be argued that some, if not all, the blockages might have arisen from one or other of the following causes: the improper fixing of the trap, the choice of an improperly designed trap; the insufficient fall of the house drain; or, from its size, the admission of some foreign matter into the house drain; or from some other cause for which the intervention of a trap *per se* was not responsible; but in view of Mr. Barber's experiments, which appear to have been carried out with great skill and care, these arguments appear to be inadmissible.

It may, of course, be argued that the two-gallon or even the three-gallon flush is insufficient to keep the trap or even the house drain clear of obstruction.

The remedy, if the trap is to be retained, appears to be either that a larger flush of water is necessary, or that the drain must be laid with a steeper gradient, or that the design of the present trap must be altered.

Mr. Barber's experiments go to show this, for whereas a 4-in. trap, "No. 4," retained 79 per cent. of solids, an "experimental" trap he tried only retained 8 per cent. of the solids, and this after ten experiments, in which on six occasions no solids whatever were left in the trap.

With regard to the possible forcing or unsealing of an intercepting trap by air compression in a sewer, the Committee deal with this question at some length, and refer to the Bristol experiments. They come to the very proper conclusion that:—

"when a trap is forced by air pressure the water seal, though reduced in depth, is not liable to be destroyed"; and they further state [page 16, par. 50]:—

"On the whole, therefore, it would appear, according to the evidence presented to us and according to our own experimental observations, that under practical conditions the intercepting trap usually answers its purpose as a barrier to the passage of air from the sewer into the house drain."

With which conclusion I cordially and entirely agree; it is well known that air will always take the least line of resistance.

As to the passing of rats through a trap, the report states that in the opinion of the Committee it is doubtful whether the trap is a barrier, and they give two instances of chased rats seeking refuge through traps into house drains. In the cases quoted it would appear that the rats were actuated by fear, and that in order to escape they preferred a bath to sudden death! I am personally of opinion that the trap is a barrier to rats under normal conditions, and that they will not pass through the water in a trap except under some live pressure. I have known several cases of house connected to old sewers which were infested with rats, and that these pests disappeared when the house drains were properly trapped and disconnected. It is evident that rats, like sewer air, will take the least line of resistance.

I will now pass on to one of the most important investigations of the Committee, viz., that of the chemistry and bacteriology of sewer and drain air, on which considerable time and thought appear to have been devoted.

Evidence on the chemistry of sewer air was laid before the Committee by such well-known experts as Dr. T. S. Haldane and Dr. Hurlley, and the report of Professor Delpeyre on the Manchester sewers is also referred to.

The conclusion to which the Committee arrived [page 20, par. 62] is as follows:—

"The results obtained by these observers are practically identical, and they indicate that in sewers, whether old or new, ventilated or unventilated, in which sewage is moving and is not lying stagnant, the air differs but little from that of the atmosphere outside."

Carbon dioxide was only found to the extent of from 17 to 20 parts per 10,000 as compared with 3 or 4 parts per 10,000 outside, the excess of ammonia and organic matter was almost negligible, and the sewer air was free from any appreciable traces of methane or carbon monoxide, and if present must have been due to the admission of coal gas.

Sulphuretted hydrogen also, they state, is not present in the air of sewers. In some sewers, notably at St. Helens, Lancashire, this gas is found, due to the nature of the trade effluents discharged into the sewers, but, of course, this is a rather abnormal case.

Dr. Haldane, however, has found that this gas is given off in considerable quantity "from the traps of house drains in which sewage is apt to be retained, such as large grease traps."

This evidence by Dr. Haldane is another serious indictment of the trap, although in this case he refers specially to "large grease traps."

With regard to the smell of sewer air, which is evidently not due to sulphuretted hydrogen, but more probably from "the presence of minute quantities of a variety of volatile substances," the report says, it is doubtful whether the smell of sewer air is usually more offensive than drain air, and that "unfettered waste pipes of sinks and lavatories discharged into the open air" may cause a "serious nuisance."

The Committee are further of opinion that the effect of smell on the human body may not only be repugnant, but that "there seems to be no reason to doubt that it may produce definite ill-health."

With regard to the bacteriology of sewer air, they made many investigations, and, *inter alia*, they say:

"The bacteriology of sewer air has been the subject of many investigations, and in one respect the results obtained have been practically uniform, namely in showing that notwithstanding the immense number of microbes in sewage, the number to be found in sewer air is extremely small."

Further, they say that:—

"It seems also clearly established that not only the bulk of the bacteria of sewer air are derived from the atmosphere, but also that bacteria of sewage origin (that is, those that may be pathogenic) are very rarely present in sewer air, and that, when their presence can be detected at all, their number is very small."

They then deal with the bacteriology of drain air as distinguished from sewer air, and quote the experiments made by Colonel Horrocks, Dr. Andrews, Dr. Renney, and Professor Winslow, and they arrive at the conclusion that there are more microbes in drain than in sewer air, and that this is mainly accounted for by "splashing," which occurs in the passage of sewage in a house drain, "especially when falling from a height or passing through a trap." This makes a further, and rather unexpected, condemnation of the intercepting trap, and I do not see unless it were made in the form of a spiral, and even then I fear there would be some splashing. The question of the possible passage of microbes

from sewers into drains is dealt with at considerable length, and altogether no less than fourteen pages of the report are devoted to questions of the chemistry and bacteriology of sewer and drain air. The conclusions of the Committee arrive at are as follows [par. 97]:—

"The results of these experiments emphasize a point to which we have already referred, namely, the bacteriological evidence indicates that if a serious danger exists at all in house drainage, it is found in the drain air that may escape from the ventilating shafts of house drains. But every danger requires to be regarded in its true perspective as we have pointed out." [Para. 91 and 92.]

The paragraphs here referred to are of considerable length, and refer, so far as I understand, to the important point as to whether disease germs from a neighbouring house find their way through an untrapped drain to the house in question. This seems to be the crux of the whole question. The object of intercepting trap as I have always understood it, is to sever, or isolate, the house from the drainage of other houses in order to protect it from possible infection from other houses. It would appear from this important report that it is extremely doubtful if this result has been obtained, and that, notwithstanding numerous legal cases that have been fought on the question of sewer air entering houses and causing disease and even death, we are told that drain air is more dangerous than sewer air, and that the intercepting trap is not a delusion and a snare, but that it is a danger to the health of the inhabitants of its liability to choke, the accumulated sewage which it holds, the germs which it is the splashing which it causes, and its interference with the proper ventilation of sewers.

Mr. R. Reed (City Surveyor, Gloucester) expressed his entire approval with the report of the Departmental Committee. The report, he said, was patented in a panic, and was a dangerous obstruction which paralysed action of the drain, and rendered it throughout. He trusted that the Local Government Board would withdraw the by-law that sanitary inspectors and building inspectors would display as much zeal in removing a had done in inserting the trap. If abolished they would get real clear instead of a sham.

Dr. P. Roobhaar (Medical Officer of Health, Nottingham) whilst unhesitatingly accepted the scientific results and conclusions of the distinguished investigators, demurred at the general application of the results to cases essentially different from those furnished them. The behaviour of drain air in different localities was as diverse as the method of construction, their situation, their contents. Speaking generally, he was in favour of retaining the intercepting trap. He was strongly of opinion that it was rather in the direction of improving the construction of these traps, securing regular flushing and cleansing to attempting their abolition.

Mr. T. de Courcy Meade, M.Inst.C.E. (Manchester), gave the results of some experiments he had made with artificial faecal matter.

Mr. F. Sumner, M.Inst.C.E. (City of London), spoke strongly against intercepting traps, the distance from the trap to the lavatory was of any great distance. He considered the report sounded the death-knell of the intercepting trap. He strongly advocated house drains should be made of iron, and that for a reasonable sized house the expense would not be more than 20 per cent.

Dr. W. Butler, speaking from his experience at Willesden, was against the intercepting trap, and said that in most cases were not aware of the choking of the trap. He advocated that drains should be laid in such a manner, whether they had intercepting traps or not, that choking would become apparent immediately. At present brickwork of the manholes permitted no inspection.

Dr. Parkes (Medical Officer of Health, Chelsea) discussed the question of blockages of drains were due to the laying of drains, to the bad form of trap used, and to the use of 6 in. traps when traps would be sufficient; and, what was the most important point of all, the fault in the construction of the intercepting traps with the trap.

Mr. Van Putten (Levensham) as one who long time had been against intercepting traps welcomed the report. He had no objection

was for a proportion of the costs of the defendants in defending a counterclaim. The previous action before Mr. Verey, J., was in the case of *Mr. Mellor, for the plaintiffs, said that he had obtained judgment in the action with a stay of execution pending the hearing of the defendants' counterclaim. The only question for the Court was the hearing of this counterclaim. Mr. P. Valetta, in opening the case for Eardley & Smyth, said that in June, 1911, plaintiffs were employed by him to do certain work for them at the house of Mr. John White, at 65, Redcliffe-square, W. The work in question included taking up of the floor of the butler's pantry, the basement, and when this was done, as noticed the joists and floor were accordingly new joists, plies, and were put down. By August, Messrs. Eardley & Smyth wrote to the plaintiffs, Messrs. Bridge Barrett & Co., pointing out some reason the house had become leaky by the window of the kitchen and asking them to search for any leak and repair it. The leak could not be found about the end of November, Mr. White had been away, returned to the house soon after this a new system of supply had to be installed. Even on December 31, 1910, the leak was found and it was brought to the notice of Eardley & Smyth that it was nothing but a nail which had been driven into the lead pipe which rested upon one of the joists in the pantry. Upon that, Mr. White told Messrs. Bridge Barrett, and they replied, said they had nothing to do with the leak. On the 2nd of 1911, this was the position. Mr. White told Messrs. Eardley & Smyth 277l. 10s. 6d. Messrs. Eardley & Smyth owed Messrs. Bridge Barrett & Co. 24l. Under the circumstances, it having been brought to the notice of Bridge Barrett's notice that there was a leak, Mr. Bridge Barrett telephoned to Messrs. Eardley & Smyth and asked for payment of that 24l. 10s. 6d. Mr. Bridge Barrett said that Mr. White had to claim damages for the leak by the nail in the pantry floor by your men." Mr. Harrett replied: "I am not after the job has been finished this I did not do it." He then broke off the conversation, and the Court issued and served a writ for the 24l. owing. Messrs. Eardley & Smyth went to their solicitor, Mr. Jacob, and he gave Messrs. Bridge Barrett a cheque for the amount. At that time Messrs. Eardley & Smyth were giving Messrs. Bridge Barrett work to do at exhibitions like the Royal Academy, and other places. Mr. White said Bridge Barrett from time to time, later's attitude throughout was that he had not have been their man who was not for them. Efforts were made to get at a settlement with Mr. White, but he remained obdurate. It was the expense of putting in a new system, which was no longer when the leak was located, and wanted 20 Messrs. Eardley & Smyth issued against Mr. White for 277l. 10s. 6d., and under Mr. White paid 175l. into Court, and the liability. He objected to the 102s. of the account, and filed a claim for damages. Upon receiving the writs of the counterclaim, Mr. Jacob upon Mr. Bridge Barrett, who again the idea of his men having caused the leak. The case came before Mr. Verey, the Official Referee said that when Mr. Bridge Barrett gave the work to neither he nor his men had anything to do with the damage at Mr. White's house, the case was, that of the claim 24l. 10s. 6d. The Official Referee allowed 10s. 6d., and on the counterclaim by Mr. White, the Official Referee said: "I find the evidence that a nail driven through the floor by the plaintiffs' workmen caused the leak affected the hot-water system." Mr. White was awarded the costs of the action, and Messrs. Eardley & Smyth had in consequence become liable for the payment of 3000l. That action, concluded Counsel, never have been persisted in but for the intervention by Mr. Bridge Barrett. Robert Eardley, one of the defendants, in the evidence of the case, occupied eight for the Official Referee. Percy Smyth, the other defendant, also evidence. Representing the plaintiffs' defence, Mr. White said it had not been made out on the evidence that the injury to the house was caused by one of Messrs. Bridge Barrett & Co.'s workmen, and unless they*

could prove that Messrs. Bridge Barrett's men had been responsible, the whole case must fall to the ground. What Messrs. Bridge Barrett's workmen had to do was to put in new sleeper walls, relay the joists, and then put down new boards upon the floor. In the course of that work, as plumbing was going on at the house, the foreman told the men that two boards running across the end of the room should be left up, so that the plumbing should not be interfered with. After all the boards, except these two, had been nailed down, orders were received to place air bricks in the front of the pantry wall. In order to do so it was necessary for the workmen to get down under the floor, and they actually got down through the space where the two boards had been left. None of Messrs. Barrett's workmen at any time nailed down the two boards which had been left. When they were left, these two boards were still up. In regard to Mr. Bridge Barrett, his attitude now was the same as it had been all along—that he was not responsible.

Evidence for the defence was then called. Answering questions left to them by the Judge, the jury found that the hole in the pipe, was caused by Messrs. Bridge Barrett & Co., and that Messrs. Eardley & Smyth acted reasonably in defending the counterclaim of Mr. White. His Lordship entered judgment for Messrs. Eardley & Smyth, the defendants, and left the amount to be paid to them to be assessed by Mr. Verey.

OFFICIAL REFEREE'S COURT. (Before Mr. H. W. VEREY.)

Builder's Claim against Surgeon Dentist.

Mr. Verey concluded, after a lengthy hearing, on November 4, the hearing of a claim by Messrs. R. Gulson & Sons, of Hampstead, builders and decorators, against Dr. Henry Wren Oliver, a surgeon-dentist, of 10, Park-crescent, Portland-place, of 675l. 6s., balance of an account for work done at 10, Park-crescent.

Mr. Kingsbury represented Messrs. Robert William Gulson and Alfred Gulson, suing as administrators of the estate of the late Robert William Gulson, their father, who traded under the style and name of B. Gulson & Sons. Mr. Nolson appeared for the defendant. The defendant formerly carried on business in Harley-street, but he was minded in 1903 to move to a better house at 10, Park-crescent, at which the plaintiffs were engaged by him to carry out decorative and repairing work, so that he might reside and practise his profession there. The total charges of the plaintiff came to 1,056l. 6s. 7d. Three payments on account totalled 361l. 0s. 7d., leaving 675l. 6s. 6d. due for the defendant paid a further 400l. into Court as sufficient to satisfy the claim.

Having heard evidence and arguments on both sides, the Official Referee said he thought evidence for the defendant was to be relied upon. He came to the clear conclusion, upon the whole facts of the case, that the 400l. paid to the Court, with the sum paid previously, was sufficient to satisfy the claim. There would be judgment for the defendant. Plaintiff would have the costs up to the date of the payment into Court, and defendant would have the costs thereafter. The 400l. would remain in Court until the costs were paid.

KING'S BENCH DIVISION: DIVISIONAL COURT. (Before the LORD CHIEF JUSTICE and Mr. JUSTICE DARLING.)

A Builder and the Insurance Act.

ON Friday, November 9, the Court heard an application made by Mr. Jellicoe on behalf of Mr. Walter Slate, a builder, of Islington, for a rule nisi for certiorari to the magistrate at the North London Police Court directing him to show cause why three convictions against Mr. Slate for non-compliance with the Insurance Act should not be quashed.

Mr. Jellicoe explained that Mr. Slate was charged at the Police Court on three informations preferred against him by an inspector under the Act, and charging him with having on July 20 and 27 and August 3 failed to pay an employee named Upchurch, contrary to the regulations in the Act.

The Lord Chief Justice: What is your point?

Mr. Jellicoe said he moved on three grounds, the first being that the regulations on which the conviction proceeded were invalid and inoperative on the ground that the Commissioners had not the power to exercise the Rules Publication Act, 1893.

In what respect? asked the Lord Chief Justice.

Because the Commissioners are not within the power of that statute at all, was the reply. The Lord Chief Justice: That is rather a

large question, and depends upon the language of the statute.

Mr. Jellicoe said the words he relied on in the Act were: "Or any other Government Department." Those words were not, in his submission, wide enough to cover the Insurance Commissioners. The next point was, that there was no jurisdiction in the magistrate to hear and determine the charges under the Summary Jurisdiction Act, 1879; and the third was, that the convictions did not disclose any offence under the National Insurance Act. The Court granted the rule.

COURT OF APPEAL.

(Before the MASTER OF THE ROLLS and Lords JUSTICES PARWELL and HAMILTON.)

A. C. Jones & Co. v. Electric Palaces, Ltd.

THIS was an appeal by the defendants from an order of Mr. Justice Joyce, whereby he granted a mandatory injunction or order directing them to remove an electric clock erected for the purpose of advertising an electric theatre. Their Lordships held that the clock was an alteration to the front of the building and a projection bringing the front forward. As such they decided that it came within the terms of a restrictive covenant, and the judgment of the Court below was affirmed.

Mr. Younger, K.C., who appeared for the appellant defendants, stated that the points raised by the appeal, were:—(1) Was Mr. Justice Joyce right, in holding that the clock came within the terms of the restrictive covenants? (2) If he was right, was there not sufficient compensation for the breach of the covenant in damages?

The respondents to the appeal, proceeded Counsel, were tobacconists, having a number of shops over and throughout London. One of these was situated in High-street, Clapham—at the corner of Venn-street, in which the appealing defendants had an electric theatre. Respondents' business at Clapham was carried on on the ground floor, and their only interest in the premises was under a lease. They had underlet the upper floor to the appellants for a term of years, and the latter, used these rooms for the purpose of advertising their electrical theatre by means of an electric clock regulated from Greenwich, and lighted up at night. A great many such theatres were so advertised. They got the permission from the London County Council, which was necessary before anything hanging over the street could be put up, and the erection of the clock was completed on April 15. On April 19 respondents' solicitors wrote asking appellants to apply for a licence. Appellants said they were willing to pay 10s. 6d. for the licence, but ultimately Messrs. Jones & Co. intimated that they would assert their strict rights. They also said that they were themselves under covenants with the head lessor which the clock broke. It now appeared, however, that the head lessor considered the clock an improvement to the premises, and the only question was one of bare law between these two parties.

The clause in the agreement, which, it had been held, was broken by the erection of this clock, read as follows:—

"The lessee will not make any alteration in the fore or side fronts, and shall not, nor will bring, the said fronts forward by any bows, projections, or building, nor make nor set up any buildings without the previous consent in writing of the lessors, their executors, or assigns. But the lessees shall be at liberty to erect, or assign, buildings in the rear of 192, High-street, Clapham, and erect other buildings to form an annexe to the electric theatre now in course of erection in Venn-street, and be permitted to fix or inscribe on their walls a fascia whose design has been approved by the lessors' surveyors."

The Master of the Rolls: The design which has been approved does not include the clock?

Mr. Younger: No; but it does include the projection, or we could not have put up the fascia. I submit the making and putting of a clock there is not within the meaning of the lease an "alteration"; and, secondly, that although it may be in a sense a projection, it is not a projection which brings the front forward. And no projection or building which does not bring the front forward is within any part of the covenant.

Lord Justice Hamilton: Would a balcony be a projection from the front or would it bring the front forward?

Mr. Younger: That would depend on the balcony.

The Master of the Rolls: A porch would certainly bring it forward.

Mr. Younger: The sort of distinction I would desire to draw is this:—One might say the front was brought forward if, as the result of the erection, you used that as part of the

In considering the hygienic claims of the gas-stove we must take into account, first, the way in which the heat passes from the stove to the room and its occupants. With the coal-fire this is done almost entirely by radiant heat, which does not directly raise the temperature

front. A substantial balcony, on which people might stand, would be different from, say, a banner or a flagpole, and I don't see how it could be said that a clock was a projection bringing the front forward. This case is no different from a flagpole or one of those signs sometimes hung outside of public-houses. The illustration of the flagpole is much in point. Music-hall people are essentially patriotic, and they might want to put out a flagpole with a flag on it to attract attention. I say that is not a projection, and plainly this clock is not. It is nothing more than the ordinary advertising of an electric theatre for the purpose of attracting the innocent public within our walls. We are within the cases with regard to the restriction as to alterations, and I submit we are not within the covenant at all in respect of projections.

Mr. Hughes, K.C., on behalf of the respondent plaintiffs, submitted that the erection of this clock came clearly within the terms of the covenant, and that therefore the learned Judge was quite right in making the order. The lessees under the lease were at liberty to fix facias whose designs had been approved. These designs were comparatively innocent when approved, but had become much more offensive now, and the clock was a very large projection, which came out 6 ft. from the front of the building and weighed about 3½ cwt. It was a considerable structure, and Counsel submitted it was an alteration of the fore or side front—that is, it was an alteration such as was contemplated in the restrictive covenant.

The Master of the Rolls intimated that it would not be necessary for Mr. Hughes to address the Court further, and the appeal was dismissed.

In giving judgment for the Court the Master of the Rolls said this was an appeal from the decision of Mr. Justice Ferge, and depended on the true construction of covenants in the lease. It was not disputed that if there had been a breach of the covenants the order of the Judge was right. In his opinion the putting up of this clock was a breach of at least two parts of the covenants, and the Judge was right in his decision and in the relief he granted.

Fourteen days were given to the appellants to remove the clock or come to terms with the other side.

LONDON COUNCILS.

Battersea.—The Medical Officer of Health, in his Annual Report for the past year, states that street-paving had been continued during the year, several additional streets having been paved with impervious material, to the already considerable number thus paved. He was convinced that much benefit had resulted from the adoption of this method of paving of the side streets in the poorer districts of the Borough, and the improved position which the Borough has attained in recent years in regards to its vital and morbid statistics is, to some extent, to be attributed to this hygienic innovation. This was not surprising when it was borne in mind that these streets form the playgrounds of the children who dwell in them, and that, moreover, much loss dust is formed and they are more readily scavenged.

Brentford.—At a recent meeting of the District Council Mr. Mills moved:—"That this Council, as the local road authority, consider the new road as proposed by the Road Board detrimental to the best interests of the district, and disapprove of, and will oppose, any scheme other than the widening of the existing High-street as approved at the recent Town's meeting." He said a new road would not get rid of the present congestion, because the heavy traffic would not be diverted, nor were the trams going to be transferred to the new road, so that Brentford had nothing whatever to gain by the provision of the new road when they were expected to help pay for. In the interests of Brentford he thought they should strongly oppose the scheme and concentrate upon the widening of the existing street. Mr. Poole thought they should press for the High-street widening first, and perhaps they would get the new road afterwards. Mr. Clements said that at the Road Board meeting they were told by Sir George Gibbs that whatever Brentford was prepared to give, the Road Board would not agree to the widening of High-street, and that the new road would be put through in spite of them. Dr. Walter said that, for the benefit of the town as a whole, he thought the new road would be the best thing, for it would open up a very large residential area. In the results, amendments were carried to the effect that no action should be taken until a scheme was submitted.

City of London.—The tender of Sir W. Arrol, Ltd., Queen Victoria-street, E.C. 4, has been accepted by the Bridge House Estates

Committee for reconstructing Southwark Bridge and its approaches.

East Ham.—Plans by the Surveyor have been approved for the erection of a public convenience at an estimated cost of 180*l*. Another convenience is also to be erected at the junction of Station and Leicester roads.

Fellingham.—The tender of Mr. T. Chapman, Hounslow, has been accepted at 375*l*. for constructing a 9-in. sewer in High-street.

Finchley.—A Local Government Board inquiry was held last week regarding the Council's application for a town-planning scheme. The case for the Council was conducted by Mr. E. H. Lister, who stated that from 1881 to 1911 the population had increased by over 28,000, and for the past six years houses had been erected at an average rate of about 400 a year. All the available building land in the district was gone for development, and as building operations might commence on any part of it at almost any moment the proper steps had been taken to bring the provisions of the Town Planning Act into operation at the earliest moment. The lands, the subject of the application, had an area in all of about 1,050 acres, and were divided into two areas. Of the first of these areas by far the largest portion was to the south of East End-road. It consisted of the unbuild-on land adjoining the southern boundary of the district, contained about 1,000 acres, and included some of the best building land in the district. A considerable portion had a southerly aspect, and was ripe for the erection of houses of a high class. Over 400 acres of this portion had already been acquired by the Hampstead Garden Suburb Trust and the Co-Partnership Tenants, Ltd., for immediate development in connexion with, and as an extension of, the Hampstead Garden Suburb. Both the Trust and the company were willing to co-operate with the Council in the preparation of a scheme. The lands in the second area two consist of unbuild-on lands in the southern portion of the district and areas occupied by large houses and glasshouses. The latter were included, as it was found that the large houses were being pulled down and the land developed as building estates on speculative lines. Mr. Lister proceeded to point out that if the area was not town planned there was a possibility that the much-needed means of communication between one part of the district and another would not be obtained. He had the strongest possible evidence that out of the 946 acres in area No. 1 between four and five hundred acres would be built upon immediately. Plans had been prepared in anticipation of the town-planning scheme. An agreement had been entered into between the Garden Suburb authorities and the Council for the drainage of the area, and the covenants had been entered into for the erection of property of the estimated value of 950,000*l*. He also understood that the Garden Suburb authorities were about to acquire 40 acres of the Ayden Estate in the Regent Park-road. The Council's Engineer (Mr. Jenkins) in evidence, said that the average number of houses erected for the last five years was 399, during his period of office, had escaped the worst attentions of the town-builder, so far as houses are concerned, but the development of the land, especially in small isolated estates, left very much to be desired. The district was, generally speaking, a high-class residential one, with the usual and necessary portion of houses for the working-classes, and it was felt desirable to ensure that the future development of the district should be on the best and most approved lines. It was the intention of the Council, generally speaking, to provide through access roads between existing trunk roads, and by means of cross roads to link up such access roads, and the existing roads in the neighbourhood. Mr. Raymond Unwin said that the Co-Partnership Tenants, Ltd., had expended 400,000*l*. in buildings at the Hampstead Garden Suburb. Negotiations had now been entered into by which the Hampstead Garden Suburb Trust had leased from the Ecclesiastical Commissioners 112 of this area, and a sublease in respect of 80 acres Partnership Tenants, Ltd. The company was also leasing direct from the Ecclesiastical Commissioners an area of 300 acres, on which it was proposed to build. In reply to the Inspector, Mr. Unwin, he said that there were roads. The lease granted to the Co-Partnership Tenants would be for 999 years, and they were under covenants with the Commissioners to protect large property in Bishop's-avenue and to build good property of a certain minimum value against it. Mr. Oliver, for the objector, to the scheme, submitted that the Council had not made out a *prima facie* case for the inclusion of that property in the scheme.

There was no chance of the land being put upon. If any such property came on the market it was immediately bought for residential purposes. When the town planning was first considered the Council did not think it necessary, the owner of "Elmhurst." Addition was issued, and the only logical result was that it was for the benefit of Partnership Tenants. Another also lodged on behalf of the owner of "Old House," East End-road, T. then closed.

Friern Barnet.—The Surveyor has furthered the application for the paving the footpaths in Beaconsfield, Victoria stone. Plans, for paving paths in seven other roads, have been approved. The estimated cost of the work is 350*l*.

Hendon.—The following plans have passed:—Messrs. Hamilton, five Woodville-road, Golder's Green; Mr. Simmonds, four houses, Heathside, Green; Mr. A. J. Reynolds, six in Ridgeway, Golder's Green; Mr. St. John, four houses, Golder's Green; Mr. W. Bradshaw, three houses, East-End-Oak; Mr. Peter S. Dollar, more Crickwood-lane, Crickwood; Mr. J. H. G. Golder, six houses, Golder's Green; Mr. J. H. G. Golder, six houses, Brookside; Mr. V. L. Reynolds, motor garage, Ho, Golder's Green.

Hertfordshire.—The Asylums Visiting Committee of the County Council have entered into a contract for the purchase of further land in the neighbourhood of the asylum buildings at Hill End, near Hemel Hempstead, for the purpose of providing further accommodation, practicable. In connexion with this it has also been decided to enter into with Mr. G. T. Hine, 35, Parliament Street, Westminster, S.W., the architect of the asylum, to erect a similar capacity in connexion with the proposed enlargement of 5 per cent., on the actual expended, and reasonable and necessary expenses. The Public Health Committee have been instructed to raise the sanatorium and dispensary accommodation required in the county. The tender of A. T. Catley, 25, Lloyd square, W.C. accepted, at 590*l*. for the construction of a new bridge at Holbrook Ford. Plans for the County Surveyor have been approved for the erection of a new bridge at the same place. The estimated cost is put at 1,000*l*. and tenders are to be invited for the same. The Surveyor has been instructed to carry out the work of erecting new the St. Paulswooden Schools at St. Pauls, and the President of the County of Education is to be interviewed with to obtaining the Board's sanction to the vision of a secondary school at St. Pauls. The Surveyor has been instructed to plans, specification, and estimates for the erection of a new bridge at the same place, to accommodate thirty-eight children.

Leyton.—The sewer in a portion of road is to be relaid with new 9-in. an estimated cost of 140*l*. Two triple handcraft centres are to be built on the Goodall-road and Mayville-road. The following plans have been passed:—Messrs. Cutts, Johnson, & Boddy, chapel, St. Margaret's, Woodhouse-lane; W. A. Finch, extensions to factory, Works, Skelton-lane; Mr. R. G. Golder, houses and garage, Forest Drive; plan has been lodged by Mr. J. E. D. six houses in Essex-road.

Ruislip Northwood.—The tender of Willis & Powis has been accepted, at 1,000*l*. extending the sewer in Frog-lane, and the footpaths in Green-lane, and the sewer in the road, the tender of Mann, at 76*l*., has been accepted.

Sunbury.—Plans have been approved for the widening of the Littleton and Charlton roads. At a recent meeting of the Council Mr. Johnson moved:—"That the sanction of the Local Government Board be obtained for the necessary loan for the provision of a engine power at the sewage works, installing a pair of ejectors near Gr. The estimated cost of the work is 2,400*l*." The motion was agreed to.

Watford.—The Surveyor has been instructed to prepare an estimate of the cost of a portion of Watford-crescent. The Messrs. C. Brightman & Sons, Ltd., has been accepted for the erection of a new bridge at Cassiobury Park. Plans have been passed for:—Messrs. J. Bonham & Sons, four houses, Bushey Mill-lane; Mr. A. for four houses, Euston-avenue; Messrs. J. C. Ltd., bank, High-street; Messrs. Bracey & Clarke, six houses, Ashby-lane; the King's Ward Conservative and Club, billiard hall, Harwood-road.

OBITUARY.

Mr. G. E. Grayson.

On November 7, is announced the death of George Enoch Grayson, of Green Egerton Park, Rock Ferry, aged seventy-eight years, the Liverpool architect, who was a Fellow of the Royal Institute of Architects in 1886, and served as municipal and of the Practice Standing. He was President of the Liverpool Architectural Society, 1886-7. Mr. Grayson was a member of the City Liberal Club, E.C., illustrated in the *Builder* of 1876. Messrs. Grayson & Ould, of Liverpool, were the architects of many buildings in that city, and in Cheshire, and the neighbouring counties. Of these we may mention several for Messrs. Lower Brothers at Port St. Barnabas, Rock Ferry, and St. Waterloo, churches; the Girls' Schools at Carlisle (Warwick-road), and the (Balliol-road), 1907-8; the Bank of Liverpool, Wrexham; "The Mount," a large house, Wrexham; the new buildings at Upton Asylum, near Chester, new 100 additional patients, and administration, 1899; Rainhill County Asylum; the Elmsmere Port for the Bank of Liverpool; the Bank, Heswall; and in Cheshire, the new buildings at Mersey Railway-station, illustrated in our *Builder* of February 23, 1885; Marine Offices; Leyland & Bullen's Bank; the Hospital, Mount Pleasant, 1903-4; Exchange Buildings extension, 1899; the new buildings at the Trinity Hall, with extension of the Master's Lodge; additions to Selwyn and the Clergy Training School; also Wick Manor-house, for the late Mr. W. Bidston, Bidston Court, Cheshire, a new house (1898), for Mr. R. W. Wootton Parish Church; and, in competition, Hoylake Cottage Hospital, A. Lyle Ould, F.R.I.B.A., died on November 1, 1909, aged fifty-six years.

Mr. F. G. Debenham.

Frank Gissing Debenham, F.S.I., who died November 7, at Chesham Park, Hertford, was, until lately, principal partner of Messrs. Debenham, Tewson, and Co., formerly Messrs. Debenham, Farmer, & Bridgewater, of the Liverpool, auctioneers, land surveyors, and agents. Mr. Debenham was a resident authority upon commercial properties; he was a director of the Mart Company, Ltd., and a liberal member of the Incorporated Auctioneers' Fund. He was elected a Fellow of the Institution in 1868. His two sons, F. B. and Mr. H. B. Debenham, are partners of the firm.

Mr. E. B. L'Anson.

It is to announce the death, on November 7, of Mr. Edward Blakeway L'Anson, of St. John's College, F.S.I., aged 74 years, of 74, Laurence Pountney, architect and surveyor. Mr. L'Anson was the elder son of Edward L'Anson, of Hindhead (who died January 18, 1850), with whom he practised under the firm of Messrs. L'Anson & Son. He was the architect of the St. Mary, built in 1820; in 1865 he became a member of the Architectural Association, and for many years an Examiner, member of the Institution, 1903-4, and was elected for 1912-3 resident, Surveyors' Institution. Mr. L'Anson was the architect of the St. Mary, built (Manor-place), baths and wash-house, erected in 1895-7 at a cost of 40,000; almshouses at Charlton, built by the Trustees of the Dutch Church, Liverpool (May 14, 1877); Corn Exchange, E.C. (June 24, 1882); St. Luke's, Cornhill (June 30, 1888*); St. Luke's, Grayshott (1899-1900), in the Early style, and the "Three Cups," Colchester, built by the St. Mary, in Public Libraries; and the London Commercial Sale Rooms in Mark Lane, E.C., erected in 1891-2 at a cost of 90,000. As Surveyor to the St. Bartholomew's Hospital, he carried out some extensive sanitary improvements of the hospital buildings, and his main work and designs for the sites of Nos. 193-221, City-C., and, in conjunction with Mr. Plunbe, for the rebuilding, at an

estimated cost of about 300,000. of the hospital (July 23, 1904,* outpatients' and "casualty" departments, dispensary, officers' quarters, dinner hall, common-rooms, etc., Gillspur-street front), of which the late King laid the first stone on July 6, 1904, and the first portion was built by Messrs. Dove Brothers, who contracted for about 150,000. He was the architect of the General Steam Navigation Company's head offices, Trinity-square, E.C. (1906), and warehouses in Park-street, Southwark (June 30, 1888*), these jointly with Mr. E. Haslehurst; for the reparation, with removal of human remains and other works, St. Magnus Church, London Bridge, 1883; Convalescent Home, Craig-y-don, Llansudno; Lord Chief Justice, Lord Alverstone's, Cottage Hospital, Shanklin, I.W.; and for the laying-out of new roads and streets and the building of houses, for the South London and Streatham Estates, Ltd., and the Drew and Morimer Estates at Streatham and Tooting, in Camberwell; Wandsworth, Streatham High-road, Canterbury-grove, Norwood, and elsewhere in the south-western suburbs. Mr. L'Anson was employed in several important cases of arbitration or assessment, comprising, by appointment of the Local Government Board, the London County Council's assessment of improvement charges for the southern approach to Tower Bridge; and the award (6,100l.) out of the City consolidated rate to the Governors of Bethlehem and Bridewell Hospitals, in the matter of the widening of Tudor-street, Whitefriars. He was elected to the Council of the Architects' Benevolent Society, 1911-2 and 1912-3, and made liberal donations to the fund, as well as to the New Premises Fund, Architectural Association. Mr. L'Anson was a prominent member of some City Guilds, he was a Warden, and Master, 1911-2, of the Merchant Taylors' and Warden, 1911-2, of the Ironmongers' Companies. In 1898 he was one of the six architects nominated to compete for the St. Pancras (Kentish Town) Baths, to cost about 64,000l. The funeral is fixed for to-day at Grayshott.

PATENTS.

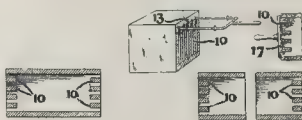
APPLICATIONS PUBLISHED.*

- 23,443 of 1911.—Ethel Bessie Sanders: Air inlets for building and the like.
- 23,659 of 1911.—Harry Johnson and George Paddison: Kitchen and like fireplaces.
- 24,037 of 1911.—Nathaniel Roe: Gearing more particularly adapted for use with awnings.
- 24,124 of 1911.—Jonas Walter Ayleworth: Plastic compositions and method of preparing the same.
- 24,187 of 1911.—Alfred Squire: Domestic stoves.
- 24,481 of 1911.—Harry Vaughan Rudston Read: Apparatus for use in extinguishing fires.
- 24,546 of 1911.—Henry Frank Berry: Heating and drying of stone and other materials for use on roads and like surfaces.
- 27,196 of 1911.—John Spencer, Ltd., Thomas Spencer, Herbert Spencer Smallman, and Spencer Horton: Valves and fittings for controlling the water supplies for installations of automatic sprinkles and fire-alarms.
- 27,856 of 1911.—Robert Charles Sugg: Valves used for the flushing of water-closets.
- 19 of 1912.—Walter Jones: Sprinklers for sewage and other liquids.
- 2,554 of 1912.—Polydore Wenmaekers: Construction of cement and the like foundations and ground anchorages.
- 2,782 of 1912.—Robert Head: Combined closure and faucet.
- 11,069 of 1912.—William Mayo Venable: Temporary forms or supports for casting concrete floors *in situ*.
- 11,375 of 1912.—Hans Munding: Means for treating smoke in chimneys.
- 11,489 of 1912.—Adolf Bleichert & Co.: Carriages for ropeways and the like.
- 13,427 of 1912.—Theophile Victor Louis Boile: Portable scaffolds.
- 14,646 of 1912.—Industrie Gesellschaft, m.B.H.: Closet seat and process of manufacture.

SELECTED PATENTS.

13,956 of 1911.—Ferdinand Burchartz: Hollow building-blocks.
This relates to hollow building-blocks wherein each block is first formed with spaced partitions 10 extending the whole length, and is then cut into two parts: the partitions are removed from each part for a distance from

the centre by a wire or other cutter 13, and the two parts are reunited. The space between

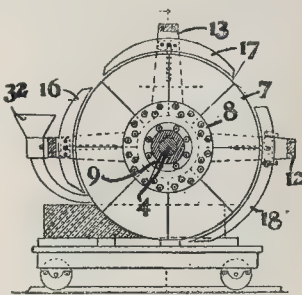


13,956 of 1911.

the partitions may be lessened by splaying the material with a toothed plate 17.

14,031 of 1911.—James Joseph Smith: Sawing-stone.

This relates to a rotary stone-cutting saw in which magnetism is employed to hold abrasive material to the cutting edge, and pole-pieces are provided to give maximum attraction at the periphery of the saw. An electro-magnetic field is employed. The saw consists of V-jointed plates 7 connected by

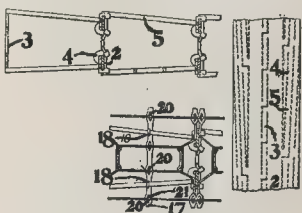


14,031 of 1911.

rings 8 and hugs 9 to the shaft 4, which forms the core for an electro-magnet on each side of the saw. The magnets carry-rings, to which spring-pressed brushes convey current. Mounted in the bearing of the shaft 4 are cup-like shields having arms 12, 13, carrying radially adjustable pole-pieces 15, 17, 18. The pole-piece 18 is also pivotally adjustable. Abrasive material is fed from a hopper 32.

14,506 of 1911.—Harold Clinton Ferree: Reinforced concrete.

This relates to an expanded metal reinforcement for concrete structures, which comprises stud members 2, connected in their own plane by members 3, and side members 5, which are expanded transversely to the plane of the members 2, and are provided with integral



14,506 of 1911.

hooks 4 for securing adjacent reinforcements together. Moulding-forms and cores for hollow walls may be supported from the expanded metal frames by means of sheet-metal strips 17 formed with tongues 18, and eyes for the reception of long wire stays 20 and wedging-nails 21.

BARNARD CASTLE SEWAGE DISPOSAL.

The Barnard Castle Urban District Council have instructed Messrs. Taylor & Wallin (Mr. Harry W. Taylor, A.M.Inst.C.E.), of Newcastle-on-Tyne and Birmingham, to report upon the condition of the existing sewerage farm, with a view to its extension and improvement.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

* Illustrated in the *Builder*.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number; Competitions, —, Contracts, iv. vi. viii. x.; Public Appointment, xx.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

. It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

NOVEMBER 25.—**Newcastle-on-Tyne**.—SCHOOLS.—Limited to local architects. Particulars from the Education Office, Northumberland-road, Newcastle-on-Tyne.

NOVEMBER 29.—**Langside, Glasgow**.—BRANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson, A.R.S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

NOVEMBER 30.—**Balham**.—SWIMMING-BATH.—The Wandsworth B.C. invite designs. See advertisement in issue of August 16. Particulars from Mr. E. Dodd, 215, Balham High-road, S.W.

DECEMBER 2.—**Carlisle**.—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

DECEMBER 7.—**Rome**.—BRITISH SCHOOL AT ROME. SCHOLARSHIP IN ARCHITECTURE.—2000. per annum for three years. Particulars from Mr. Evelyn Shaw, 54, Victoria-street, S.W.

DECEMBER 20.—**R.I.B.A.** Competitions.—All work for the Studentship and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913.—**Dublin**.—MUNICIPAL BUILDINGS.—Assessor, Mr. Albert E. Murray, A.R.S.A. Conditions from the City Treasurer, Dublin. Deposit, 2l. 2s.

FEBRUARY 3, 1913.—**Harrogate**.—SCHOOL.—The Harrogate Education Committee invite designs for a Council school in Slipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 22, 1913.—**Jordanhill, Glasgow**.—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 2, page 635.

MARCH 1, 1913.—**Rangoon**.—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings, Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913.—**Sofia**.—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see p. 173, August 9, and p. 350, September 27).

MARCH 1, 1913.—**Winnipeg**.—CITY HALL.—Particulars from Mr. A. Waugh, City Hall, Winnipeg. See page 509, November 1.

NO DATE.—**Dursley**.—WORKMEN'S DWELLINGS.—The Parish Council of Dursley, R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in issue of October 25 for further particulars.

NO DATE.—**Folkestone**.—PROPOSED KURSAAL.—Cost not to exceed 20,000l. Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 9.

NO DATE.—**Motherwell**.—HIGH SCHOOL.—Dr Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 15.—**Newquay**.—TANKS, ETC.—For the erection of dyke and tanks at Per, Hensbarrow China Clay Ld. Particulars on deposit of 2l. 2s. from Messrs. Cowell & Cowell, Central-chambers, Newquay.

NOVEMBER 15.—**Rhondda**.—ALTERATIONS.—For the carrying out of alterations at the girls' and infants' departments of the Cwncyl-ydach Council School. Plans and specification seen, and quantities and tender forms from the Architect, Mr. Jacob Rees, Hillside Cottage, Pentre. Deposit of 1l. 1s.

NOVEMBER 16.—**Blaenrhondda**.—INSTITUTE.—For erection of branch institute at Blaenrhondda for the Fernhill and Blaenrhondda workmen. A deposit of 2l. 2s. for quantities to Mr. W. D. Morgan, M.S.A., architect, 194, Ystrad-road, Pentre Rhondda.

NOVEMBER 16.—**North Anston**.—CLUB.—For the proposed new Working Men's Club, North Anston. Quantities on deposit of 1l. 1s. Mr. John W. Winter, architect and surveyor, St. Peter's Close, Sheffield.

NOVEMBER 16.—**Rochford**.—BLOCK.—For erection of an age and infirm block at the Workhouse, Rochford. Names to the architect, Mr. Walter J. Wood, 39, Alexandra-street, Southend-on-Sea. Deposit of 1l. 1s.

NOVEMBER 18.—**Cloughton**.—VESTRIES.—Erection of new vestries at the Church of St. Mary, Cloughton, Yorks. Quantities from Messrs. W. S. Walker, F.R.I.B.A., & Son, architects, 77, Lowgate, Hull.

NOVEMBER 18.—**Port Talbot**.—FURNITURE, ETC.—For new shop front and fixtures at the Co-operative Stores, Pontypridd, near Port Talbot. Plans, drawings, and specification with Messrs. Evans & Jones, M.S.A., architects and surveyors, High-street, Port Talbot.

NOVEMBER 18.—**Resolven**.—STORES, ETC.—Erection of stables, coach-house, stores, etc., for the Resolven Co-operative Society. Plans, specification, and quantities to Mr. J. Cook Rees, M.S.A., Parade-chambers, Neath.

* NOVEMBER 18.—**Staines**.—SANITARY CONVENIENCE.—The Staines U.D.C. invite tenders for a small sanitary sewer, and specification in this issue for further particulars.

NOVEMBER 18.—**Stornoway**.—ADDITIONS.—For alterations and additions to Stornoway Post-office. Drawings, specification, and conditions and form of contract at Stornoway or Inverness Post-offices. Quantities and forms of tender at H.M. Office of Works, 3, Parliament-square, Edinburgh. Deposit of 1l. 1s.

NOVEMBER 20.—**Brodie**.—STORE.—For erection of a store at Brodie Station, for the Forres and District Farmers' Association, Ltd. Plans and specifications at Brodie Station.

NOVEMBER 20.—**Cardiff**.—MARKET.—Construction of a livestock market at Sloop-road. Drawings, specification, and deed of contract seen, and form of tender, with quantities, at the City Engineer's Office, City Hall.

NOVEMBER 20.—**Chorley**.—ROOM.—For erection of a skin-cleaning room, etc., at the public slaughter-houses. Plans seen, and quantities at the Borough Surveyor's Office. Deposit of 10s. 6d.

NOVEMBER 20.—**Dewsbury**.—HOUSE.—For erection of a dwelling-house in Northfield-road West, Dewsbury. Plans seen, and quantities from Messrs. Kirk, Sons, & Ridgway, F.R.I.B.A., architects, Market-place, Dewsbury.

NOVEMBER 20.—**Oldham**.—SHOPS.—For erection of a number of lock up shops adjoining the Victoria Market Hall. Plans and specifications seen, and quantities and form of tender at the Borough Surveyor's Office.

NOVEMBER 20.—**Swallowfield**.—COTTAGES.—For the erection of a pair of cottages at Risleey, Swallowfield. Plans seen, and quantities at Mr. William Yee, jun., Clerk to the Council, Risleey, Swallowfield.

NOVEMBER 21.—**Lepton**.—INSTITUTE.—For erection of a church institute at Lepton, near Huddersfield. Drawings seen, and quantities from Messrs. J. B. Abbey & Son, 344, New-street, Huddersfield.

NOVEMBER 21.—**Romford**.—SHED, ETC.—For erection of a new cart-shed and paving the stable yard at town yard, Market-place. Specification and forms of tender from Mr. H. T. Ridge, Council Offices, Romford.

NOVEMBER 21.—**Wednesbury**.—ALTERATION.—For alteration of premises in the Market-place, known as 30 and 31, into institute buildings, for the Foresters' Institute. Specifications and particulars from Messrs. Scott & Clark, architects, Lower High-street, Wednesbury.

* NOVEMBER 22.—**West Ham**.—ADDITIONS, ETC.—The County of Essex Territorial Force Association invite tenders for alterations and additions to "The Cedars," Portway, West Ham. See advertisement in this issue for further particulars.

NOVEMBER 23.—**Morley**.—PREMISES.—Erection of additional premises at Wesley-street Mills, Morley, for Messrs. C. South & Sons, Ltd. Plans and specifications seen, and quantities from Mr. T. A. Buttery, Lic.R.I.B.A., architect, Queen-street, Morley.

NOVEMBER 23.—**Rochdale**.—HOUSE, ETC.—For erection of a bandstand (steel and wood) for Falinge Park; shelter and bowl-house for Bursell Bowling Green, and other buildings at Mr. F. W. Hathaway, A.R.I.B.A., Town Hall.

NOVEMBER 23.—**Tynemouth**.—ALTERATIONS.—For structural alterations to the buildings recently occupied by the children at the Union Workhouse, 50, Preston-road, North Shields. Plans seen, and specification and quantities from the architect, Mr. V. Stockdale, A.R.I.B.A., at 81, Howard-street, North Shields.

NOVEMBER 25.—**Bratford**.—REPAIRS, ETC.—For the execution of ordinary works and repairs to the buildings in the Bratford, Yorks, district. Conditions and form of tender, with particulars, on deposit of 1l., from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.

NOVEMBER 26.—**Portsmouth**.—HOUSES, ETC.—Erection of twenty-two houses on the west side of Curzon-Howe-road, Portsea; erection of seven houses on the east side of Curzon-Howe-road, and four houses in Kent-street, Portsea, together with a wall and iron for Deposit of 2l. 2s. for quantities. Forms tender at the Borough Engineer's Office at Town Hall, Portsmouth.

* NOVEMBER 29.—**Atherstone**.—POST-OFFICE.—The Commissioners of H.M. Works and Buildings invite tenders for erection of new post office. See advertisement in this issue for further particulars.

* NOVEMBER 29.—**Shrewsbury**.—EXTENSION SORTING-OFFICE.—The Commissioners of H.M. Works and Buildings invite tenders for extension of sorting-office. See advertisement in this issue for further particulars.

* DECEMBER 3.—**West Ham**.—HANDICAP CENTRE.—The West Ham Education Committee invite tenders for a handicapped centre at Upland School. See advertisement in this issue for further particulars.

DECEMBER 3.—**Oswaldtwistle**.—SCHOOL.—Erection of an elementary school at Oswaldtwistle. Plans seen, and quantities from the Council Architect, Mr. Henry Lutter, 16, Ribblesdale, Preston. Deposit of 2l.

* DECEMBER 4.—**Cardiff**.—VERANDAH.—Metropolitan Asylums Board invite tenders for erection of verandah at Queen Mary's Hospital. See advertisement in this issue for further particulars.

DECEMBER 4.—**New Nunston**.—SHELTERS.—For the erection of shelters at the foot of the Green, and drawings and specification at the office of the Council, Greavegate-road, New Nunston.

* DECEMBER 5.—**Wrotham**.—SCHOOL. EXPLANATION.—The Kent Education Committee invite tenders for enlargement of Council School, Borough Green. See advertisement in this issue for further particulars.

DECEMBER 5.—**Abergavenny**.—PAVILION.—Erection of the Eisteddfod pavilion in Bai Park, Abergavenny. Plans, specifications, and quantities from the architect, Mr. B. J. Francis, Linden House, Abergavenny. Deposit of 2l.

* DECEMBER 12.—**Wandsworth**.—EXTENSION RECEIVING WARD.—The Wandsworth Guardians invite tenders for alteration and extension of receiving ward at Wandsworth, S.W. See advertisement in this issue for further particulars.

18.—**Birmingham**.—HOMES.—Erection of homes for epileptic and feeble-minded children and adults, a school, an administrative block, assembly-room, and other buildings at Kings Heath, Birmingham. Plans and specifications by Messrs. C. Whitwell & Sons, architects, Newhall-street, Birmingham. Quotes by Mr. J. L. Williams, quantity surveyor, Temple-row, Birmingham. Deposit of 25s.

* DECEMBER 19.—**Tonbridge**.—SCHOOL.—The Kent Education Committee invite tenders for new Council school at Sussex-road, and old buildings. See advertisement in this issue for further particulars.

NO DATE.—**Chesterfield**.—OFFICES.—Erection of new offices at the Chatsworth Wagon Works, Whittington, Chesterfield. Plans, specification and quantities from Mr. W. C. Jackson, M.S.A., architect and surveyor, 6, Stephens-place, Chesterfield.

NO DATE.—**Leeds**.—PICTURE HOUSE.—Erection of the Lyceum Picture House, in Cardigan-street, Leeds. Plans and specifications by Messrs. Thomas Winn & Sons, architects, 84, Albion-street, Leeds.

NO DATE.—**Mexborough**.—PREMISES.—Reconstruction of business premises, High street, Mexborough, for Messrs. Hunters, the Tread Ld. Messrs. W. W. Wrigley, A.R.I.B.A., 2, King-street, Wakefield.

NO DATE.—**Radcliffe**.—HOUSES.—For erection of ten houses in Dumers-lane. Plans and specifications at 154, Cross-lane, Radcliffe.

NO DATE.—**Rosammon**.—LIFT.—For rebuilding the Rose and Crown Inn, Rosammon, Caerns. Plans and specification seen, and quantities from Mr. J. C. Rees, M.S.A., Parade-chambers, Neath.

ENGINEERING, IRON, AND STEEL

NOVEMBER 22.—**Carrick**.—BRIDGE.—For reconstruction of the Stinchard Bridge, Portlerry, by reinforced concrete bridge, or by steel girder bridge, with concrete abutments. Plans and sections, with specifications and form of tender, from Mr. Robt. Moir, Road Surveyor, Maybole.

ENGINEERING, etc.—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or a series of those willing to submit tenders, is to be sent in.

November 23.—Kneassall.—PUMPING-STATION.—For the laying of mains and wrought-iron pipe lines, and erection of brick service reservoir and pumping-station. Plans seen, and quantities on the Engineer, Mr. W. H. Radford, C.E., Lion-chambers, King-street, Nottingham, on post of 9/- 2s.
November 25.—Aberdeen.—LIFTS.—For erection of six electrically-worked luggage lifts, for Aberdeen Joint Station Committee, Engineer, J. A. Parker, 80, Guild-street, Aberdeen.
December 7.—Morthyr Tydall.—RESERVOIR.—Construction of a reservoir (the Taf Fechan reservoir) near the Pontsticill Junction of the eon and Morthyr Railway, with its outlets, discharges, and other ancillary works, also laying and laying of about fifteen miles of ston pipe. Drawings seen, and specifications and quantities from Sir Alex. Binnie, Son, & Deacon, St. Stephen's House, Victoria-bankment, London, S.W. Deposit of 5/-
December 17.—Watford.—PLANT.—For the delivery and erection of two triple-expansion pumping plants. Conditions and specifications on the Engineer, Mr. D. Waterhouse, Council offices, Watford. Deposit of 10/-

FURNITURE, PAINTING, MATERIALS, etc.

November 15.—Huddersfield.—PAINTING.—For painting the external wood and iron work of shop fronts in Buxton-road, Huddersfield. Specifications and general conditions seen, and quantities and forms of tender from Mr. K. F. Campbell, 1, Peel-street.
November 15.—Preston.—PAINTING.—For painting the outside of the Free Public Library buildings. Specifications, conditions, particulars, and form of tender at the office of the Borough Engineer and Surveyor, Town Hall, Preston.
November 18.—Tadworth.—PAINTING.—For painting in the Workhouse Infirmary. Specification at the office of Mr. F. Hollinrake, Clerk, Police Offices, London.
November 19.—Newcastle.—PAINTING.—For painting, etc., the interior of the Westgate police fire brigade station. Specifications seen, and quantities from the City Estate and Property Surveyor's Office, Town Hall, Newcastle-on-Tyne.

November 20.—Hull.—FITTINGS, ETC.—For the electric lighting, fittings, and electric bells for the Teachers' Training College, Cottingham-road, Hull. Particulars from the City Treasurer, Guildhall, Hull. Deposit of 1/- 1s.
November 30.—Norbury.—FURNITURE.—The Croydon Education Committee invite tenders for supply of school furniture. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

November 15.—Brighton.—FLINTS.—For supply of 4,000 cubic yds. of hand-picked land flints for high-ways. Specification and form of tender from the Borough Surveyor, Town Hall, Brighton.
November 16.—Birmingham.—PIPES, ETC.—For the supply of cast-iron pipes, special castings, etc. Forms of specification from Mr. E. Antony Leese, Secretary, 44, Broad-street, Birmingham.
November 16.—Halifax.—SEWAGE.—For the construction of about 2,320 yds. of 9-in. earthenware pipe sewers in Skarcliffe-lane, Kell-lane, The Haugh and Upper-lane, Northowram. Plans and specification seen, and forms of tender from Mr. J. Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax. Deposit of 10/-
November 18.—Baglan.—DIVERSION.—For diversion of the Aberavon and Briton Ferry main road between the Baglan Engineering Works and Pentwyn Farm, Baglan. Plans and specification seen, and quantities at the Police-station, Briton Ferry, and at the County Surveyor's Office, County Hall, Cardiff.
November 18.—Blackburn.—STREETS.—For forming and paving Wareham-street and Douglas-place, and asphaltizing Alexandra-road and Belchior-street. Plans and specifications from Mr. W. Stubbs, A.M.Inst.C.E., Borough Engineer, Municipal-buildings, Blackburn.
November 18.—Briton Ferry.—DIVERSION.—For a diversion of the Aberavon and Briton Ferry main road between the Baglan Engineering Works and Pentwyn Farm, Baglan. Plans and specification seen, and quantities at the Police-station, Briton Ferry, and at the County Surveyor's Office, County Hall, Cardiff.
November 18.—Tamworth.—SEWAGE.—For the construction of about 450 yds. of 9-in. pipe sewers near the cemetery, on the Wiginton-road, about 140 yds. of 6-in. pipe sewers at Hopwas, and

90 yds. of 6-in. pipe sewers at Mount Pleasant, Wincote. Particulars from Mr. H. J. Clarson, Engineer and Surveyor, 22, Church-street, Tamworth.

November 21.—Southend.—ROADS.—For the making-up of Hildaville-drive, Lovelace-gardens, Westborough-road, Grand-drive, Fleetwood-avenue, and Storrway-road, Plans and specification seen, and quantities and forms of tender, on deposit of 1/- 1s., from Mr. Ernest J. Elford, M.Inst.C.E., Borough Engineer and Surveyor.

November 26.—Gloucester.—SEWAGE.—For a main outfall sewer passing under Great Western Railway Dock Branch embankment; sinking and lining two cast-iron shafts, driving and lining a cast-iron tunnel. Drawings seen, and specification, form of tender, and quantities from Messrs. Wm. Fox, F. W. La. Trobe-Bateman & J. R. Fox, 5, Victoria-street, Westminster, or the Surveyor, Mr. R. Read, Guildhall, Gloucester, on deposit of 5/-

November 26.—Southgate.—STREETS.—For the execution of works of private street improvement. Plans with the Council's Surveyor, Mr. C. G. Lawson, C.E. Deposit of 2/-

November 26.—Swansea.—STREETS.—For private street works in the Back-road between Eaton-crescent and Gwydd-crescent, and the Back-road between Beechwood-road and Sketty-road. Plans and specifications seen, and tender forms at the offices of the Borough Surveyor, No. 13, Somerset-place.

November 27.—Birmingham.—MATERIAL.—For the supply of road material. Forms from the County Surveyor, 6, Waterloo-street, Birmingham.

November 27.—Swansea.—WORK.—For the whole of the work and the materials required in paving the carriageways and laying of tramways in streets, having a route length of nearly 1,000 yds. Plans seen, and particulars from Mr. George Bell, Borough Surveyor, Swansea. Specification, general conditions, quantities, and form of tender on deposit of 5/- 5s.

November 30.—Seaford.—GRANITE.—For supply of 600 tons of granite flags, and 200 tons of 1-in. broken granite. Forms from Mr. W. H. Pawson, Clerk, 3, Clinton-place, Seaford, Sussex.

December 3.—Bromley Kent.—STREET IMPROVEMENT.—The Bromley B.C. invite tenders for sewerage, levelling, paving, metalling, channelling, and making good Brackbrook-lane and portion of Barfield-road, See advertisement in this issue for further particulars.

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
COUNTS, STOCK, AND PRIME COST CLERK	Hackney Borough Council ..	180/- per annum.....	Dec. '12

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
ASONS' AND JOINERS' MATERIALS, CHELSEA, S.W.—On the Premises	Tyler & Co.	Nov. 19
WILDER'S PREMISES, BATTERSEA, S.W.—On the Premises	Douglas Young & Co.	Nov. 30
DR. & CONTER STOCK, PLANT, & MACHINERY, BATTERSEA—On the Premises	J. T. Skelding & Holland	Nov. 23
REMODEL BUILDING SITE, BECKHURST ROAD, S.E.—At the Mart	Edwin Fox, Bonsfield, Burnetts, & Baddeley	Dec. 4
REMODEL BUILDING SITE, BECKHURST ROAD, S.E.—At the Mart	Horne & Co.	Dec. 10
REMODEL BUILDING SITE, BECKHURST ROAD, S.E.—At the Mart	Horne & Co.	Dec. 10
REMODEL SITE OF KING'S COLLEGE HOSPITAL, W.C.—Sale by Tender	Wenthorall & Green	Dec. 18

RECENT SALES OF PROPERTY : ESTATE EXCHANGE REPORT.

October 21.—By ROSE, LOVE & SONS and, etc., Somerset.—Five Farms, 475 a. 1 r. 2 p., f. 210,875
October 25.—By STEPHENSON & ALEXANDER (WITH ALFRED SAVILL & SONS).—Erstoun-Super-Ely, Glamorgan.—Farms and accommodation land, 202 a. 2 r. 5 p., f. 6,175
October 26.—By STEPHENSON & ALEXANDER (WITH ALFRED SAVILL & SONS).—Glamorgan.—Tynewydd Farm and 77 a. 3 r. 20 p., f. 3,905
October 28.—By ELLIOTT, SON, & BOTTON.—Clydeholm.—63, Welbeck-st., ut. 51 yrs., g.r., etc., 500, 10s. gross rental, 10s. 6d., g.r. 12s. 12s. 3d., ut. 130s. 2,100
October 29.—By PERKINS, HOBSON, and, etc., Essex.—Tanners Holding and 25 a. 0 r. 30 p., f. 540
October 30.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400
October 31.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400
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November 5.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400
November 6.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400
November 7.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400
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November 100.—By BRAIN & CAPES.—Ham.—170, Lillie-rd. (s.), ut. 65 yrs., g.r. 100, y.r. 50/- 400

By WILKINSON, SON, & WELCH.
Brighton—39, Southdown-av., f., y.r. 38/- 2350
3, Chapel-rd., mews, f., p. 550
October 22.—By WEATHERALL & GREEN.
Kilburn—1, 2, 3, 5, and 7, Broadwater-mews, ut. 25 yrs., g.r. 21/-, gross rental 154/-, Forest Hill. 26 and 28, Dalmain-rd., ut. 51/2 yrs., g.r. 10/-, gross rental 53/- 6s. 135
Goodman—Aberdour-gdns., f.g. rents 68/- 11s. 1,371
By F. WARMAN.
Highbury—47, Leigh-rd., ut. 46 yrs., g.r. 12/-, e.r. 55/- 285
By M. PHILIP.
Trove Hill—No. 166, f., p. 675
Stueham—36, Glemmole-rd., ut. 81 yrs., g.r. 8/- 10s., e.r. 45/- 325
Kensington—48, Argyle-rd., ut. 51 yrs., g.r. 8/-, w.r. 59/- 10s. 125
By HUBERT & HATMAN.
Stockwell—123, Dallyell-rd., ut. 59 yrs., g.r. 6/-, y.r. 23/- 1s., e.r. 45/- 275
Hammersmith—Elm-gr., f.g. 14/-, ut. 27 yrs. 175
By Wm. STICKNEY & SONS.
Ryhill, Yorks.—Farm and 94 a., f. 3,635
By J. C. PLATT.
Hammersmith—41, Kilmarnock-rd., ut. 53 yrs., g.r. 6/-, y.r. 30/- 200
By HARRY BALL.
Bedford—65, Midland-rd., f., y.r. 35/- 620
48 and 50, Bowser-st., f., y.r. 24/- 370
11 and 13, St. Leonards-av., f., y.r. 28/- 7s. 450
21 and 23, Park-rd., f., y.r. 25/- 395
40 to 48 (even), Pilgriff-st., f., w.r. 52/- 250

October 30.—By BROSIE, THOMAS, & Co.
Knightsbridge—37 to 45 (odd), Kimerton-st., 1 to 4, Capen-rd., profit rentals of 173/-, ut. 4 to 13 yrs. 2,648
2, Little Cadogan-pl., beneficial lease for 20 yrs., at 30/-, with possession 200
Kensington—3 and 5, Leitham-mews, ut. 28/2 yrs., g.r. 4/-, y.r. 55/- 330
By DEASON & LESTER.
Harlesden—40, Bruce-rd., ut. 58 yrs., g.r. 6/-, w.r. 38/- 165
Willesden—16 and 18, Westbury-rd., ut. 57 yrs., g.r. 10/- 10s., w.r. 63/- 14s. 190
Acton—15, 17, 25, 27, and 29, Ramsey-rd., and Ramsey House, ut. 57 yrs., g.r. 31/- 10s., w.r. 234/- 725
By DYER, SON, & HURCO.
Eltham—Southend-rd., Rutshall Lodge and stabling, f., y.r. 70/- 1,100
By HATCH & HATCH.
Stepney—83 and 85, Grove-st., f., w.r. 70/- 4s. 350
By WHEELER & WHEELER.
Muswell Hill—16, Grove-ave., f., y.r. 47/- 10s. 590
By GERMAN & GERMAN.
Barrow-on-Trent, Derby.—Trent Cottage and 18 a., f. 1,487
October 31.—By CHAS. CANEY.
Camberwell—3 and 7, Gloucester-rd., ut. 42 yrs., g.r. 9/- 2s., w.r. 83/- 14s. 290
103, Knatchbull rd., ut. 56 yrs., g.r. 10/-, e.r. 60/- 200
4, De Crespigny-pl., ut. 22 yrs., g.r. 10/-, e.r. 60/- 165

OILS, &c. (Continued).

White Ground English White Lead, per ton	80 5 0
not less than 5 cwt. lots)	
Lead, Dry	27 0 0
Lined Oil Putty	per cwt. 10 0 6
Extra Hard Church Oak	per barrel 12 0 0

VARNISHES, &c.

Per gallon.	£ s. d.
Pale Oak Varnish	1 0 0
Copal Oak	10 0 6
White Pale Elastic Oak	10 0 6
Extra Hard-drying Oak, for seats of	10 0 0
urines	14 0 6
Elastic Carriage	12 0 0
Pale Elastic Carriage	10 0 0
Pale Maple	10 0 0
St. Pale Durable Copal	10 0 0
Pale French Oil	1 1 0
hell Flating Varnish	10 0 0
Pale Enamel	1 4 0
Pale Paper	10 0 0
Japan Gold Size	10 0 6
Black Japan	10 0 0
and Mahogany Stain	0 9 0
Black	0 8 0
Black	10 0 0
Black	10 0 9
Black and Brush Polish	10 0 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

BARNSELEY.—For erection of wholesale shops off Midland-street, with other works. Mr. J. Henry Taylor, Borough Surveyor, Barnsley. Quantities by Borough Surveyor—

Wholesale Shops.
G. Haigh Harborough Hills-road, Barnsley* £355

Cattle Market—Iron and Steel Work.
Elwell Ltd., Birmingham* £285

Cattle Market—Paving and Draining.
C. D. Potter, Doncaster-road, Barnsley* £155

BICESTER.—For alterations and additions to the house and stables and erection of a cottage at Willaston, near Bicester, Oxon, for Major Dewar-Harrison. Mr. G. M. C. Armstrong, architect, Warwick—
T. Grimley £2,923 10 0
H. Martin, Ltd. 2,580 0 0
W. H. Bloxham 2,757 0 0
J. H. Kinglerie 2,735 0 0
G. F. Smith & Sons £2,729 0 0
Benfield-Lorley 2,655 0 0
J. S. Kimberley, Banbury* 2,602 0 0

CARDIFF.—For erection of new billiard-room, etc., at Radyr Chabn. Messrs. Ivor Jones and Percy Thomas, architects, Cardiff. Quantities by architects—
W. H. Evans £886 0 0
W. T. Morgan £896 0 0
G. Griffiths & J. Howell & Co. 803 19 4
J. Gibson 799 17 6
C. H. Taylor 684 0 0
E. R. Evans & Bros. 769 15 0
W. Cox 680 17 0
D. Davies 670 0 0
S. Hanson 669 13 0
Co. 747 16 5
N. Bisset & J. Harry 715 15 0
E. P. Edwards & Co., Cardiff* 586 10 0

GRAVESEND.—For erection of an additional building to the vagrant wards at the workhouse. Mr. E. J. Bennett, A.R.I.B.A., architect, 10, Gray's Inn-square, W.C., and Gravesend—
W. C. and Gravesend Clarke & Epps £907 0 0
H. W. Martin 769 0 0
Frieder & Ling 750 0 0
J. W. Ellingham 747 0 0
Milton Bros. 698 15 0
Lingham & Etherington 697 0 0
Archer & Son £687 0 0
Multon & Wallis 647 0 0
A. E. Tong Dart-ley-road, Gravesend 616 10 0

GRAYS.—For alterations and additions to Palmers Endowed Schools, Grays, Essex, for the Governors. Mr. Christopher M. Shiner, A.R.I.B.A., architect and surveyor, 7, Adam-street, Adelphi, W.C., and Grays, Essex. Quantities by Mr. R. Dawson, 70, Gracechurch-street, E.C.4—
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W. E. Davey £3,229 0 0
H. J. Carter, Ltd. 3,295 0 0
Brown Bros. 2,840 0 0

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Tilley Bros. 780 0 0
B. Harlow & Son 777 0 0
J. & F. May 669 0 0
Pulowkar & Sons 627 0 0

LONDON.—For heating installation at the Hawley-crescent School, St. Pancras, for the London County Council—
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T. S. Knight & Sons £760 0 0
W. G. Cannon & Sons, Brightside Foundry & Ltd. 733 0 0
Engineering Co., Cannon & Hefford 777 0 0
J. Yettou & Co., Ltd. 774 0 0
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LONDON.—For new central school at Wilton-road, Hackney, for London County Council—
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W. Johnson & Co., Ltd. 11,124 0 0
L. H. & E. Roberts 10,957 0 0
R. Lawrence & Sons, Ltd. 10,851 0 0
Brand, Pettit, & Co. 10,829 0 0
G. Gordon & Sons 10,644 0 0
W. Lawrence & Son 10,584 0 0
J. Chessum & Sons, 7A, South-pl.* 10,134 14 9

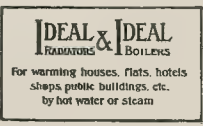
LONDON.—For alterations at the Tottenham-road School, Hackney, for the London County Council—
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Stevens & Sons £1,552 0 0
Marchant, Hirs, & Co. 1,846 0 0
L. H. & R. Roberts 1,529 0 0
W. King & Son 1,624 0 0
McCormick & Sons, Ltd., Northamp-ton street, Essex-road* 1,432 0 0
Rowley Brothers 1,575 0 0
Rowley Brothers 1,600 0 0

LONDON.—For erection of new elementary school, Deptford, for the London County Council—
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H. I. Holloway 14,502 0 0
W. Johnson & Co., Ltd. 14,451 0 0
Leslie & Co., Ltd. 13,948 16 6
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Holliday & Greenwood, Ltd., Lough-borough-park Works, Brixton* 12,764 0 0

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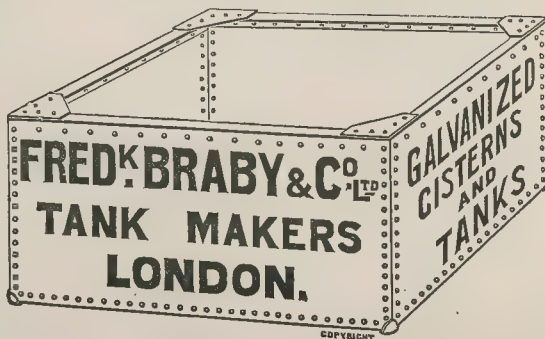
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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

OL. CIII.—No. 2612.

NOVEMBER 22, 1912.

ILLUSTRATIONS.

PORTRAIT OF THE LATE MR. R. NORMAN SHAW, R.A.
PARLIAMENT BUILDINGS, WINNIPEG, MANITOBA:
WINNING DESIGN, BY MR. FRANK W. SIMON, F.R.I.B.A.

KING'S COLLEGE HOSPITAL, DENMARK-HILL, S.E.
MR. WILLIAM A. PITE, F.R.I.B.A., ARCHITECT.

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RICHARD NORMAN SHAW, R.A.

WITH Richard Norman Shaw there passes one of the great figures of the Victorian age. To realise what he achieved necessary to reconstitute as far as may be the world of art and thought as he found it when he came to London sixty years ago. Towards the middle of last century thoughtful men began to be troubled at what seemed to be the passing away of the beautiful from the earth. To win the turmoil of the grotesque day-train was a defilement of the countryside. The East Indian home bound with all sail set was soon to be seen in the Channel no more. "We build iron ships," says John Rhead. "Painters, too, with some eminent exceptions, reflect the general baldness of the age, and are alive with little save the idle of tea-cups and the conversation of the curate"; while in architecture, particularly in domestic work, the Georgian tradition had run dry, and was to be succeeded by a florid and stucco which was called "Italian," for no apparent reason save that it was neither Georgian nor Gothic—the style of

the new Royal Home at Osborne, in the Isle of Wight, the style of the many independent mansions beginning to spring up among the cedars and monkey-puzzles of the southern suburbs of London.

At the same time it was the beginning of big movements in art, religion, literature, social life. The Tractarians had already ruffled the placid Protestantism of Oxford. Ruskin and his ardent lieutenant, the younger Pugin, were beginning to arouse the imagination of architects. The Pre-Raphaelites were at the start of their adventure. The year of the Great Exhibition, while it revealed a hardly credited barrenness of artistic achievement and inspiration, also saw the publication of the "Stones of Venice," "In Memoriam" and "Pickwick" were already being read. "Adam Bede" was written soon after.

The first movement away from the smugness of an etiolated Georgian tradition was in the direction of the picturesque. In literature the so-called "Lake School" of poets had already broken with the classical tradition. Tennyson's work is largely infused with a kind of twilight mystery of ivied tower and haunted room. It is Teutonic, not classic,

in the source of its inspiration. And the Gothic Revival is in essence a similar movement. It is on the personal, the human side of architecture, the fervent faith, or the happy imaginativeness of the craftsman-builder that Ruskin lays the emphasis, rather than upon the abstract beauties of the thing built, its nearness to an established ideal of form.

The immediate results of the preaching of the Gothic Revivalists were twofold. The Pre-Raphaelites tried to get back behind the intervention of the Renaissance and recover the inspiration of a more ingenuous time. But the most eminent of them, William Morris, is in his many-sided humanist enthusiasm far less a medievalist than a Hellene. The second result was the formation of an intellectual school of architects who are really, in the hard correctitude and formalism of their work, far more classic than Gothic in outlook, even though the "Orders" which they systematised are the forms of medieval rather than of Greek or Roman work.

If the lesson that Ruskin sought to teach was that architecture is less a matter of head than of heart, that a building was not to be judged as one



Bryanston, near Blandford, Dorset.

R. Norman Shaw, R.A., Architect.

instance of a formulated law of the beautiful, but was to be something personal, pleasant, adaptable to varying conditions, fulfilling the demands made upon it, instinct at the same time with a character of its own which it drew from its position, its uses, its materials, then perhaps Norman Shaw was his aptest pupil. Coming to London in the middle of the century, it was impossible that he should not be influenced by the current of his time. In his education he was a keen student of Gothic work, as is evidenced by his "Sketch-Book of Continental Studies," first published in 1858. Moreover, he spent many hours on the scaffolding of the new Houses of Parliament, attracted by that remarkable essay in contemporary Gothic. The earliest of his work to be illustrated in the *Builder* was a writing-table and bookcase in the Gothic manner. "Mr. Shaw," the editor writes of him at the time, "is thoroughly imbued with the mediæval spirit."

It is in a real sense that Norman Shaw was more truly than his contemporaries a child of the Gothic Revival, though his work is not Gothic in the accepted sense at all. In his detail, indeed, he employed rather a flamboyant Jacobean, such as to call forth an earnest rebuke from Professor Donaldson, who, in a letter to the *Builder* of August 9, 1873, criticises the recently-built New Zealand Chambers. "I cannot conceive," he writes, "what motive can have induced its author, a man of acknowledged talent, to rake up a type of the very lowest state of corrupt erections, of a period that marks the senility of decaying taste. . . . This elevation seems to me like the last somersault or gambol of the agile gymnast who seeks to extort a laugh at the end of his performance. It is a sad spectacle of abuse of high powers."

This criticism is worth quoting, because it shows very clearly the point of view of leaders of architectural thought of the time, a point of view which Mr. Shaw's work was largely to discredit. It is the point of view of the pedant who, whether he calls himself Gothic or classic, can only see architecture as a matter of detail. In its simple structural idea of brick piers and glass and plaster bays,

the New Zealand Chambers building is neither Jacobean nor any other of the styles so facetiously labelled. It is a strongly individual and an austere picturesque solution of the problem of providing with simple materials a well-lighted block of offices in a London street. In his opposition to the current mode of considering building solely from the point of view of its detail Norman Shaw perhaps went so far as to be sometimes careless of detail. But even if this is so, his motive seems to have been a conscious reaction against the views of his time, an earnest wish to emphasise the whole even at the expense of the parts.

On the surface his times were too strong for him. Certainly his own style of domestic architecture has not escaped a label. As he built largely in red brick, in a style that was not conventionally the Gothic style, the pedant must needs call this work a "free Queen Anne." In fact, the work that is most typically his own is as different from the flat serenity of the XVIIIth century as the essays of Carlyle from the *Spectator* of Addison.

It is individuality, a dominant idea, that Norman Shaw is always seeking. Dignified, workmanlike, without irrelevant trappings, his Scotland-yard buildings take their place on the Embankment as the embodiment of civil order, of the force whose headquarters they are. And equally expressive of an idea of a stateliness that is picturesque yet ordered are his larger country houses:—Crag-side, or Adeote, or Dawpool, with their great chimneys, great roof, great hall window, great recessed fireplaces, often with an agglomeration of materials, brick and stone and half-timber work, that seems almost the haphazard growth of centuries, but reveals to closer scrutiny the hand of a single designer. There is balance, if there is not rigid symmetry; there is coherence and order in the most tumultuous plans, a grouping of rooms round the great hall, a vista through drawing-room, library, and picture-gallery; convenience of service is considered, and the aspect of rooms. No doubt, while fully alive to the importance of commodiousness, balance, and order, Norman Shaw consciously sought for random effect,

both outside and in. Perhaps there is something a little unguine about the if a house is of one date it should be immediately apparent. And yet there is no suggestion that this mingling of styles was an intentional deception. It was rather that his imagination had been fired by many periods. He had ploughed no lone furrow of inspiration. His sympathies were manifold. And out of this wealth of sympathies came a richness of invention, an exuberance which sometimes a little apt to jar upon a generation whose grasp is less vehement, its domestic work more restrained, please firm. The defect, if defect it be, is the natural outcome of a period of reaction against trite formalism in the direction of a perhaps somewhat hectic romanticism. In Norman Shaw's law of domestic work one finds, dealing with an atmosphere which it was not responsive to, creating a strong co-ordinating motif which is yet sensitive enough not to impose itself unduly. His influence on domestic planning is indeed marked. When he came to London he did not find the genius for planning dead. But he had created a scheme for the Houses of Parliament which has been the model of legislative buildings since. But his domestic plan was in a transitory state with its octagonal vestibules, its symmetry which gets tired out after reception-rooms are done with, its grandiloquence which is not stateliness, its contentment with the crumbs which fell from the Italian table. The work is rapid and unconvincing; showy and highly respectable in the prominent parts of the house; elsewhere slovenly and negligent. Norman Shaw brought a new life and joy into planning. The great hall, or staircase, or gallery is perhaps the most prominent feature. But all considered and worked out with care. The symmetry there is a symmetry of groups and centres. He was wont humorously to describe his method of planning by saying that he drew a room first and then the rest round it. But they were the right ones.

He found an architecture which, for all its undoubted enthusiasm and earnestness, was an architecture of pedantry, stylistic, formal; it seems to have been

mission to substitute for this an art should be vivid, personal, "racy of soil of its birth," architecture as fine, rather than correct, building. And one of his most important contributions to the end was his use of local and characteristically English materials—red brick, quartering, sand-faced tiles, stone-work in the way traditional in the district. He broke away from the frigid panemic stucco, pale bricks, harshly-laid stone of his day, and taught his generation to take pleasure in the colour and texture of homely materials. There is perhaps nothing more striking in the architecture of the last quarter of a century than the way in which his lead in this matter has been followed. Texture, colour, homely variety of material—these have been marked characteristics of the late development in domestic work. Younger men may have gone further; demand has finally created supply, and tiles and stones of good colour and texture are now readily obtainable. But Norman Shaw, Philip Webb, and Nesfield led the way; no debt to them in this can hardly be exaggerated.

In some ways no doubt the influence of Norman Shaw was regrettable, as was the influence of Michelangelo. The early picturesque, the orderly random, the large handling. Smaller men, as Philip Webb, copied the externals, and rioted in Flemish gables, half-timber work, pinnacles, and ingle-nooks. The apparently haphazard plan becomes merely restless jumble hands. Indeed, it was unfortunate that while so much of Norman Shaw's work is big, the demand of the next generation has been primarily for small houses. For this the influence of the Shaw manner was dangerous. It was picturesque and interesting on a large scale becomes fussy and irritating on a small. The over-featured country house, earnestly built but "smelling of camp," and patently designed in all its parts, is an offspring of the movement initiated. But no less may the "baroque" claim paternity from Michelangelo. Smaller domestic architecture, indeed, in which by common consent England holds at the moment a premier position, is only indirectly indebted to Norman Shaw. It was his way by breaking with a frigid tradition, by encouraging the use of local materials, by a high enthusiasm for architecture as the art of fine building, by showing that a house may have individuality. By his ideals, his comprehensive grasp of an architectural scheme, his powers of superb draughtsmanship, he did much to raise the level both of movement and of appreciation. It was the privilege of many public bodies to rely upon his artistic advice, and he was much to kindle in Government departments an appreciation of the importance of architecture. The simple dialogue of his executed works fills more than a column of small type where in this issue, and is an inspiring record of achievements, coming from a gay picturesqueness to a symmetry, from Leys Wood, Kent, to Bryanston, Dorset. As the chief of an open and eminent band of pupils his influence has gone far.

It is not the intention here to touch

upon his personal qualities, his humour and gay conquest of difficulties, the affection he inspired in clients and builders, and in all who came into contact with him in his professional work, his dislike of parade and ostentation, which indeed led him to decline the honour of a baronetcy a few years ago; but rather to lay down, all too hastily and with the imperfect eye of contemporary judgment, the outlines of his contribution to the growth of architecture. While it is no doubt true that we have reached the end of the picturesque reaction against formalism in literature and drama no less than in architecture, and are finding beauty and significance more and more in the direct, the obvious, the fitting, so that the liner and the express locomotive no longer offend our taste, yet the beauty of a house can never quite be the purely functional beauty of the engine, for the demands which it meets are not simply the demands of convenience, of air and sunshine, warmth and shelter. The house, like Aristotle's city state, is not simply for "the living," but "the living well." Those who are to live in it have wants other than material; they are looking not only for the convenience of a house, but the charm of a home. In many ways, partly as a result of the political isolation of the country, and no less under the influence of the character and tastes of a Queen who, in being an Empress, never forgot that she was a mother, the Victorian period laid an exceptional emphasis on the idea of home. To Norman Shaw was largely confided the material expression of this idea; and it was his distinction to have tinged that expression with a romanticism drawn indeed from the Gothic Revivalists, but tempered with the shrewdness and humour of his own personality. Among the eminent men of a generation peculiarly rich in them his name must always hold its own, not only for the work he did, but even more for the work he inspired others to do.

NOTES.

The Genesis of Style.

NOTWITHSTANDING its great advance in organisation and method, the professional education of architects is still in the rear of the movement in general education in that it has not arrived at the stage of questioning the all-sufficiency of the classical tradition. In the general movement the dawn of an ideal of civic education begins to suffuse with a new light the issues of the strife of classicist and modernist, harmonising in its unity their heretofore rival aims of character and efficiency. But in architecture the idea still prevails that the distinguishing character we call style will somehow ultimately be the outcome of the adoption and adaptation to modern uses of one or other of the ancient styles. The free comparative study of these seems to have failed to dispel this idea, though modern practice must surely have shown the hopelessness of it. Style has always been a development largely spontaneous and unconscious. We may plan and construct with a conscious purpose to attain

a definite end with as much efficiency and fitness as we can compass. We may consciously express such structure and fitness for purpose in our building. But the more subtle expression of character, the indefinable common quality of style, comes through the interaction of many individualities working true to the same tradition and environment, with the same materials and methods, for similar ends, and in an atmosphere of frank and mutual criticism and emulation. Very many factors go to the building up of style; and its strength and clearness and beauty correspond with the definiteness and unity of purpose, the nobility of motive, and the intensity of social impulse in the society whose building it characterises. This is powerfully illustrated both in the Greek and the Gothic.

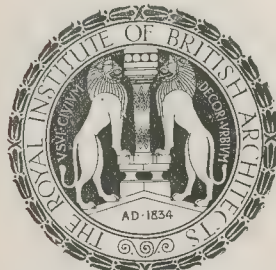
Neglected Architecture.

THE habit of pointing to certain similarities between the civilisation of ancient Greece and Rome and our own, to certain philosophic and intellectual views and practical ways of life common to both, as justifying the modern use of classic architecture, blinds us to much in which we are essentially different. Of many such differences it will be enough here to mention one, to wit, the vast mechanical industrialism upon which our civilisation is based. This has involved an immense number and variety of quite unprecedented buildings—great mills, factories, workshops, and storage and railway buildings—which so far have been, for the most part, regarded as mere utilitarian building quite without the pale of architecture. That is to say, that while looking for the advent of a characteristic modern style we have ignored a wide range of building more distinctive than any other of our time, more near to the very foundation of our social system, which might therefore be presumed to constitute a potent factor in the style of its architecture. To the architectural eye and imagination this is obvious enough. A journey through any industrial district—say out of Liverpool-street by slow train to Woolwich, or in the great ring of cotton towns round Manchester—say Ashton and Stalybridge—will reveal not merely possibilities but pressing invitations, opportunities that cry aloud for the artist touch that could transform them into an architecture of no mean order. Nay, if mass, if efficiency of arrangement and construction or fitness for purpose count for anything, it is often there already in great part. Economic and practical exigencies alone have been considered in their making, and it is only now becoming generally recognised that even these are starved, and industry so much the less efficient and profitable, where the finer requirements and amenities of human life are denied. Generations yet unborn will say of this time: "The men of those days were great and original builders; there were many among them also who had great learning in architecture, men of power to design artistically in the noble styles of the near and remote past. But it was as if they had somehow lost, in great part, the secret of the unity of their art." Let

us but recover that, shape the education of our students to it, and it will matter little what alphabet they start with, whether Greek, Roman, or Gothic—and they are all in a true line of descent—for the language they shall come to speak cannot but be modern. And with the growth of more generous and inspiring social impulse that language or style will put on beauty no less than those of old, yet as distinctive as the structural forms and purposes it clothes.

The San Francisco Exhibition.

IN a letter to the *Times* of the 19th inst. Mr. W. D. Caröe gives a forecast of the splendours of the great exhibition to be held at San Francisco in 1915. Having visited the superb site quite recently, and having examined the scheme and plans so far prepared, Mr. Caröe is in the position to write authoritatively, and we are glad to read that "architects will be interested to know that what has justly been called the 'gingerbread' of exhibition design, known so well by all of us, is being studiously avoided, and a classic dignity sought in its place." This is an age of exhibitions, and the incentive they give to commerce and the opportunities they offer for international courtesies are widely appreciated, while if they are conceived in a big spirit and carried out with due regard to the fine effects which may be obtained from the disposition and grouping of finely-designed temporary buildings they arouse an interest in the work of the architect and the constructor which makes for the common good. European exhibitions may be small in scale in comparison with those possible in America, but Ghent next year promises to excel the achievements of Brussels in 1910, while the great exhibition of Chicago will apparently be eclipsed by that at San Francisco. The huge sum of 1,000,000, (not dollars) has been guaranteed by the citizens as a start, and every State in the Union and the Federal Government itself are contributors. We hope that Great Britain will be represented by an architectural court or pavilion worthy of our position in the world of commerce and the arts.



An ordinary general meeting of the Royal Institute of British Architects was held on Monday at No. 9, Conduit-street, Regent-street, W., Mr. Reginald Blomfield, A.R.A., President, in the chair.

Deceased Members.

The minutes of the last meeting having been taken as read,

Mr. E. Guy Dawber, Vice-President, said he regretted that he had to read a long list of losses which the Institute had suffered by death

since the last meeting of the session, as follows:—

Sir Lawrence Alma Tadema, O.M., R.A., elected an Hon. Associate in 1877, Hon. Fellow in 1901, Royal Gold Medalist in 1906.

Sydney Smirke, Fellow, elected in 1888.

Thomas Arnold, Associate, 1867, Fellow in 1904, and placed on the retired list of members in 1904.

G. Tunstall Redmayne, Associate in 1872, Fellow in 1877, and placed on retired list in 1902.

Henry Hall, Associate in 1872, Fellow in 1887.

J. T. Bressay, Fellow in 1877.

G. Friend, Fellow in 1888.

W. F. Unsworth, Associate in 1882, Fellow in 1891.

P. E. Massey, Fellow in 1901.

E. B. L'Anson, Fellow in 1880.

C. Enoch Grayson, Fellow in 1886.

C. H. Rew, Fellow in 1905.

J. S. Paul, Associate in 1886.

Mr. Dawber said he desired to move the following resolution:—

"That the Royal Institute of British Architects do place on record its great sorrow with the loss it has sustained in the loss of its distinguished Fellow, Sir Lawrence Alma Tadema, and offers an expression of condolence to the family in the sad bereavement."

He also asked the meeting to pass a vote of sympathy and condolence with the family of the late Mr. Smirke, whose generous contributions to the Institute Library, extending over many years, would be greatly appreciated.

Also a vote of condolence to the family of G. Enoch Grayson, who might be considered the *doyen* of Liverpool architects, who, after some fifty years of practice, retired on the last day of 1900. He had been a President of the Liverpool Architectural Society, and had served on the Council of the Institute and the Practice Standing Committee. The sympathy of the Institute would be extended to the son of the deceased, Mr. Haswell Grayson.

Mr. Dawber also moved a vote of sympathy to the sister of E. B. L'Anson, who was a great friend of the Royal Institute of British Architects and who came of a long and distinguished family of architects, not fewer than three generations—he being one—having occupied and carried on their practice in the same office in the city. At the time of his death Mr. L'Anson was a Vice-President of the Surveyors' Institution, and his father was at one time President of the Royal Institute of British Architects.

Mr. Hubbard seconded the various motions, which were carried in silence.

The Secretary, Mr. MacAlister, announced that the following candidates have passed the Statutory Examination and have been granted by the Council Certificates of Competency to act as District Surveyors in London:—

Sidney Walter Bensted, Associate.

Benjamin Chalkin, Licentiate.

John Doveston, Associate.

Lawrence Alexander David Shiner, Associate.

BATH: A COMPARATIVE STUDY.

Mr. J. L. Ball then read a paper on "Bath: A Comparative Study," of which the following is an abstract:—

It was as a Roman sanatorium that Bath emerged from the region of fable. The remains of the Roman baths—a small fragment only of the *Thermae* which, with Temples and Gymnasias, once covered more than 7 acres—were, nevertheless, the most considerable relics of Roman architecture in Britain; and to the student of that architecture, striving to piece together his odds and ends of knowledge, most valuable. It was not easy to explain the spell which Roman architecture cast over us, its defects were so obvious, its virtues less obvious. What the Romans were always looking for was not perfection of any kind, but power, and this easy tolerance of inconsistencies in their architecture went far to explain its vogue, its wide adaptability. Nothing was rejected that might tend to make it more flexible, more adaptable to all uses. For the first time architecture stepped down from its lofty isolation as an art sacred to the temple and the palace, and became in a certain sense popular. The coarseness, too, of Roman architecture was not an accident but an essential of it, a masculine grossness and predominance, which also had a place in art. For this hardness, this coarseness of fibre in it, was not a negative quality only, as implying no more than the absence of refinement; it was an energy, a faculty; so that while Roman architecture was often clumsy and unimaginative it was never puerile

or trifling. And coarseness here had an intimate and immediate connexion with endurance that it became really a sort of exaggerated emphasis of strength. Here, in Bath, violence and the hand of time had not obliterated, nor much impaired, their massive basements. What stonework was this which alone of all the masonry of Bath, showed evidence of decay? What was the secret of the concrete, this mortar, made without Portland cement, yet still hard and impenetrable as rock? The conspicuous durability of Roman architecture made most later work seem temporary in the comparison, and added pathos to its ruin.

Nevertheless, by reason of its idealism, the robust heterogeneous architecture had left a large impress on the world for all time. And we felt that the ideals of the Roman people centred very much in the city; the ideal life with the was the urban life. And this instinct of their moulded and coloured their conception of architecture, so that they thought of it not principally as domestic, in the modern sense, nor as religious, but as civic; as the heritage of Roman citizenship and the emblem of Roman order, as the decorum and piety of civil life. Therefore they founded cities, and laid them out with a wise provision, and adorned them with noble monuments. They did not wait until a hundred thousand people had congested themselves in squalid alleys, and then began to talk about town planning.

For a city which was the seat of an ancient bishopric the mediæval record in Bath was scanty. It might almost seem as though, in its quaint partnership of the two cities, the illustration of the Gothic phase of architecture had been left to Wells. Not the cathedral only, but the whole aspect of Wells, preserved the spirit of the Middle Ages. In those narrow streets, gabled houses, the little market-place, the gateways and closes, the cathedral with palace as college—in the ecclesiastical air of the place and in a certain neat compactness which it had and in the gossip and leisure of little town life there still lived for us something of the atmosphere of mediæval art. But nothing of this atmosphere existed in Bath, where the abbey church stood alone, in a sort of isolation, the last word of Gothic art in a city of the Renaissance. Bath Abbey was begun in 1499, replacing earlier structures, was partly ruined at the Dissolution, and partly rebuilt between 1597 and 1618. Thus it belongs entirely to the decadence of Gothic architecture and had for us something of the mournful interest of a survival. For by the middle of the XVth century the drama of mediæval art was played out. That architecture which we see at Wells Cathedral in the flush and animation of a wonderful youth, we found at Bath Abbey in the last stage of a no less wonderful decline, beautiful still, with the beauty appropriate to winter. For indeed periods of decadence and death had their appointed place in the great cycle of art, just as periods of youth and prime had each as necessary, each came with its own special order of impressions, its own special gift for the imagination. And in Wells Cathedral, throughout, not the sculpture only, but every line of the architecture, was intense with life; life triumphant, life containing death. But in Bath, in this city of pagan memories, it was the pagan sentiment which found expression in the last words of Gothic art. In Bath there was a curious felicity and smoothness of technique. The vaults were the best of vaults, the proportions, at least of the interior, faultless. We felt that the end was achieved, the fancy, the invention, the experiment, of three centuries of Gothic art, seemingly inexhaustible, had come by inevitable steps to this, and terminate here in this chill perfection.

The Roman city, the mediæval city, of Bath were gone, or survive only in profoundly interesting fragments. But the famous Renaissance city of the XVIIIth century had a different claim on our regard—it exists. We still walk the streets, still pass in and out of the buildings which were associated with a crowd of brilliant and attractive people, and with creatures of the imagination hardly less real. And in speaking of the XVIIIth-century architecture of Bath—we need here say it in that room and to that audience?—he included also the work of Brydson in the XIXth; for, by the turn of his genius, and by his faculty of identifying himself with his subject, Brydson rivalled, perhaps excelled, his predecessors, and shared their fame. What then, was the precise value to us of the particular phase of the Renaissance which Bath presented? The question was important, for no architect

been more abundantly praised, or more fully blamed, and it merited neither one. What should attract us in art, we ought to look for in it, what alone made it valuable to us, was the promise of life. The Renaissance of the XVIIIth century had no claim to creative genius, we must look in it for the expression of great pride of dominion, the ecstasy of the *bus life*; nor for passion, nor for mystery; it was all social, domestic. It was the architecture of an age which was quick and bold, but not very imaginative or profound. It represented, it was even part of, the learned life of its age; a culture singularly cool, impassioned and fastidious; devoted, in culture and art, to a certain classic idealism; pursuing an ideal correctness even in trivial things. It was the architecture of chambers and courtly phrases.

This Renaissance city of the XVIIIth century, the spirit of Roman decorum was in it; its streets and open places, and the use of its public and private edifices, were of interest; and we had an architecture which was sober, devoted to the classic ideal, with little of the romantic in its mood. Yet with all this, and with much of grace and interest, there were mingled in this architecture some characteristic defects. A certain conformity marked it, as though some hidden force were obstructing its development. It offered a clear field to the classical machine, yet when we compared the architecture of 1800 with that of 1700 we found little progress or variety. On the other hand, there was a sleepy conformity to type, and any considerable variation was essayed in variation proved degenerate; the conventional defect of XVIIIth-century Renaissance being, in fact, a defect of variability. In architecture there was the tendency to uniformity, but the degree of variability differed widely in different schools. Gothic architecture, Wells Cathedral for example, showed a flexibility, a readiness to "sport," which was astonishing; we could imagine it capable of variation almost without limit. Other schools of architecture were variable in different degrees. Here in Bath, in the classical Renaissance of the XVIIIth century, we reached the extreme of the degree of variability.

Though the classical Renaissance was limited in the number of attributes which were often ascribed for variability; an attribute of Roman architecture too, but which becomes more evident in the Renaissance and more complex conditions of life, he meant adaptability. There was hardly any kind of building which Renaissance architecture had not adapted, from the greatest to the smallest, from the basilica of St. Peter to the small shops which we saw in the streets of Rome.

When we came to compare this architecture of mild and rather homely sentiments with the architecture of passion and genius—Wells Cathedral and Gothic architecture generally—the value of adaptability became evident. Gothic architecture, with all its leading variability, its intense and flame-like variation, was wholly without adaptability. Domestic architecture—architecture, that is to say, in which a definite sentiment of domesticity, of homeliness, was expressed—was in a quite special sense to the Renaissance. Mediaeval architecture had no place, the epic solemnity of its mood, for a domestic architecture, the little domestic architecture that we find in us from the Gothic period was that of a somewhat arid and cheerless ideal. It was, as it were, the alluring prospect of a lost domestic architecture of the Middle Ages; what we really found at Wells, for instance, was the fortified castle of the Bishop—a military stronghold—the *Vicar's*—a house of celibate vicars—choral of the cathedral—works of interest indeed, but of an interest not properly domestic. It was only as we reached the end of the mediaeval period, the XVth century, that we came upon an architecture potentially domestic in feeling; in the XVIth century, long before the Renaissance of architecture had changed, the Renaissance was already influencing its spirit. From beginning onward one might say that the Renaissance, the work for which was reserved, was to bring the influence of architecture into the home of the plain citizen, to use in terms of architecture an expression of the domestic ideal. And so in these larger and more homely houses of Bath—and in how many other places!—and especially perhaps in the houses, we had not only the finished thought

of XVIIIth-century architecture, but the true measure of its originality; for it was just here, where the Roman model failed them, that the artists of the time became various and inventive. The cultured simplicity of these interiors—these dainty parlours and staircases—was admirable; and one was conscious sometimes of an almost feminine quality in the delicate proportions and cameo-like reliefs.

Mr. A. Mowbray Green,

in proposing a vote of thanks to Mr. Ball for his paper, said as to scale Mr. Ball was not alone in thinking that the buildings of Bath lacked the true dignity of scale. The point was an important one, but was not the matter explained by the desire of the designers to conform to the local surroundings? To have overloaded Bath with buildings on a large scale would have given it an air of depression. Bath had its environment, and to that environment the XVIIIth-century builders did ample justice.

Mr. L. March Phillips

seconded the vote of thanks, and said that Mr. Ball had remarked that the Roman Renaissance was the idea that had inspired Bath, but the Renaissance in Europe was composed of two streams, and there was a Roman Renaissance and also a Greek Renaissance, and often in Italy and in France and in this country, in the XVIIIth century, there were forms of classic Renaissance which were not Roman at all—forms which the Romans would not have sympathised with and which were really Greek in feeling. All through the Renaissance of the XVIIIth century, all through Georgian times there was a note of restraint, of the consciousness of the value of smooth surfaces; and the share which Greece had in the Renaissance ought to be distinguished from the share which the Romans had. He thought that architecture would become a humanly interesting subject for people if they could have lectures like Mr. Ball's put into their hands. The President had said that architecture was the Mistress Art, but however that was, it could be said that it was the Mistress Industry; it combined and took to itself much of the industry of the country. If they separated architecture from life they had a craftsmanship and artisanship in the country which was more or less mechanical, wanting dignity and a consciousness of its own work. If they united architecture again with life they dignified life again, and labour. He thought it would be good if they were tending in that direction, and in order to do that he thought the whole subject of architecture should be infused with the spirit they had found in Mr. Ball's lecture.

Professor Lethaby

said that Bath was a wonderful city, and what he feared was that we did not sufficiently value it as a national asset. There were many nice things in England which were too good for us and which we could not live up to, and which were consequently more or less lost to us. Euston Station, for instance, was so good in a way that we did not know how to make use of it; the central hall was almost a waste place. We did not know how to make use of a thing which was architecturally fine. What he wanted to suggest was whether it was possible to do something for the appreciation of Bath—a place which cried aloud for some national recognition. It was a place that should be made a University town—of a western University. At Bath there were wonderful buildings more or less prepared for something of the kind. Prior Park, for instance, was one of the most wonderful things in England, and he was shocked to see how it was running down; it was too fine, too big, too good for us, and he wondered if something could be done to get some national help for Bath, which could very well be the city for an agricultural college for the West of England.

Mr. G. Hubbard

said it occurred to him that perhaps architecture did not influence our lives quite as much as we imagined. It seemed to him that every age had its own particular architecture, and that that architecture did truly express the feeling or culture of that particular period. If that was so, it was the life and culture of the period which influenced the architecture, rather than the architecture influencing life. Take Greek architecture as being the standard of perfection; it was a standard of perfection so far as it did absolutely and actually represent the culture of the period. If the culture was

altered the architecture must be altered accordingly. As to ourselves to-day, he took it that we were not particularly cultured, and we were not as sincere as we might be, and that, as a consequence, our architecture was not as perfect as it might be. Bad as our architecture was, he thought it really expressed very accurately our low standard of civilisation. No doubt if we could go back to the pristine ages when Bath was built, we should find ourselves living up to a very much higher standard than some of us live up to to-day. If they took architecture in its broadest sense as being an expression of culture, Gothic architecture was an expression of faith, and when faith was the strongest in the country, Gothic architecture was at its highest, and Gothic architecture failed when the faith of the country failed.

The President,

in putting the vote of thanks to the meeting, said the last speaker had hit the nail on the head when he said that our architecture represented what we were worth. That was more or less the case, but he was not so despondent as Mr. Hubbard seemed to be—things were not so bad, and there were signs of progress. It was interesting to have a paper on the inner meaning of architecture, for that was what Mr. Ball had attempted to do, and after reading dry text-books, as they had to, it was very refreshing to have such a delightful paper. At the same time the paper was open to one or two criticisms. In regard to Roman architecture Mr. Ball had, he thought, taken a sound historical view, but he did not think he quite did justice to Bath as a great city, for XVIIIth-century Bath was really a great conception. The sagacity and forethought with which the town was laid out was remarkable, and there was genius in it. It was not only the first thing of its kind which had been done in England, but it was a city which could hold its own with great Continental cities. The dimensions of Bath would hold their own with such a city as Nancy, which was a sort of *locus classicus* in civic design, and we ought not to ignore our own. Then as to the XVIIIth century, he did not think that Mr. Ball quite appreciated the undercurrents which were going on at the time, and it was not quite sound to decry the XVIIIth century as a sort of mechanical affair. However, the paper was one to which they might call the attention of students, because the author had tried to penetrate through the screen of facts to the spirit that lay behind them; but he was sure Mr. Ball would agree with him when he said that, on the other hand, the only means of realising that point was through knowledge of the facts.

The vote of thanks was heartily agreed to, and Mr. Ball briefly replied.

The next meeting will be held on December 2—a business meeting.



MARBLES USED IN GREEK, ROMAN, AND BYZANTINE BUILDINGS.

The following is the second half of the paper on "Marbles Used in Greek, Roman, and Byzantine Buildings," read before the last meeting of the Architectural Association by Mr. J. A. Marshall. Some notes of the discussion which followed are also given:—
"Brecchia Africana."—One of the most interesting and noble-looking of the brecchias of

antiquity is known to the Italians as "Africano," though the ancient quarries have not been discovered.

The entolosing magma varies from pale greenish-grey to nearly black; the calciferous fragments, white, grey, pink, and black, are subangular, and appear to have been derived from some earlier formation of variegated marble. The fragments are sometimes split across, and present other signs of dissolution. In places the paste is spathic or streaky, suggesting a viscous material, due to heat or thermal waters. It is sometimes strewn with fine detritus, or jewelled with small bright red fragments.

When excavating the site of the *Basilica Esikha*, Signor Boni found fragments of "Africano" columns, 3 ft. in diameter, that belonged to the nave, while a corresponding series, smaller in size, belonged to the upper story. According to Pliny, the columns of this basilica were of Phrygian marble, so it was quite a surprise to find that in the course of time they had, by some mysterious process, changed into "Africano," notwithstanding the legend that the columns had been taken down in the 14th century and used for the first basilica of S. Paul, outside the walls.

From this discovery it would seem that Pliny, like many of the novitars to be found in his encyclopedia, was not infallible. The modern name, "Africano," is merely an indication of the dark colour peculiar to this breccia, but it is quite in keeping with the obscurity that surrounds this part of our subject.

An unfinished column of "Africano," 27 ft. long and 5 ft. 6 in. in diameter, was found near the *marmorate*; it is now in one of the courts of the Vatican. Nearer home, in the "Græco-Roman" gallery of the British Museum are three columnar pedestals with the greenish-grey ground; and others with the black ground are in the "Archaic" and "Ephesus" rooms. "Africano" was used for strips and borders in

the paving of the *Basilica Julia*, and a slab of it, 16 ft. long, is *in situ* at Ostia, where it forms the threshold of a temple of Hadrian's time.

Many fragments of "Africano" have been found among the ruins of Aquileia, an important Roman colony on the north coast of the Adriatic. "*Breccia Corallina*."—About thirty years ago the site of Aquileia must have been a prolific hunting-ground for the collector of antique marbles, but in 1883 nearly 60 tons of fragments were removed to Venice for the restoration works at S. Mark's.

Among the various marbles found at Aquileia one of the most beautiful is the "*Breccia Corallina*," from quarries in the neighbouring province of Dalmatia.

The typical variety suggests a white calcareous rock fractured and crushed; the interstices are fine, and filled in with coral-red cement. The fragments are delicately flushed with pink, non-crystalline and greasy to the touch. In a coarser variety the reddish paste is more assertive, the fragments are scattered and less pure in colour. Two beautiful shafts of the most delicate kind help to support one of the ambros at S. Mark's, Venice; and small columns of "*Breccia Corallina*" have been found in the *peristylum* of the *Atrium Vestæ*, Rome. The marble decoration of this building is mostly, I believe, of the time of Septimius Severus. At the end of the 11th century A.D., Rome was becoming richer in many costly marbles, and probably "*Breccia Corallina*" was one of these new and choice materials.

Marmor Celticum.—Among these later arrivals I think we must place the *Marmor Celticum*, first described, I believe, by our Christian writer of the 15th century.

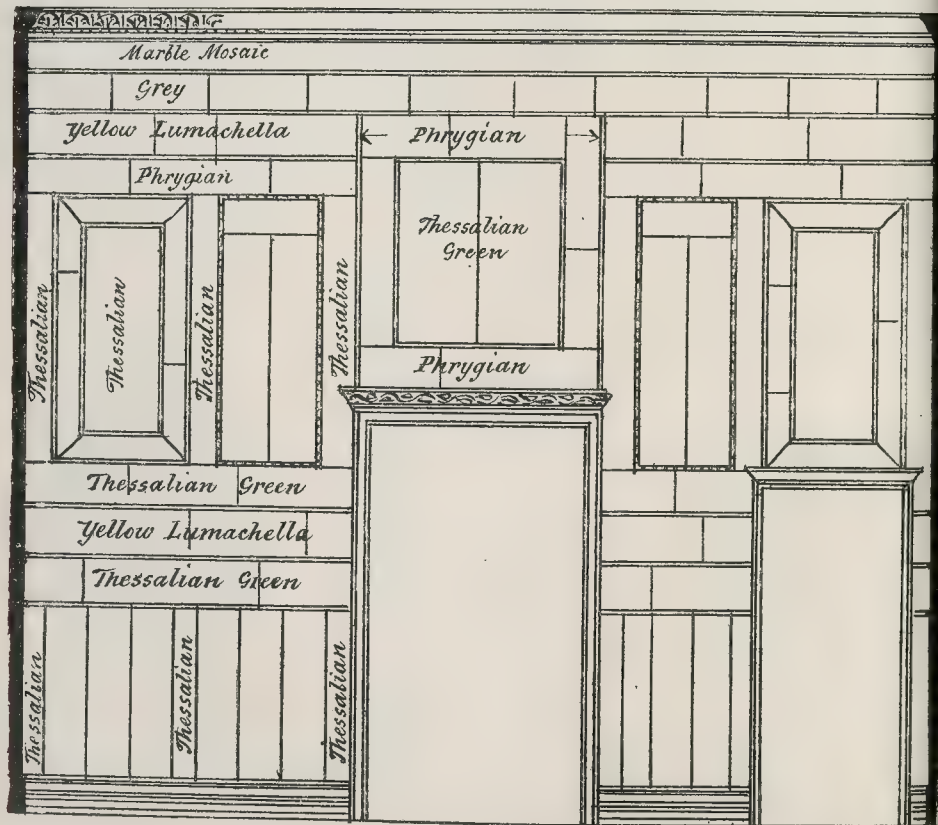
The marble came from the western limits of the Empire, and is believed to be identical with the black and white breccia found in Southern Gaul, on the northern slope of the Pyrenees.

I cannot refer you to any instance of its use by the ancient Romans, but a sepulchral

inscription has been found in Gaul commemorating a superintendent of the quarry, who lived during the reign of Septimius Severus. The structure of the marble suggests a compact and intense black rock, shattered and broken into fragments, and invaded by a perfectly crystalline calcareous paste that crystallised on cooling. The fragments are cracked and generally attended by minute detritus, eroded from the edges. Fine columns of *Marmor Celticum* are to be seen in Grado Cathedral, and others support the ciborium in the Church of Sta Cecilia, Rome. Two beautiful shafts, with amethyst-tinted magma, enrich the little shrine of the crucifix, in S. Mark's, Venice, and others adorn the main portal of the façade.

Marmor Taurinum.—This name is generally understood to include two species, a red and black. The red, popularly known as "*Rosso Antico*," has been identified with a species found in the southern part of Laconia, near the promontory marked "*Tauraron*" in the classical atlas. Taurian marble is mentioned several of the classical writers, and, according to the Greek geographer, Strabo, the quarries were ancient in the 1st century B.C., but whether it was the red or the "black Taurian" stone mentioned by Pliny, that was mostly quarried, I cannot say; the black has not, I believe, been identified, and I will not weary you by repeating the conjectures of experts, since the discovery of the celebrated *Niger Lapis* ten years ago.

The red Taurian marble of even colour, with close texture, and so frequently met with in the museums, was selected by the Romans for the mouldings of internal decoration, and for statuettes and small reliefs. This typical variety of "*Rosso Antico*" could only be got in comparatively small pieces, and it can perhaps be said to fairly represent the general character of the formation to which it belongs. Flow structure and concretion, scarcely seen in typical "*Rosso Antico*," are distinct features of other varieties, and it seems strange that



Mosque, Constantinople: Diagram Illustrating Use of Marbles.

figured red and white "cipollino" marble by the Byzantines at Constantinople, and which certainly suggests a geological formation, is so seldom met with among the antique marbles of the best specimens of "Rosso Antico" that are of are certain reliefs and statuettes in the museums of Rome and Naples—Mycenean, like purple porphyry—and if you are to be in the "tribune" of the Church of Prassede, Rome, you will doubtless have been by ascending these steps of "Rosso Antico" once coveted by Napoleon. Falling on you might during your luncheon-hour at a little pedestal in the, now familiar, "room" of the British Museum. A carved fragment in the "Archaic" room of the largest of the Mycenaean tombs seems to me to closely resemble a variety of the same red.

Marmor Alabastrum.—It is outside the scope of this paper to describe those felspathic rocks, gneisses, and porphyries, quarried in the province of Egypt and sent to Rome during the Empire; but we can scarcely overlook the calcareous marble known as *Marmor Alabastrum*, that came from the more level part of the province near Thebes.

Like the metamorphic limestones that so conceal their origin in a deep obscurity, *Marmor Alabastrum* was made by a process which anyone can see in operation to-day. It is merely a concretion of carbonate of lime due to infiltration of water through fissures and veins formed in limestone rocks.

In pure, the material is white or creamy, but during the process of incrustation solution is generally coloured by foreign matters that follow the sinuosities of the veins in course of formation. The structure of alabastrum is generally crystalline, either

fibrous or granular; when fibrous the grouping is often radiant, endeavouring to throw the mass into spherical concretions.

Deposits of alabastrum, as might be expected, often contain patches of breccia; the calciferous solution has enveloped the detritus of another rock, or it may be of alabastrum itself, and cemented the whole together. The Oriental calciferous varieties are much harder than the gypseous of Italy and this country, and they vary more in transparency and colour.

Historically considered, alabastrum as a decorative material is more venerable than marble; this is mainly due to the fact that the earliest civilisations happened to be in countries where marble was scarce or unknown, while alabastrum was plentiful. Apart from its well-known use by the Egyptians and the Assyrians, it was found in the prehistoric remains of Orchomenos, Mykenae, and Crete. The colossal winged figures from Assyria in the British Museum are impressive examples of brecciated gypseous alabastrum. Many columns and fragments of the Oriental banded kind, ranging from the colour of honey to that of dark treacle, have been found in Rome. Two columnar pedestals of alabastrum are in the "Mansoleum" room of the British Museum; and a magnificent Egyptian sarcophagus, ethereal in its translucency, is in the Soane Museum.

Marble Decoration of the Romans.

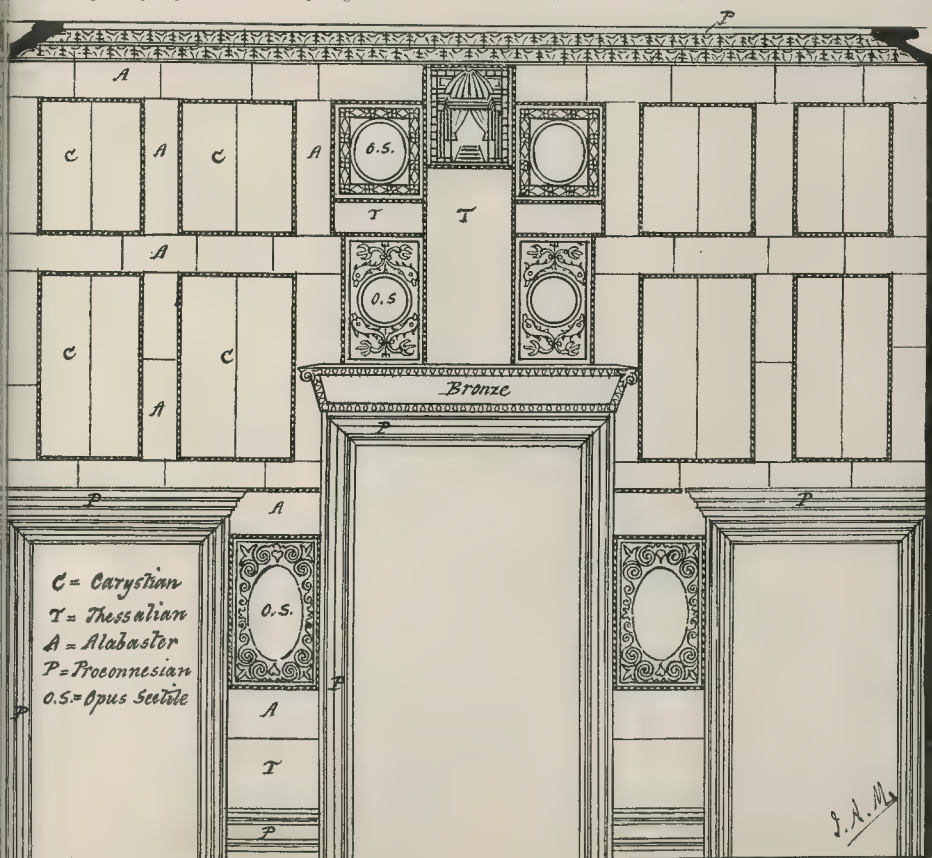
Having now roughly followed the circuit of the Roman Empire, as indicated by some of the principal quarries where calcareous marbles were got, the question as to how the Romans used marble for decoration will naturally occur to you. Unfortunately, the evidence of existing examples is practically wanting; a few columns, and fragments of architraves, skirtings, and pavings are all that remain *in situ*, and it is

probable that even some of these vestiges belong to late restorations. If we turn to Pompeii we shall find still less of actual marble decoration, though an echo of it may be seen in some of the mural paintings. When the city was hastily restored after the earthquake of A.D. 63, the readiest methods of decoration—stucco and painting—were adopted. Of course, every house of importance had its *impluvium* of marble, no other material being so suitable; but the pavings were mostly of coloured cement, with simple lines and powderings of marble tesserae. There are very few marble columns in the city; like the walls, the columns were generally stuccoed and painted. The painted decoration, as I have said, is often a reflex of marble incrustation. This sometimes suggests work of the *opus sectile* type, especially in the case of the low dado, which retained the severity of style derived from a marble prototype often when the upper part of the wall was treated in that light and fantastic manner popularly known as "Pompeian."

In Rome itself, from the early days of the Empire, marble was gaining an ascendancy over painting. The traditions of Hellenistic art reflected in the frescoes of the "House of Iulia," on the Palatine, and in those at Pompeii, lingered on for about a century, then marble became supreme.

Pliny laments that in his day the art of the painter was giving way to that of the marble-worker; "for not only," he says, "are walls now covered with marble, but the marble itself is carved out or marquetted to represent objects and animals of various kinds."

Seneca asserts that the bathers of his day would consider themselves shabbily treated unless "the walls shone with large and precious roundels; unless on every side laborious and varied inlay, like a picture, did not border them."



Santa Sophia, Constantinople: Diagram illustrating Use of Marbles.

Statius, in describing the splendour of a certain bath, finishes with an artful thrust at the plumbers of Rome:—"Its walls of purple Phrygian marble were enriched with the golden Numidian; it was effulgent with glass mosaic, and the very water was so happy in going through silver pipes it would not run away!"

Pliny, the younger, describes his summer retreat with rare artistic touches, and in his amiable way pays the plumbers a high compliment:—"Beyond is a walk interspersed with the soft and twining acanthus, where the trees are also cut into a variety of shapes."

At the upper end is an alcove of white marble, shaded with vines, supported by four small Caryatian pillars. From the bench, the water gushing through several little pipes, as if it were pressed out by the weight of the persons reposing themselves upon it, falls into a stone cistern underneath, from whence it is received into a fine polished marble basin, so artfully contrived that it is always full without ever overflowing.

When I sup here this basin serves for a table, the larger sort of dishes being placed round the margin, while the smaller ones swim about in the shape of little boats and waterfowl.

Under these aquatic conditions we can imagine Pliny chiding the cruel with all the ardour of a schoolboy.

Leaving the country for the capital, we shall find, on the Palatine and in the Forum, a few suggestive scraps of pavings, skirtings, and wall linings that are with difficulty kept in position and protected from the frost of winter.

On the Palatine a great deal still remains buried that will see the light some day; and even now excavations are proceeding on the site of Domitian's Palace. Years ago more than half the plan was disclosed, and many fragments of columns and marble incrustation found. These included several of the marbles I have described. The *triclinium*, or dining-room, of this palace is often mentioned by the writers of the time. Here nature and art (in the decoration, I mean) were brought into requisition. Two sides of the apartment were almost entirely open to conservatories, with marble fountains and niches for statues, so that the Emperor and his guests could see from their couches the water falling in cascades over marble steps amid verdure and flowers. The alcove for the Emperor's table is still paved with *opus sectile* of purple and green porphyry, and the marbles of Numidia and Phrygia; this, however, may be a restoration.

Undoubtedly, of all the public buildings of Rome, the *Therma* presented the most splendid examples of marble decoration, though the best preserved of these show scarcely anything now but bare brickwork and concrete. Splendid as it must have been, the decoration of the *Therma* of Caracalla and of Diocletian represented a craving for luxury and wealth that ultimately deprived the Romans of all powers of refined appreciation. In the Baths of Caracalla some of the paving was formed of thin slices of porphyry and marble cut to patterns, with flowing lines and leaf-shaped ornaments, an elaborate form of *opus sectile*. As examples of pictorial *opus sectile* in marble produced in the declining years of Roman art, we may note the two panels in the Capitoline Museum, taken from a basilica, built about 317, on the Esquiline, to commemorate the victory of Constantine over Maxentius. The panels are about 6 ft. by 4 ft., and both represent, with considerable technical skill, but without the slightest variation in design, a tiger attacking a bull. The tigers are of yellow "Numidian" marble, inlaid with stripes of green porphyry; the bulls are white shaded with grey; the background is green porphyry; and the ground supporting the animals is banded Oriental alabaster.

Judging from sketches made by the architect Sangallo, in the XVth century, the interior decoration of the basilica must have been most noteworthy as a *tour de force* on the part of the marble-cutter.

Little as we know about their marble decoration, and unrestrained as some of it probably was, I think we may conclude that the Romans did not fall into the modern error of associating it too intimately with joinery, the aesthetic law of contrast in this connexion being, no doubt, complied with by the use of textiles and brocaded hangings.

Byzantine Marble Decoration.

In the XVth century A.D. decorative art in Rome had reached its lowest level. At the

beginning of the century Maxentius, the rival of Constantine, began that great Basilica in the Forum that was probably finished by the Christian Emperor. According to Professor Lanciani, the eight columns of white marble that ostensibly supported the vault came neither from Greece nor Italy, but from far-off Proconnesus, an island in the Propontine Sea, near Constantinople. The columns were fluted in the classic manner, and one of them now stands as a lonely outcast in the Piazza de Sta Maria Maggiore. The marble when fresh is bluish-white; it is coarsely crystalline and banded with a pleasing grey of various shades. I know of no other instance of its use in Rome, and it would be interesting to learn how it came to be used for the Basilica.

This is the marble said by Vitruvius, and Pliny after him, to have been used in the decoration of the Palace of Mausolos, more than six hundred years before the Basilica of Constantine was built.

From the time of Constantine Proconnesian marble became as important to the builders of the Eastern Empire as the white marbles of Greece and Italy had been to the builders of the Western.

As you know, the first churches followed the simplest type of pagan basilica, in preference to the grander type exemplified by the Basilica of Maxentius. The simpler type, with a colonnaded interior, just sufficient to support a wood roof, was easily and quickly erected, especially when the columns were taken, as they often were, from some dismantled building of pagan Rome.

Of these early churches in Rome very little is left beyond the columns, and the only one I care to draw your attention to now is the Vth-century Church of S. Sabina, where the original austerity remains undisturbed and most impressive. I have mentioned the antique fluted columns of Hymettian marble in the nave, but not the continuous stretch of *opus sectile marmoreum* in purple and green porphyry on a white marble ground over the arcades.

We must not linger in Rome, but hasten to Ravenna, where, in the Vth and VIth centuries, decadent Italian art was infused with "a ray of beauty from the East."

Among the marbles to be seen in the Ravenna churches the white with grey veining, from Proconnesus, is most prominent, but another favourite for bands and panels was a strongly-marked red-and-white foliated species, like that found in Laconia. In structure it closely resembles the Greek marble of Carystus, hence it is popularly known as red "cipollino." The sinuities of its banded formation are remarkable, and when the slabs are "opened out" the patterns are very striking, the whites are candid, but the reds seem to be suffused with the bloom of newly-gathered plums. The marble was also used at the same period in Constantinople, and

we shall meet with it as second-hand material at S. Mark's, Venice.

Apart from the Proconnesian columns of the nave arcades and fragments of ambrosian parapets, very little of the marble decoration is left in the basilicas of Ravenna, but, judging from a few slabs of Proconnesian plating that have escaped removal, I should say that the aisles and apses generally had a dado of the material. From the Basilica of S. Apollinare in Classe, most of the marbles were carted away in the XVth century for that church at Rimini, enclosed by Alberti. Fortunately the "cipollino" monoliths of the nave could not be removed without bringing down the church, and it was worth walking six miles on a frosty Sunday morning to see them and the glowing mosaics of the apse.

The domed polygonal Church of S. Vitale, the city, is, I regret to say, the abode of gods and evil geni; the former, represented by pure Byzantine art, belong to the lower part, while the latter, in shameless nudity, hover in the dome. I will therefore ask you to rivet your attention on the lower part, where in the restoration of the plating the old simple design I take it, has been followed. The walls of the ambulatory and the piers defining the angles of the octagon have a high "Proconnesian" dado, and on the sides of each pier are panels of red "cipollino," separated by bands of white edged with notched fillets of a type peculiar to Ravenna. In this refined scheme we get a hint of what was then being done in the far capital of the East.

Close to the Cathedral of Ravenna is a modest-looking octagonal structure, apparently not this is the famous Baptistery, erected, strange to say, in the first half of the Vth century. Entering directly from the Cathedral precincts, the visitor is scarcely prepared for the sudden outburst of splendour that forms a canopy to the venerable-looking font in the middle of the floor space. Four sides of the lower store disappear in the concavity of small apses devoid of their original decoration; but the five semicircular spaces of the alternate sides are filled in with superb examples of *opus sectile marmoreum*, the main lines of which are rigidly opposed to the curve of the enclosing arch. The materials are chiefly purple and green porphyry, beautifully inlaid with white linear ornaments that suggest embroidery.

Assuming the *opus sectile* was not designed for its present position, we need not hesitate to regard its introduction, in lieu of mosaic, as a clever and successful expedient.

Up to the present we have seen but a faint reflection of Byzantine art; for the art itself shall have to fight our way into Eastern Europe, where it appeared at the beginning of the VIth century so completely developed that we might imagine it to be of spontaneous origin, did not believe in the theory of artistic evolution.

From what is known of the marbles used in the Romans, and with the aid of that remarkable description of the Church of Sta Sophia Constantinople, written by a Byzantine poet in 563, there has been no great difficulty in identifying most of the marbles that still encircle the crown of Justinian's efforts.

To what extent the builders of that church availed themselves of second-hand material we shall never know, but we may assume that the idea of bands and panels for the plating of the nave was derived from Rome. Whether the superb monoliths of Thessalian green, 25 ft. 6 in. high, came from Ephesus, or those of Proconnesian white, in the galleries, came from Cyzicus, need not concern you; but if the porphyry columns of the exedrae were placed on pedestals because they had been sent, by lady friend, a little too short, it is worth remembering as a lesson in unaffected design. I do not attempt to describe in detail the decoration of a church I have not seen, but merely draw your attention to a few, as I imagine, of the salient features. The bands of the plating of the nave are generally lighter than the panels, but just above the skirting of the ground floor and that of the galleries is a well-defined band of Thessalian green. The use of alabaster translucent and golden, for the lighter bands, is remarkable; no doubt it gives a rich mellowness to the plating, and it may have softened the brilliance of the gold that is said to have been applied to the sculptured parts of white Proconnesian marble.

Although the possibility of a lavish application of gold to the sculptured parts cannot be overlooked, in view of certain literary evidence it has not, so far as I know, been proved, and the traces of gold and blue on the minor features



Detail of Marble Decoration from Arcade in S. Mark's, Venice.

land other Byzantine churches cannot be the question. The striking feature of the lower story is the use of black and red panels, with carved arches, that repeats in a measure the richness of the arcades.

The arches of the upper arcades are devoid of carving, but a frieze of inlaid marble on the wall spreads its flowing pattern in brown and white over the spandrels; while roundels of purple and alabaster enhance, by contrast, the delicacy of the inlay. Though entirely medieval, the casing of the arches rather suggests solid arcaded lintels.

The panels of the name plating are mostly of Egyptian green, and a black with white veins, but may be a streaky variety of *Marmor*.

There is also there a slab of purple porphyry or red marble which enlivens the design, and a touch is given to the plating throughout by the notched fillets that edge the panels and the arches.

The plating of the main piers in the aisles is formal; the panel system disappears, and the bands of Thessalian green and red "cipollino" slabs from Phrygia are alternated with others from Thessaly, only separated by thin fillets. The flat moulded slabs of the arches and frieze clearly express their official nature.

The artistic purpose of the responds separating the nave from the nave is seen in those that are more, suggestive than real, that reflect the light and the colour of the columns.

The plating of the galleries is of the simplest kind, like that at S. Vitale, Ravenna. The panels of *opus sectile marmorum* on the walls of the "Bema," and about the royal way, are also reminiscent of those in the Basilica of S. Mark, Venice.

S. Mark's, Venice: Internal Decoration.

Turning to the western shores of the Adriatic, in the fifth century, we shall find a picture not at all in a flourishing condition; in the following century the proto-Byzantine style of Italy was altogether extinct. Italian architects were thus left to their own devices, and the result was a mixture of Italian and Byzantine elements, architectural development chiefly depending on the former, decorative on the latter.

Keeping parapets, ciboria, capitals, and episcopal thrones, there is but little marble decoration of this period to interest us; the creation of a new style was in progress; the transformation of the Italo-Byzantine into the Baroque.

In renovating the IXth-century basilicas Lombardic architects retained the Italo-Byzantine marble enrichments, and adapted them to the new conditions. Sculptured capitals, from screens and ambos, were set in the columns were multiplied for external use; and arcades; and triangular slabs of variously coloured marbles were applied to the friezes, as at the Cathedral, Murano.

The Italo-Byzantine work at Torcello, inferior to the proto-Byzantine work at Venice, cannot be overlooked by the English architect who has felt the inspiration of "The Islands of Venice."

Torcello, as everywhere in Italy, the work of time has been checked and its marks obliterated. The white marble columns of the cathedral, with their capitals of native workmanship, seem to have withstood the ages; but, looking at the screen, the ambo, and the episcopal throne, we are haunted by the thought that these rare relics of departed splendour have been taken down and re-erected more than once. The Phrygian column of the "iconostasis," however, still retains its matchless beauty.

Turning to Venice, preferably by gondola, look on the latest example of Byzantine architecture in Italy with renewed interest, for, in any of the other churches I have mentioned, the Cathedral of S. Mark has its own as well as the interior cased with marble. This peculiarity is mainly due to the



"Opus Sectile" in Purple and Green Porphyry and White Marble.

fact that the Greek architect who planned the building had no hand in its decoration. He certainly did not dream of casing the outside with marble; though no doubt he assumed that the interior would be so treated, probably in the manner of those churches in Greece and the Far East that exhibit fully-matured schemes in strict conformity with the structural lines of the building. This unity of purpose was not, however, destined to be realised; and, as Ruskin has said, "the church of S. Mark became rather a shrine at which to dedicate the splendours of miscellaneous spoil than the organised expression of any fixed architectural law or religious emotion."

When the structure was finished in 1071 agents were sent everywhere for marbles for the paving, but thirteen years later this elaborate tessellation was still unfinished. The Venetian arches do not, I believe, throw much light on the progress of the interior wall plating; they relate more to the mosaic and the decoration of the exterior.

The wall plating was probably delayed, and in the meantime the columns, the gallery parapets, and the screens, ambos, and ciboria from the earlier basilicas would be the most interesting features of the interior, excepting perhaps some of the mosaics.

The columns are mostly slender shafts of Proconnesian marble, sometimes suggesting in their veining the transverse markings on the stem of a silver birch-tree; but in the shadow of the aisles are clustered some venerable and sturdy shafts of grey granite, probably brought from a Byzantine church in Sicily for the earliest basilica at Venice.

Although S. Mark's is a church of two stories, the marble plating of the interior rises nowhere higher than the parapets of the galleries. The arrangement of the slabs is generally artless, without any definite scheme beyond that imposed by using second-hand material in the simplest possible way; and it could not be more opposed to the expression of organic construction. The slabs are merely fixed side by side, in tiers, like vertical strips of boarding, with the veining "opened out."

For the main piers and the spandrels of the arcades Cyprian green is used; and for the walls the plating is, in some places, entirely of Cyprian green, and in others entirely of Proconnesian white.

Looking beyond the columns of the nave we see on the walls of the aisles the rich effect of studied design. Instead of monotonous ranges of narrow slabs, the long stretch of plating, up to the string at the level of the capitals, is arranged in seven upright divisions, defined by different marbles; the greens of Cyprian and Thessaly, the white of Proconnesus, red "cipollino," and a red "lumachella." Above the string the white Proconnesian frieze is enriched with the well-known series of mosaic panels that suggest enamelled plaques of the XIIth century. These may have been inserted after the removal of the gallery floors, otherwise they could hardly have been seen. Where the ends of the floor beams once rested on the walls there is now an arcaded cornice of red Verona marble; this is also continued along the inner side of the gangways to receive the arcaded balustrades.

Comparing the arcades of S. Mark's with those of Sta Sophia, Constantinople, and the Sicilian Norman churches, the Venetian example seems to suggest a compromise in the manner of its decoration; for, instead of the arches being entirely cased with marble or covered with gold,

the conditions seemed to necessitate the use of both materials, the mosaic being confined to the underside of the arches by the marble architraves.

In the Church of S. Luke, Phocis, the plating of the arches is also so intimately associated with the mosaics that the two can scarcely be considered apart, but in this instance the decorators were faced with a more difficult problem.

Time will not permit us to linger over those minor features of S. Mark's that add so much to its interest; but before leaving the interior the little chapel of S. Isidore, at the end of the north transept, has a special claim on our attention. Finished in 1355, it exhibits the characteristics of Venetian art at its best. Below the string at the springing of the barrel-vault, gleaming with gold, the side walls are plated with large upright slabs of Proconnesian marble, alternated with narrower strips of purple porphyry, and the green breccia of Thessaly. An unmistakable Venetian touch is seen in the little piscina, with its Arabic arch, and roundel chiselled into a Byzantine fancy. Contrasted with this simple and flat decoration is the vigorous expression of the Pisan school, at the east end of the chapel, where the sculptured tomb of the saint occupies a recess behind the altar.

Besides the typical antique marbles used at S. Mark's, I would draw your attention to others from the Venetian territory, which, no doubt, were specially quarried for the building. Various breccias, shell marbles, "broccatello," and a mottled green, like the serpentine limestone of Prato, are used throughout the interior for the seating, and for borders to the general plating. These local marbles, though not unimportant in the decoration of S. Mark's, became much more prominent during the progress of the Venetian style, and in Verona and the cities of Tuscany they were exclusively used for external decoration in a way quite original.

The "lumachellas" are, of course, not metamorphic or holocrystalline, but masses of comminuted shells enclosed in a calcareous cement that may be either pale yellow, red, grey, or black.

The "broccatello" also contains organisms in the shape of ammonites and belemnites, sometimes clearly defined, though generally the mass is confused and mottled; the colour varies from yellow to red. These limestones were got chiefly from the hills around Verona. The quarries were worked by the ancient Romans, who, in the time of Diocletian, selected a flesh-coloured variety as a building material for the amphitheatre at Verona. Examples of the red "broccatello" of Verona are in the Victoria and Albert Museum, notably some well "heads" from Venice and a monument from Verona.

The most typical of "broccatello," however, is that found near Tortosa, on the east coast of Spain. Its bright yellow organisms and deep-red paste at once suggest the rich gold brocade after which it has been named.

I do not know that this particular kind of "broccatello" was used at S. Mark's, though, at a later period, during the Spanish rule, it appeared in Naples, where some fine examples are to be seen. In this country you will find large specimens in the Wallace Museum; and if you can shut your eyes to the *Baroque* surroundings there you may think of the Greek physician, Dioscorides, who mentioned the marble of Tortosa nearly two thousand years ago.

S. Mark's, Venice: External Decoration.

The façade of S. Mark's is bleached, and in many places the original tinting is obscured by corrosion and "the golden stain of time"; yet, when seen from the opposite end of the Piazza, the building presents a delicate suggestion of opalescence, heightened by contrast with the deep gloom of the porches. As you get nearer your attention is focussed on the four bronze horses that once stood in the *agora* at Chios, and you feel that the art of the Grecians is eternal.

You try to imagine the church first as it stood, for two centuries, without any decoration, and then when the lower story, in the XIIIth century, was marked with the spoils of conquest, while the upper parts remained venerable-looking and bare.

You examine with interest the details familiarised by Ruskin half a century ago—the "lily" capitals, the "vine in service," the storied archivolts, once seemingly wrought in gold, the clustered columns that served as ballast for the galleys of the fleet, and the strange assortment of sculptured slabs of various ages that decorate the plainer surfaces like pictures on a wall.

Finally, when you look on that later fantasy of the upper story you realise that the exterior of S. Mark's was a reflection of the wealth and power of the Venetians, and that it stands alone, not only in the methods of its production, but in its final results.

Limiting our attention to the XIIIth-century renovation of the lower façade, as most relevant to our subject in point of date and purity of style, we note, firstly, that the main structural lines, due to the plans of the Greek architect, were followed, but the organic decoration, due to Lombardic influence, was entirely disregarded.

Before the renovation, the central porch rose unrestrained, as it does to-day, but, for the new scheme, it was widened and thus made more important. The impost slabs, at the springing of the arches, follow the original levels, but the novel scheme of the XIIIth-century decorators required something more than a thin shelf to separate the upper range of columns from the lower, so an extra shelf was raised on a blocking course or frieze, which, like the seating of the basement below, gives rigidity to what may be termed the columnar revetment. Only in the shadow of the central porch are the upper columns placed directly on the thin slabs, without the intervening frieze. The lavish application of columns to the piers may perhaps be regarded as an elaboration of Lombardic or Romanesque tradition, but the omission of arcading is, I think, without precedent, unless we admit the treabated portals of Arles and S. Gilles.

To the XIIIth-century renovators are due those elegant extensions of the main façade that give a sense of security at the angles of the building. Respecting the plating, we note, where it is not obscured by columns, how it has been made interesting beyond the intrinsic beauty of the marble by using it as a background or setting for sculpture and panels. Plain unbroken spaces are avoided by some conceit strictly opposed to the natural lines of the architecture; if the space is a spandrel, it has a panel or a niche in the middle of it; if a tympanum, the curve of the arch is opposed by straight lines; if rectangular, it is inlaid with discs, panels, and borders, like a pavement. Some of these compositions are artistically beautiful, others are ingeniously clever; though it is probable that many of the older sculptured slabs occupied corresponding positions on the brick fronts of the XIth century, just as Lombardic panels are found decorating other churches of the Lagunar cities. The panels are invariably surrounded by borders of red or green marble, and the superficial character of the plating around them is candidly expressed by the use of narrow upright slabs. It is also indicated on the arches, where the thin edges of the soffit slabs project to receive those on the front; this also applies to the sculptured archivolts. The influence of Byzantine refinement is also indicated by the absence of heavy mouldings, and the substitution of dentilled strings, archivolts and notched filets.

The main salient angles of the exterior are finished with a solid and fluted strip of red marble, flush with the plating; this feature, elaborated into a twisted shaft, was invariably adopted to emphasise the angles of the Gothic palaces of the city.

The columns present a miscellaneous collection of marbles, but their disposition on the

building shows that they were selected in some cases for their colour. Thus the central porch is made regal by shafts of purple porphyry, contrasted with others of white marble, and these support slender shafts of black and white breccia, now mellow with age. On each side of the central porch, facing the Piazza, are shafts of Thessalian green, and the Greek or Proconnesian white, supporting others of white only. The disposition of the remaining columns is somewhat promiscuous, though it may be noted that those on the right of the main façade and on the return front facing the south are of richer marbles than those on the left and north; indeed, the south front, though restricted in length by a remnant of the old Ducal Palace, was always more important than that facing the north, and to understand it we must imagine it in the XIth century, when the Zeno Chapel was a porch, opening on to a canal, that surrounded the walls and towers of the Palace. The two isolated Byzantine pillars, close by, seem to reflect in their lapidario way the mooring-posts of the old canal.

The interior of S. Mark's was the last in Italy to be plated with marble in the simple Byzantine manner, but the innovation, from the Byzantine point of view, of casing the exterior became an established practice. This reversal of the old order of things was due to developments in architecture, and to the rise of the various schools of painting. In the course of time marble decoration assumed more and more the forms of solid construction, its legitimate application was lost sight of, excepting a very brief period at the end of the XVth century, when the Lombardi of the Renaissance attempted to revive it.

Norman Churches of Sicily.

It now only remains for us to glance at that peculiar phase of Byzantine influence on decoration to be met with in the churches of Sicily, built during the Norman occupation.

The result of a fusion of Byzantine and Saracenic traditions, this decoration is unlike anything we have yet seen. Apart from the richly-inlaid ambos, screens, and pavings of these churches, the marble plating is invariably limited to a high dado on the walls. Above the dado and the gilded capitals of the columns the walls and arches are entirely covered with mosaic.

The distinguishing feature of the plating is an Oriental or Saracenic application of geometrical patterns in glass and marble mosaic, a type of inlay repeated at Salerno, Ravello, and elsewhere, for pulpits, etc., and closely allied in style to the work of the "Cosmati" school of Rome.

The most beautiful example of Siculo-Norman art in Palermo is the Palatine Chapel, built by King Roger II. in 1143. The chapel is small, and so are its windows, but when the eye has mastered the prevailing gloom the effect is gorgeous, the mosaics scintillate, and the deep stalaetite ceiling of the nave has a lurking splendour of purple, peacock-blue, and gold. Behind the columns of Egyptian granite and Carystian marble we seem to see on the aisle walls a hanging and valence with appliqué enrichments; this is the dado and frieze wrought in glass and marble mosaic, on a ground of white Proconnesian marble; and, as if to emphasise the general delicacy of the incrustation, large slabs and roundels of porphyry, bordered with mosaic inlay, are inserted at intervals below the frieze.

Of the same date, and similar in its decoration, is the church known as "La Martorana," in the same city.

After the mysterious beauty of these little churches the spacious and brilliantly-lighted interior of the Cathedral of Monreale is quite surprising. Built at the end of the XIIIth century by the last King of the Norman dynasty, in Sicily, this church is more transplanted in its decoration than the earlier churches in Palermo; yet this is not so evident in the marble decoration as in the art of the mosaic-worker and the sculptor. Indeed the high dado all round the church differs only from the earlier work in having no slabs or roundels of porphyry, the plating being entirely the greyish-white of Proconnesian arranged in narrow slabs, with intervening strips of mosaic edged with plain white heading. The deep frieze, inlaid with mosaic of "arabesque" and varied pattern, is also repeated. The vertical lines of this dado adapt themselves to the curve of the apse as naturally as a curtain hung on the wall. The mosaic is threaded with thin lines of cream-

coloured stone that soften the harshness of the vitreous tesserae, and have the same artistic value as the strips of pearl used in the inlay of the Arab work in Cairo, about a century and a half later."

Mr. A. E. Henderson,

in proposing a vote of thanks to the author, said that, knowing as he did a great many of the buildings which had been mentioned, it made him wish to revisit them, because he realised now how little he knew of them. He would like to study them again with the eyes and knowledge of Mr. Marshall. The author had refrained from mentioning any of the beautiful examples of marble in London, but they knew that within a few hundred yards of the Architectural Association they were to be seen. At Westminster Cathedral they could see the marbles mentioned by Mr. Marshall, and with a better knowledge of those marbles they would get to love the building more than they did even now. He would like Mr. Marshall to issue a guide to them. He was much impressed when he first read about the removal of columns from place to place, how porphyry quarried in Egypt was taken to Baalbek, then used in some temple at Rome and lastly given to Justinian for Santa Sophia. We would like to know whether these columns were at Constantinople before the architect designed the building, or whether he first designed the building. He thought in all probability the columns were on the spot, at any rate the architect knew of them. Mr. Marshall had referred to the difficulty of moving columns in Rome, and perhaps it was not generally known that the reason why Cleopatra's Needle was on the Thames Embankment was simply because the surveyor for the Metropolitan Board of Works would not guarantee the safety of the sewers if it were moved to the British Museum. The author had not told them what he considered the best surface for marble, but his (the speaker's) opinion was that it should not be brought to a wax polish. It should be left almost at its best; but if it was brought to a highly-polished surface it looked tawdry. Some alabasters, however, could bear almost the highest polish. The Verde Antico they saw before them was too highly polished, but that part of it which had been exposed to the atmosphere was far more beautiful. The weathering of marble was always interesting. In the archaic temple at Ephesus, which Mr. Marshall referred to, he came across some crystallised sand, which proved to be nothing but disintegrated white marble. The temple was built near the sea, and the marble had been in the damp for centuries, and it was probable that the crystalline formation had been going on, and so it had disintegrated. Curiously, however, the outer surface, which had been worked, was often perfectly hard, and it was the inner material which had decayed. Mr. Marshall had dealt with the history of marble, but had not told them of the best way of using it in design. He hoped that the author would favour them later with a paper on the design of marble surfaces for walls and buildings. They studied the old buildings, but, of course, they did not represent the modern view of things. The old buildings were more a matter of history, and times were changed, now we had wallpaper, hangings, and pictures. Nowadays they wanted to decorate walls in some fashion which would please their clients and also please themselves.

Mr. W. S. George,

in seconding the motion, said that for three or four years he had been in close contact with Greek and Byzantine buildings. Mr. Marshall had inadvertently suggested that the Greeks did not use any other than white marble, but they did in certain buildings use black. The author also rather carelessly doubted on the use of colour on marble, and suggested it was only done to hide the grey streaks in what was otherwise white marble. He had seen a good deal of Greek work newly dug up, and had no doubt but that Greek work right into the Hellenistic period was coloured. If one went to the Acropolis Museum one would see that the putting of colour on marble was quite the right thing. Colour was put on from the archaic period and went right on into the Hellenistic period. They had the sarcophagus of Alexander as an example. He would plead for the use of colour on marble wherever possible, as it was the highest test of its capability. It must, of course, be put just in the right place and very carefully used, but where it could be used it was au-

ARCHITECTURAL SOCIETIES.

Hampshire and Isle of Wight Association of Architects.

grace. When they passed to Byzantine one was conscious of great change. Greek aimed at high perfection both in design and finish, but the Byzantine workmen often far from perfect, and in San Sophia were many pieces of design none of them passing. In looking at the work of these artists one must recognise that the art was historical rather than always a bit of design. He was quite sure that the lines used colour on their carving, and the little notched fillets were painted red. On the white marble they quite used colour and gold. Motion having been carried,

Marshall, said he had only touched on the of the subject, but he hoped it would starting-point for some of the younger ers to make further inquiries. He agreed marble should not be polished to its highest e. He would leave the polish just sufficient w the crystalline structure of the marble. ould like to know whether the marble or the archaic temple at Ephesus differed hat used in the latter temple.

Henderson said it did. It was slightly than the latter, but they were both local s.

Marshall had not overlooked the black frieze used e Greeks, but he hardly considered that example of the use of coloured marble. s paper he meant to imply that they ed the work because it allowed them to use tian marble whether it had grey markings

George said the statues were not covered etely with paint. There was a great deal e marble left.

Marshall hat was a matter not perfectly known. s suggested that the temples had a lighter put on to take away the harshness of the e. The point as to the application of e to the sculptured part of San Sophia had e been proved; but very probably gold sed on the raised parts. He thought his ad been long enough without him ing out into modern methods of working e and design.

President announced that the next ing will take place on November 25, a paper entitled "The Prosaic in an ect's Work," by Mr. Horace Cubitt, B.A., will be read.

TO THE WESLEYAN CHURCH HOUSE, WESTMINSTER.

first visit to this building was paid by chitectural Association at quite an early e of its construction. Subsequent visits ited it structurally almost complete, and gain during decoration. The fourth and visit on November 16 gave an opportunity ding the finished result of a building ection has been followed with interest e architectural world at large. It comes e rare class of worthy additions to London's marks.

recent and extensive have been the ptions which have appeared that it seems s to recapitulate points of planning e design, which must be familiar to all's of the technical Press, but it must be ed with what satisfaction architects ally welcome the creation of an important e in which the aesthetic motive is e, coherent, and consistent, and the vity yet subservient to the main con-

series of sensations produced by travers- e main entry to the large hall is one of e architectural experiences to be had e—A low and severely treated vestibule ding into the spacious, lofty, and sumph- hall with its dignified stairs, contrasted tly by the wide, low ante-hall and foyer, e final climax of the great domed hall, e void what one feels confidently to e rated effects which cannot fail to impress ot insensitive beholder.

Great Hall seen bare in the murky light ul November afternoon perhaps appears ut peopled and under artificial light it ave a finer effect. A large party of ers greatly appreciated the visit and eckards' kindness in himself attending.

A meeting of this Association was held at Winchester Castle on the 19th inst., Sir William Portal presiding. Twenty-five new members were elected, and arrangements for meetings at Portsmouth (December 17), Bournemouth (January), and Southampton (February) were discussed. After viewing, at the President's suggestion, the ancient Sally-port of the Castle, the party proceeded to the Cathedral, where they were met by Mr. T. G. Jackson, R.A., who conducted them round the building inside and out, and returned with them to the Castle. An address on the objects of the Association by the President was followed by one by Mr. Jackson on the work at the Cathedral, and in the course of discussion the parlous condition of Sta Sophia was described. The Association, although only founded this year, has already a representative membership in the county, Southampton alone having sixteen members.

Aberdeen Architectural Association: House Drainage.

Mr. D. T. Byres,burgh Surveyor's Department, Aberdeen, was the lecturer on Saturday last week at a meeting of the Aberdeen Architectural Association. Mr. Harbourn Maclean presided, and called on Mr. Byres to give his lecture on "House Drainage," pointing out that the subject was one of great practical interest to architects and others.

Mr. Byres, in the course of his lecture, said it was incumbent on all who were architects, house proprietors, or occupiers, to recognise it as their duty, as it would be to their interest and benefit, to continue to aim at getting as perfect a system of drainage as possible. Efficient drainage need not necessarily be more costly than bad drainage, he contended, for the days of rough irrigation were now a thing of the past in this part of the country. Mr. Byres then gave a very practical address, which was illustrated by a large number of lantern views of pipes, etc., and also by the exhibition of a number of models.

Edinburgh Architectural Association.

On Saturday last week a party of about fifty of the members of the Edinburgh Architectural Association visited the new Freemasons' Hall and offices in George-street. The party was received by Mr. A. Hunter Crawford, the architect of the new building, who explained the general arrangements and accommodation in the various floors. After having seen the building, the company was entertained to tea by Mr. Crawford. Mr. A. Lorne Campbell, President of the Association, proposed a vote of thanks to Mr. Crawford, and took the opportunity of intimating that the Council of the Association had decided to make him an honorary member, to mark their appreciation of his past services to the Association. The party afterwards visited the new Hall and offices of the United Free Church, which were not completed when the Association visited the building a year ago. Under the leadership of Mr. J. A. Arnott, Lic.R.I.B.A., the new Presbytery Hall and the offices and committee-rooms on the various floors were inspected.

Reports of meetings of other architectural societies are held over until next week on account of the pressure on our columns.—Ed.]

GENERAL NEWS.

Appointment: Admiralty.

Mr. W. J. Clarke, Superintending Civil Engineer, Devonport Dockyard, since 1901, has been appointed as Assistant Director of Engineering and Architectural Works to the Admiralty, vice Mr. T. Sims, promoted.

Association of Austrian Architects.

It is announced that Mr. John W. Simpson, F.R.I.B.A., and Mr. Leonard Stokes, F.R.I.B.A., have been appointed corresponding members of the Zentralvereinigung der Architekten, Vienna.

The Board of Architectural Education, R.I.B.A.

The Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:—

Subject V.—*Design for Art Gallery*.—Messrs. H. Charlton Bradshaw, J. Carey, A. D. Clare, G. Davidson, A. E. Davidson, N. S. Dixon

W. E. Foale, E. Gee, F. Jenkins, T. T. Jenkins, S. Stevenson Jones, F. O. Lawrence, B. A. Miller, B. Newbould, A. N. Shibley, S. Soper, A. Thomson, W. H. Thompson, A. Wilson. *Design for a Village Church*.—Messrs. H. R. Atchison, P. D. Bennett, G. F. Charlewood, Allan L. Freaker, H. W. Hallas, H. J. Higgs, Robert M. Love, A. E. Lowes, E. A. L. Martyn, F. James Maynard, A. Nisbet, A. J. Sparrow, Wm. Voelkel.

Architectural Association Athletic Club.

A dance of the A.A. Athletic Club will be held at the Wamcliffe Rooms (Hotel Great Central) on Monday, December 2, 9 till 2.30. Tickets, to include supper and refreshments, can be obtained for 8s. 6d. each from the Hon. Secretary, Mr. Philip E. Webb, 19, Queen Anne's-gate, Westminster, S.W., and Mr. G. D. Gordon Hake, 9, Park Mansions, S. Lambeth-road, S.W.

The New Mayors: London Boroughs.

Mr. Charles Fitzroy Doll, F.R.I.B.A. (1901), has been elected Mayor of Holborn; Mr. J. P. Brogan, electrical engineer, Battersea; Mr. H. G. Norris, M.W.B., estate agent and builder, has been elected, for the fourth time, as Mayor of Fulham; Mr. G. W. Holtzapffel, C.E., as Mayor of Hampstead; Alderman G. S. Elliott, M.A.B., L.C.C., and M.W.B., Islington (seventh time); Alderman J. Williams, timber merchant, Lambeth; Alderman H. C. Handover, builder, Paddington; and Alderman A. D. Dawney, engineer, Wandsworth (fifth time).

Sites for New Schools, London: Session 1913.

Application will be made to the Board of Education for an order to enable the London County Council to put into force the powers of the Lands Clauses Acts with respect to the compulsory acquisition of lands and properties as sites for new schools. The proposed sites, in number 93, are distributed in the metropolitan boroughs of Battersea (7), Bermondsey (5), Bethnal Green (3), Camberwell (3), Deptford (4), Finsbury (1), Greenwich (3), Hackney (8), Hammersmith (5), Islington (10), Kensington (3), Lambeth (3), Paddington (5), Poplar (12), St. Marylebone (1), St. Pancras (2), Shoreditch (2), Stepney (10), Stoke Newington (1), Wandsworth (3), and Woolwich (2). The individual areas range in extent from about 68,407 ft. at Clapham-common (North-side), and about 64,590 ft. in Isdonia and Adolphus streets, Deptford, to about 1,720 ft. in Emily-street, Paddington. They comprise the sites and buildings of the United Methodist Free Church, Kensal Green, the Goldsmiths' and Jewellers' Asylum in Holcroft-road, Hackney, and Crawford-street, with forty-five houses in the Crawford-street district, St. Marylebone. Plans may be seen at the County Hall, Spring-gardens, S.W.

Exhibition of Etchings and Lithographs.

Mr. Joseph Pennell has accepted the invitation of the Fine Art Society to exhibit at their Galleries, 148, New Bond-street, a representative and practically complete collection of his etchings and lithographs, including the new series of the latter depicting the Panama Canal. The private view will be held on November 29 and 30, and the exhibition will remain open during December. Complete sets of the Panama Canal series have already been acquired by the authorities of the Victoria and Albert Museum, by the United States Government for the Library of Congress, and by the Isthmian Canal Commission, for preservation as a record of the work of construction.

Art Treasures for South Africa.

Mr. Max Michaelis has purchased from Sir Hugh Lane the forty-six pictures of his well-known collection of XVIIth-century Dutch masters, in order that they may form the nucleus of a national gallery in South Africa. The gift comprises examples of Frans Hals—his "Portrait of an Old Lady," signed and dated "1644"; Jan Steen; Van Dyck—his whole-length portrait of John Oxenstierna, Count of Sodermore; Snyder (the "Concert of Birds"); and Jacob Ruysdael. There is also Rembrandt's "Portrait of a Young Woman," which in 1880 was sold for rather more than 6,000*l.* at the dispersal of the Demidoff Gallery. The paintings by Ruysdael are the "Mountainous Landscape" and the "Hill of Benheim"; the two by Jan Steen are his "Continence of Scipio" and "Dancing Dog," with a likeness of the artist. It is expected that the collection will be exhibited in London before it is transhipped to the Cape.

Planning of Delhi.

In Friday's Parliamentary Papers Mr. King asked the Under Secretary of State for India whether the report of the committee appointed to advise on the site and planning of the new Delhi was a unanimous report signed without reservations by all the members of the committee; whether the report would be published; if its publication was not intended, whether the report recommended that the new Government buildings be erected in the Italian Renaissance style of architecture; and whether this advice would be followed.

Mr. H. Baker replied that the report was unanimous and without reservations. It was confined to the selection of a site for the new capital and had nothing to do with the style and architecture of the buildings. The question of publication must stand over until the Town Planning Committee had completed their inquiries.

The Old "Devil" Tavern, Temple Bar.

After an inaugural dinner of the Poets' Club recently an interesting paper was read by Mr. Ernest Rhys upon "The Apollo-room at the Devil Tavern." The tavern had for sign St. Dunstan pulling the devil's nose with his tongs or pliers. The Apollo-room adjoined the Old Devil; there was, next to Dick's, close by, a young [or Little] Devil tavern; it was renowned for the symposia, when Sir Wadlow was landlord, of Ben Jonson's sodality for whom he composed his *leges convivales*, and is familiar by name to readers of Pope, Steele, Addison, and Swift. The tavern gave place in 1788 to Child's place, by Child's (old) banking-house, wherein were preserved the bust of Apollo, and the tablet of the *leges*; inscribed in gilt letters over the door were Jonson's lines beginning with: "Welcome all who lead or follow, to the oracle of Apollo." The room gave a name to Apollo-court on the opposite side of Fleet-street, just within the Bar, by the (old) Cock Tavern, which the court lighted, and in it were sold, on March 18, 1703, the jewels of La Belle Stuart, Duchess of Richmond. In the gallery was rehearsed the music of the Laureates' Court-day odes.

Byzantine and Romanesque Architecture.

The Cambridge University Press will publish very shortly "Byzantine and Romanesque Architecture," by Mr. T. G. Jackson, R.A. This work, which will be in two volumes, will contain an account of the development in Eastern and Northern Europe of Post-Roman architecture from the IVth to the XIIIth century, with more than 300 illustrations, mostly from the author's sketches. It is attempted not merely to describe the architecture, but to explain it by the social and political history of the time. The description of the churches at Constantinople and Salonic, which will have a special interest at the present moment, is followed by an account of Italo-Byzantine work at Ravenna and in the Exarchate, and of the Romanesque styles of Germany, France, and England.

MAGAZINES AND REVIEWS.

THE *Burlington Magazine* opens with an article on Iberian Sculpture by Jose Rijoan, who discusses those strange herds of stone oxen, sometimes granite, sometimes limestone, that are found upon the high plateau of Castile and elsewhere, and which have been for ages the subject of folklore and tradition in Spain. It is agreed that they belong to the type of the Chaldean Bull. It turns up in Crete. The rock surfaces in some parts of the Maritime Alps are scored over with ox-like forms that resemble at first sight some strange hieroglyphic. Its actual path from the Mesopotamia to the Far West has never been clearly identified. The Minoan discoveries at Knossos threw a strange light upon it. Pictorial representations belonging to this period of young girls turning somersaults over bulls' backs have identified themselves with the modern Spanish bull-fight, while they at the same time throw light on the legends of Theseus and the maiden tribute of Athens to the Minoan monster. The man-headed bulls that stand before the Palace gate of Sargon present the Iberian bull in yet another form. Did he originate in that old Babylonian empire before it fell to Nimrod, the son of Cush, whom we read of in the book of Genesis? A far-distant pastoral race must

once have shepherded this monolithic flock. The writer further discusses the "Lady of Elche" head from the Louvre, concerning which many theories have been rife. In the opinion of the writer, "its author was a Spaniard, an Iber; its style alone is Greek, but its soul, the same Iberian soul everywhere, could not be a variation by any foreigner." A number of mutilated female figures were found some time ago at the Cerro de los Santos in the province of Almeria among the ruins of a building that had the form of a small temple *in antis*, statues which are thought to be "ex voto" like the Ionic female figures called Horai of the Acropolis and other Greek sanctuaries." The Elche head is far superior to these in workmanship. Nevertheless an interesting restoration has been attempted by placing this head upon one of the Cerro remains, and this reconstruction is represented in a coloured plate.

The *Connoisseur* for October (which we received too late in the month for notice) opens with an article on Mezzotints from a private collection. Whatever this art may owe to Prince Rupert and the Dutch School, the group of artists who practised it in England made it one entirely their own. The names of Valentine Green, John Raphael Smith, James McArdell, and Richard Houston have made the English school of engraving for ever famous. The shortcoming of the mezzotint process lies in the fact that very few copies of first-rate excellence are obtainable from the plate; little conception can therefore be formed of the resources of this art from the impressions usually met with. The *Connoisseur* is always ready with suggestions for the modest collector. On this occasion it offers "English Brown Ware and Stone Ware" and "Snuffers." Good specimens of these wares are not readily met with which can boast a greater age than some fifty years or so. Doultons, we believe, still produce the old patterns which were once familiar objects among the household utensils, as jugs and children's mugs.

Snuffers may still be picked up for a shilling a pair. Many of the steel examples are of fine workmanship and often of the most ingenious mechanism. There is a type possessing a shutter which pushes the fragment of smouldering wick into the box and secures it there, so rendering the snuffers immediately serviceable for renewed use. A columbarium-shaped snuffer-box, which is illustrated, is both attractive and unusual. Though not referred to, one meets with small tongs of a similar style of workmanship and resembling pivot pattern sugar-tongs, for the purpose of extinguishing the candle.

The November number contains an article on "Robert Adam, Hepp white and Sheraton." How far Robert Adam influenced the cabinet-makers of Soho or how far he was influenced by them is a nice matter. Adam was at least as much gifted with business capacity as with a power of original design. He gathered round him the most skilful draughtsmen and designers. A perusal of the collection of drawings at the Soane Museum bear evidence of this. Details by his own hand are singularly unworkmanlike. To his attainments in speculative building whole acres in the West-end bear testimony. Styles are evolved, although under circumstances that are exceptional a genius may anticipate if not create them. Inigo Jones may be accounted a genius of such kind, but we should hesitate to say the same of Robert Adam. The collector of unadorned trifles is presented with a review of old "Fire Mark" wall tablets. In character these are reminiscent of the old cast stove back, though in design they are crude for the most part.

The *Studio*—an especially good number—opens with an article on that remarkable artist, Anders Zorn. Zorn is perhaps best known in this country by his etchings. Dr. Axel Gauffin, who writes the article, is rather concerned with his painting. But whichever it be, Zorn's extraordinary command of op-art effects are alike displayed, and his great effort is the accomplishment of the nude figure under powerful sunlight. This is followed by an illustrated article on the work of Mr. Muirhead and followed by one on "Open-Air Museums in Norway." The success of these is chiefly due to the efforts of M. Sandvig, who established one at Lillehammer in 1888. The simplicity of the old Norwegian house, both in construction and arrangement, lends itself to happy restoration. It belongs in a sense to all time, and escapes any suggestion of the "side show" which may beset an effort in this

direction. Indeed the principles of this old-world building construction, with the timber frame walls, each 3-in. plank notched into the other at the corner, is still practised in the village. The old *ramloft-stue* showed virtually an arrangement of rooms that belongs to an own simple plan of hall or living-room, a smaller room at the end with the *solar* it. The *ramloft* corresponds to the *solar*, and the roof-tree of the example referred to the author bears the date of 1565. The elevation of the *ramloft* above the main roof gave a distinctive style to these ancient houses.

Mr. Joseph Pennell illustrates in lithograph "The Wonder of Work on the Panama Canal." That these drawings are able, goes without saying. Yet it is just this sense of wonder which we miss, the sense with which Muirhead Bone, for example, invests his conception of a great constructive enterprise. The *Art Annual* is devoted to a review of the work of Mr. Joseph Farquharson, A.R.A. *Brickbuilder* (Boston, Mass.) contains some noticeable examples of modern brick architecture in America, while the *Architectural Record* continues its summary of English American Churches, those old-time Georgian creations that compare so strangely with the twenty-storied "Trinity Building" in the same number.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in County Hall, Spring-gardens, S.W., Mr. Chylesmore, Chairman, presiding.

Loan.—The Finance Committee recommended and it was agreed to make a loan of 6,000l. to the Poplar Borough Council for electricity undertaking.

The Late Mr. Norman Shaw.—The death of Mr. Norman Shaw was referred to by the Chairman of the Council, who said that many valuable voluntary services had been rendered to the Council by Mr. Shaw in connexion with various improvements and as assessor in the County Hall Competition. Other references were made by several members of the Council and a vote of condolence with the family of the architect was moved and carried.

New Western Road.—The Improvement Committee presented a report dealing with the negotiations which had taken place between the Road Board and the Council with reference to the proposed new road from the western end of West Cromwell-road to Brentford Hill street, and the Committee recommended that the offer of the Road Board to contribute 10 per cent. of the actual cost of a western approach road from King-street, Hammersmith to Cromwell-road should not be accepted. In view of the limitations laid down by the Board. After some long discussion the Chairman of the Committee proposed that "the Council feels great difficulty at the present time in embarking upon the very heavy expenditure necessary for the construction of the proposed western approach road, and that, without prejudice to the present proposal, the Road Board be approached with a view of ascertaining whether they would be prepared to co-operate with the Council in the execution of other improvements of great value to the traffic of London."

This proposal was agreed to, and a further proposal was then made to the effect that the improvements referred to should include "pressing improvements" in the County of London. This was also agreed to and added to the Committee's proposal.

Cinematograph Theatre.—Drawings have been submitted by Mr. F. H. Adams for a cinematograph hall proposed to be erected at the Commercial-road, Stepney.

BOOKS RECEIVED.

THE LAW OF REPAIRS AND DILAPIDATIONS. By T. Cato Worsfold, M.A., LL.B. (London: Pitman & Sons. 3s. 6d. net.)

THE STORY OF ARCHITECTURE IN OXFORD STONE. By E. A. Greening Lamborn. (Oxford University Press. 3s. 6d. net.)

THE NOTEBOOK ON ARCHITECTURE. By H. J. Fox. (London: J. M. Dent & Sons, Ltd. 1s. net.)

Supplement to THE BUILDER, NOVEMBER 22, 1912.



THE LATE MR. R. NORMAN SHAW, R.A.

ILLUSTRATIONS.

Parliament Buildings, Winnipeg.

THE final competition for the Parliament Buildings, Winnipeg, was limited to Messrs. E. & W. S. Maxwell (Montreal), Messrs. Sharp & Taylor (Toronto), Messrs. Brown & Vallance (Ottawa), Messrs. Clemens & Portnall (Sask.), and Mr. F. W. Simon, B.A. (England). Mr. Leonard Stokes, B.A., was the assessor. The successful bidder was declared to be Mr. Simon, whose design we illustrate in this issue.

King's College Hospital.

Illustrations of the new buildings of King's College Hospital, Denmark-hill, are in connexion with the article beginning on page 609.

MEETINGS.

FRIDAY, NOVEMBER 22.

Technical College Architectural Craftsmen's Association.—Mr. J. Allan, jun., on "The Manufacture and Moulding of Concrete Blocks." 7.45 p.m.
Institution of Mechanical Engineers.—Mr. J. S. Anderson on "Vapour-Compression Refrigerating Machines," and Mr. John H. Grindley on "Contribution to the Theory of Refrigerating Machines." 8 p.m.

SATURDAY, NOVEMBER 23.

Architectural Association.—Mr. A. N. Paterson on "The Influence of the French Influence on British Architecture." 7.30 p.m.
Royal Sanitary Institute.—Provincial sessional meeting, when a discussion will take place on "Town Planning in Relation to the Development of the Yorkshire Coalfield." To be opened by Mr. Dunne, M.B., D.P.H. 11 a.m.

MONDAY, NOVEMBER 25.

Architectural Association.—Mr. Horace Cubitt on "Prospects in an Architect's Work." 8 p.m.
Surveyors' Institution.—Mr. E. M. Konstam on "Values Fixation." 8 p.m.
Institution of British Decorators.—Mr. S. Jennings on "The Decoration of Small Rooms." 8 p.m.

TUESDAY, NOVEMBER 26.

University of London (British Museum).—Mr. Kaines Smith on "Art and Religion."
Royal Society of Arts (Colonial Section).—Professor W. H. Warren, LL.D., M.Inst.C.E., M.Am.Soc.C.E., Dean of Faculty of Science and Chief Professor of Engineering, University of Sydney, on "The Hardwood Timbers of New South Wales." 4.30 p.m.
The Institution of Civil Engineers.—"Mechanical Handling of Coal for British Locomotives," by Mr. Charles John Bowen Cooke, M.Inst.C.E. 8 p.m.

WEDNESDAY, NOVEMBER 27.

The Institution of Municipal Engineers.—Mr. W. V. Ball on "The Effect of Recent Decisions upon the Arbitration Clause." 8 p.m.
Edinburgh Architectural Association.—Associates' meeting. Demonstration in ironwork at the works of Mr. Thomas Hadden.
Royal Society of Arts.—Mr. Harold Cox on "Political Economy as a Code of Life." 8 p.m.

THURSDAY, NOVEMBER 28.

The Institution of Electrical Engineers.—8 p.m.
The Concrete Institute.—Mr. J. M. Theobald on "Bills of Materials for Reinforced Concrete Work." 7.30 p.m.
Society of Antiquaries.—8.30 p.m.
Sheffield Society of Architects.—Mr. J. C. P. Toothill on "A Visit to Bath."
University of London (Victoria and Albert Museum).—Mr. Kaines Smith on "Decoration of Buildings: Metal-work." 3.30 p.m.

COMPETITION NEWS.

A list of current competitions is printed on page 629.

New City Hall, Winnipeg.

Unlike the competition for the Parliament Buildings, Winnipeg (the successful design for which is illustrated in this issue), the competition for the City Hall is restricted to architects who are British subjects and have resided in Canada for at least one year immediately prior to when the conditions were issued. The premiums are \$5,000, \$3,000, and \$2,000. Mr. Leonard Stokes, F.R.I.B.A., is the assessor.

Working-Class Dwellings, Belfast.

The Corporation of Belfast have invited designs for 126 houses of two apartments each, and 126 houses of three apartments each, the

sum available being 23,000l. Premiums of 25l., 15l., and 10l. are offered for each of the two sizes of dwellings. The assessors are Mr. Henry Seaver, of Belfast, and Mr. H. A. Cutler, M.Inst.C.E., the City Surveyor.

A Town-Planning Competition.

Premiums are offered by the Institution of Municipal and County Engineers for laying-out a town as a seaside pleasure resort, with a present residential population of 50,000, and with additional accommodation for 100,000 visitors. The premiums are, to members and Associate members of the Institution, 10 guineas, 7 guineas, and 5 guineas; and to students of the Institution, 5 guineas and 3 guineas. The conditions of the competition are published by the Institution at 11, Victoria-street, S.W.

Elementary School, Beckenham.

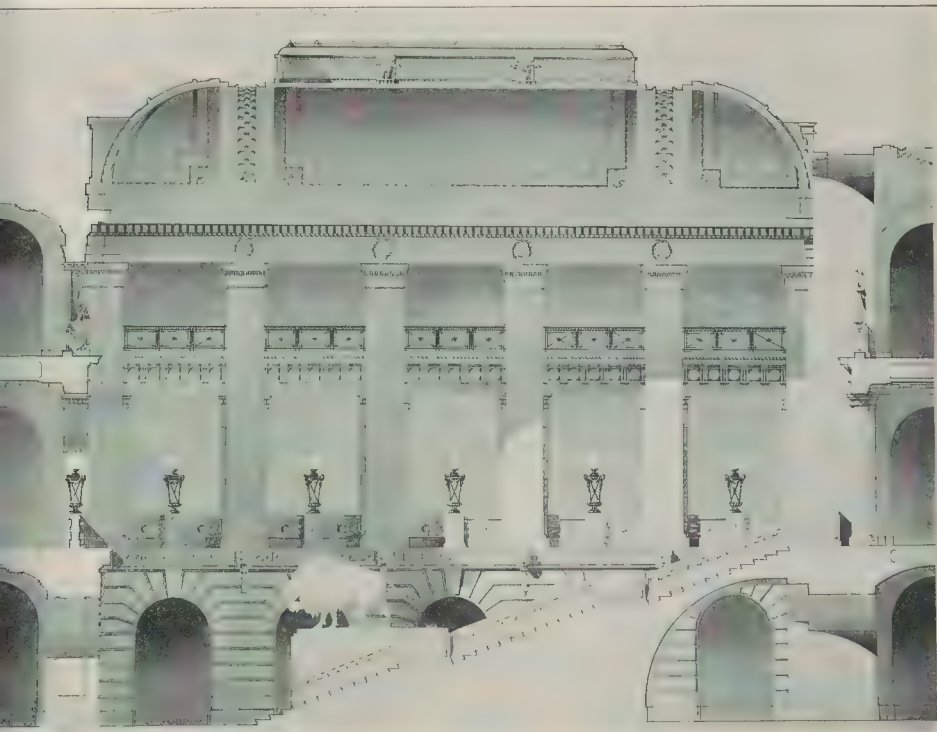
The designs in this competition are placed as follows:—First premium, Messrs. H. T. Buckland & E. Haywood Farmer, Norwich Union Chambers, Birmingham; second premium, Mr. W. J. Hayle, 13, St. James'-row, Sheffield; third premium, Messrs. Bivan & Fletcher, George-street, St. Helens. Mr. A. W. S. Cross, F.R.I.B.A., was the assessor.

CORRESPONDENCE.

Teachers as Adjudicators.

SIR,—I should be obliged if you would permit me to raise a point with reference to the letter of your correspondent who signs himself "Already an Associate."

I have no intention of attempting to reply more than to say that everyone will agree that work submitted as a Testimony of Study for the final examination of the R.I.B.A. should be what may honestly be described as a genuine contribution of the candidate, and



Parliament Buildings, Winnipeg, Manitoba: Detail of Staircase Hall. Winning Design.

By Mr. F. W. Simon, F.R.I.B.A.

to point out that only the evidence of those who submitted the designs referred to could satisfy the suspicions of your correspondent as to this.

But what arouses my interest in "Already an Associate's" letter is his views as regards the modern design and his pre-supposed assumption that everyone is agreed as to the importance of individual expression.

Unfortunately for modern architecture, I regret to have to admit that his views are shared by the great majority of his profession. If it were not for the miserable productions of those who seek to express their uncultured individuality, prizing this before all else, including good design, we should not be faced with the wretched conceits and affectations which at present disfigure the same efforts of our predecessors in their unappreciated desire for unity and composition in our streets.

Without answering for those who are responsible for the teaching in the Liverpool School of Architecture, but speaking from knowledge, I may say that the creed that is there firmly established demands the suppression of individuality, absorption of interest in a common ideal, and the attainment of knowledge derived from a common source. S. D. ADSEAD.

The Architects and Surveyors' Approved Society under the Insurance Act.

SIR.—It is doubtful if architects and surveyors, or those employed by them, have fully realised the effect of the Insurance Act, or the way in which it will in the future affect them. When the benefits payable under the Act come into force and those employed fall sick, and find (as is bound to happen in many cases) that their employers decline to pay the usual salary, the trouble will begin.

The principal reason for the formation of the "Architects and Surveyors' Approved Society" is to keep in the profession the funds supplied by architects and surveyors, and those employed by them, instead of allowing them to be distributed amongst the miscellaneous membership of the ordinary Approved Society. That it was wanted is proved by the daily growing membership. But, in addition, we believe that many members of both professions have long felt that they would like to see some form of provident or benevolent fund available for those clerks and assistants who may, through no fault of their own, fall on evil days, but the difficulties of starting such a scheme and administering it fairly have hitherto stood in the way of its foundation. Now, however, that new conditions have arisen, the Insurance Act has made the necessity of some such scheme greater than ever for the reason above mentioned, and the same Act has created the necessary machinery for administering and organising such a fund by means of the honorary members of the Society, who subscribe 10s. 6d. per annum.

The Architects and Surveyors' Approved Society have now under consideration various suggestions and proposals for administering the annual sum which is provided by the subscriptions of honorary members, and it is hoped that the professions will widely support this fund. It is proposed to work in harmony with the existing architects and surveyors' benevolent societies, which all exist for the principal rather than the assistant.

All communications, subscriptions, or suggestions will be welcomed, and should be sent to the Secretary, at 18, Tufton-street, Westminster, who will submit them to the Sub-Committee now dealing with the subject.

No active steps will be taken in the actual administration of this fund until definite proposals have been submitted to the Councils of the Royal Institute of British Architects, the Surveyors' Institution, the Architectural Association, the Society of Architects, and the Quantity Surveyors' Association, who are represented by their Presidents and Secretaries.

GEORGE CORDEROY,
A. GODDARD,
IAN MACALISTER,
H. D. SEARLES-WOOD,
C. MACARTHUR BUTLER,
MAURICE E. WEBB
(Members of Sub-Committee).

[Several letters from our readers are unavoidably held over.—Ed.]

FIFTY YEARS AGO.

From the *Builder* of November 22, 1862.

THE PROPOSED ARCH OF TRIUMPH, PARIS.—The proposed *Arc de Napoleon III.* is to be erected near the "Barrière du Trône," and will be of enormous size and cost. According to descriptions which have appeared, it will be raised over a fountain of colossal proportions, and will be built in the Classic style. Over one side of the arch will be a figure of "War, triumphant and victorious"; and over the other its antitype, "Peace, grateful and laborious." The whole will be on a much larger scale than the triumphal arch at the end of the Champs Elysées. It will be flanked with twelve columns of the Composite order in coloured marble, and bearing twelve bronze warriors, each holding a shield. These warriors are intended to represent the twelve marshals of the empire, as well as the different *corps d'armée*. They are also to signify that the army eternally guard "France," who is seated on the summit of the building. She is

attended by "Glory" and flanked by four "Fames." On the capital of each of the twelve pillars is the following inscription:—

TO THE EMPEROR NAPOLEON III.
TO THE ARMIES OF THE CRIMEA, OF ITALY, OF CHINA, COCHIN CHINA, AND ALGERIA,
1852—1862.

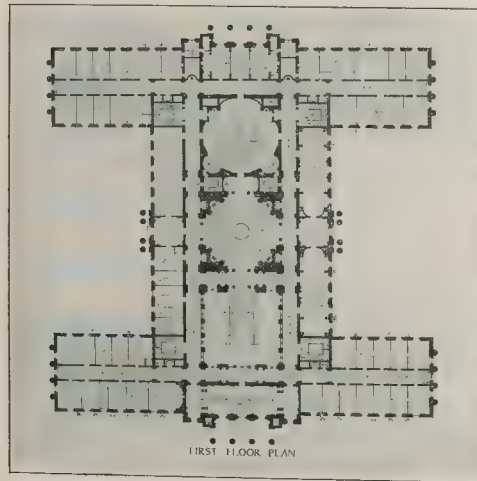
The central monument, which is beneath the arch, is raised above three great basins that surmount each other, and each of which is smaller than the one immediately beneath it. They have in the centre a group of sea-horses and lions' heads, from which issue *jets d'eau*. On the top is another "Glory" holding a crown for the "victorious French soldiers."

* * Michelangelo's "Moses" remains as evidence that Pope Julius once conceived the idea of bequeathing a mighty mausoleum to his own memory. This futile enterprise wasted half the sculptor's lifetime, and he refers to it as the "tragedy of the Julian Tomb." We know of nothing that exists to tell the tale of Napoleon III.'s imperial project. Paris can, however, boast of four triumphal arches, not unworthy of her great name. The Porte St. Denis was erected in 1672 to commemorate the victories of Louis XIV. in Flanders and Holland. Designed by Blondel, it is in many respects the finest of the group.

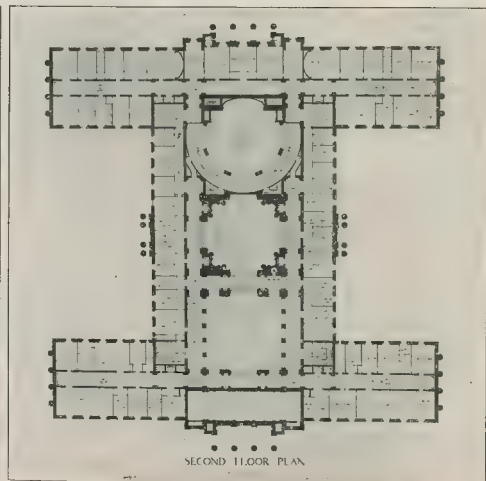
A few years later the Porte St. Martin was built by Bullet in honour of the successes in Franche-Comté and the defeat of the Triple Alliance. The Arc de Triomphe du Carrousel, signalling the victory of Austerlitz, followed in 1806, together with the Arc de l'Etoile, or, to give it the name originally intended, the Arc d'Austerlitz. Two more were then contemplated, in dedication, respectively, to the causes of Religion and Peace. These were not persisted with, and the latter indeed would have proved itself a little too previous. It is interesting to note that the Porte St. Martin is decorated with sculpture upon the bases of the piers, a practice which the French sculptor has since pursued. A recent and striking instance may be seen upon the pylons of the Bridge Alexander III.—Ed.

THE ETON COLLEGE RAILINGS.

The Bucks Archaeological Society have passed a resolution protesting against the further removal of the iron railings in the Eton College cloisters, and asking the Earl of Rosebery, the President, to use his influence and good offices towards this end.



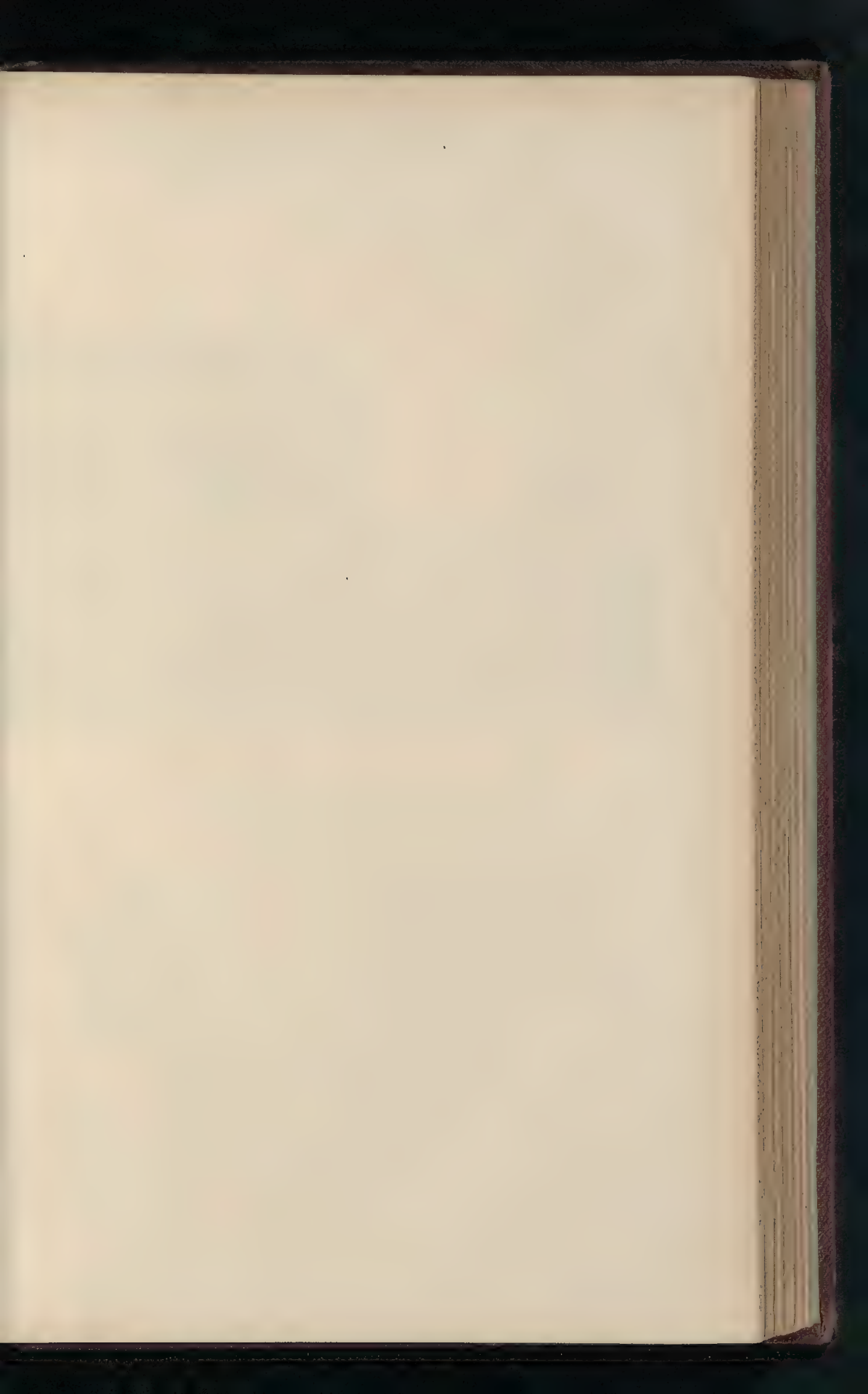
FIRST FLOOR PLAN

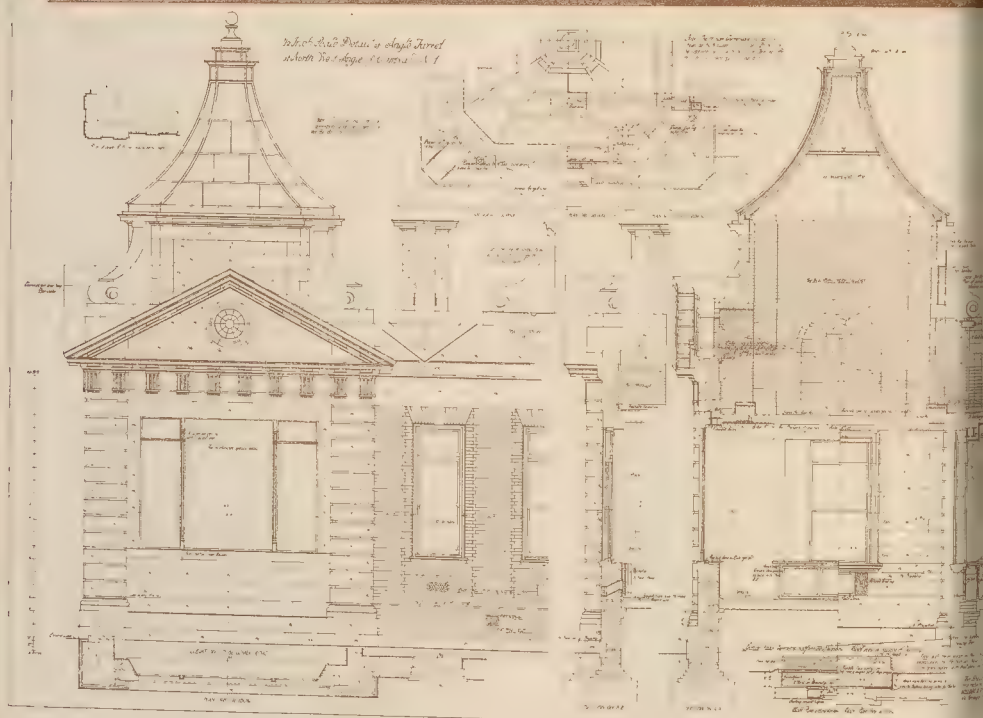


SECOND FLOOR PLAN

Parliament Buildings, Winnipeg, Manitoba: Winning Design.

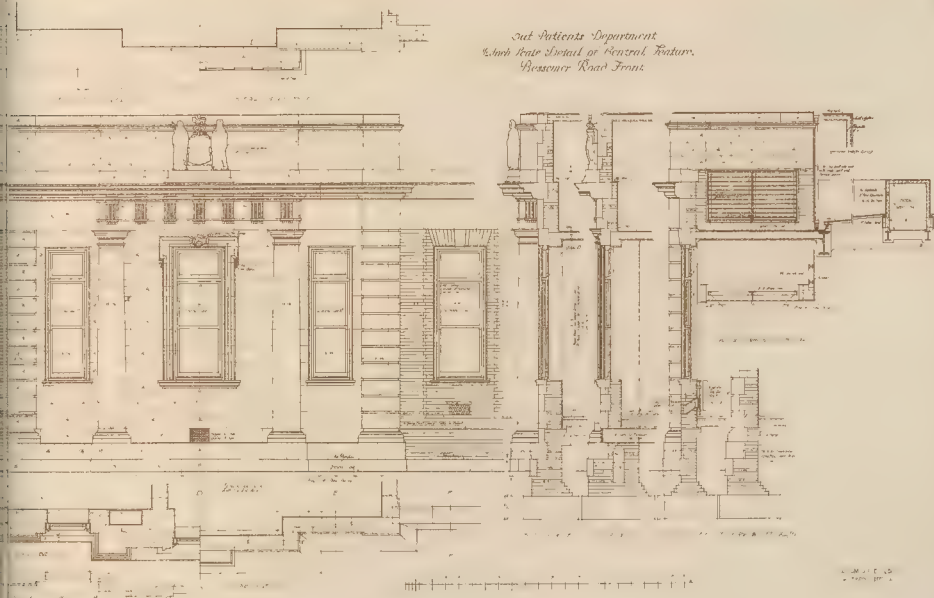
By Mr. F. W. Simon, F.R.I.B.A.



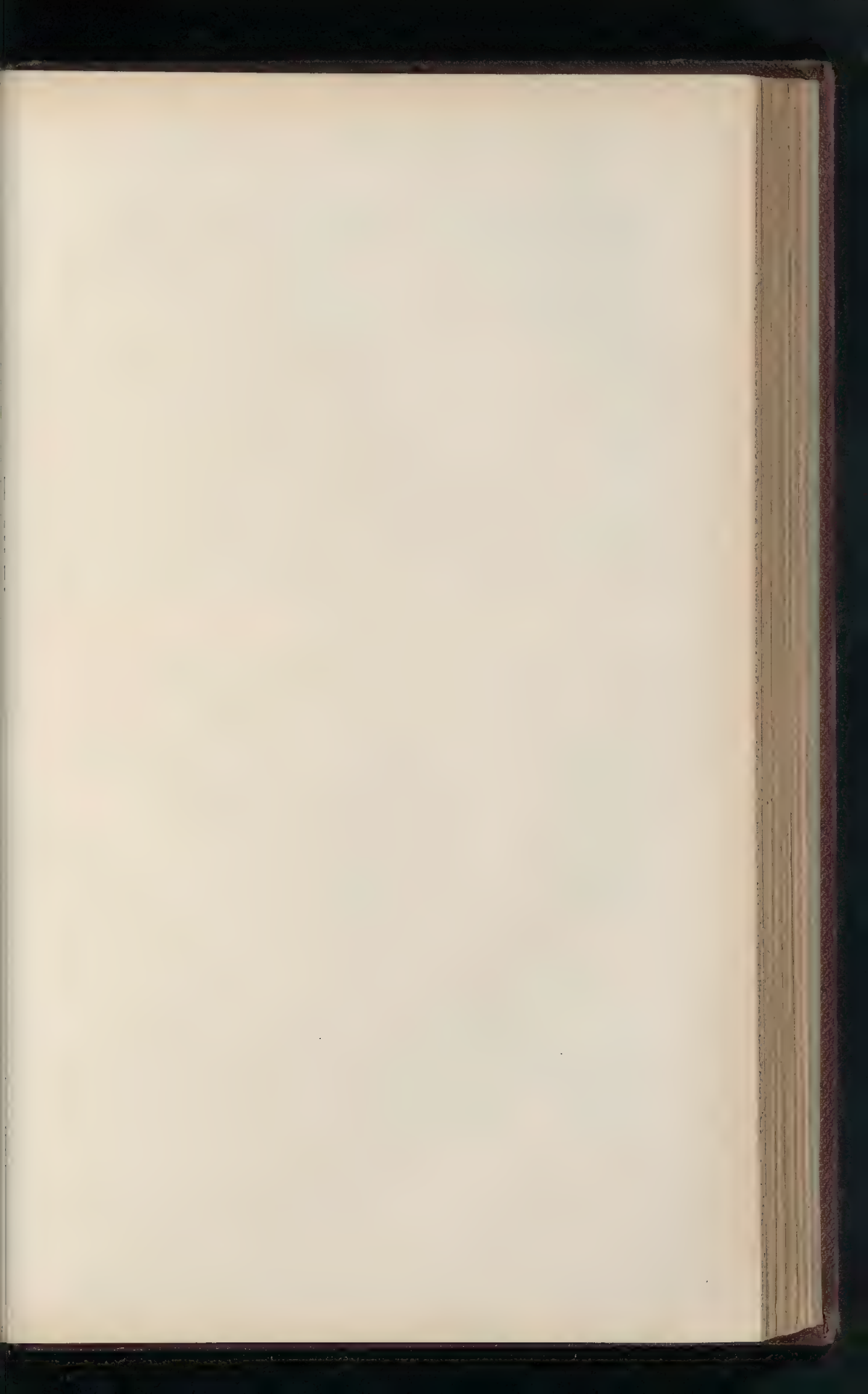




*Out Patients Department
School of General Practice,
Reservoir Road, Leeds*



1/4 PHOTO SPRAGUE & CO. 70-72 & 74 DEAN STREET SOHO W

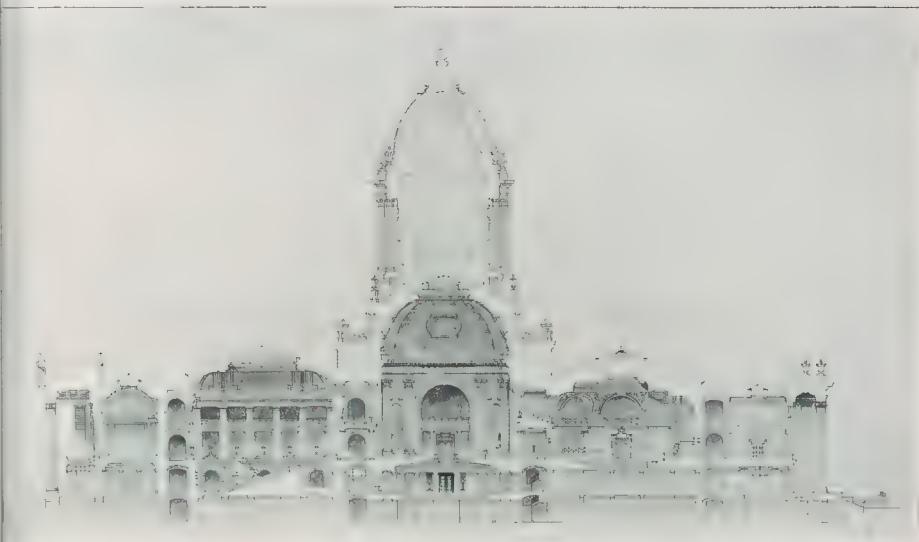




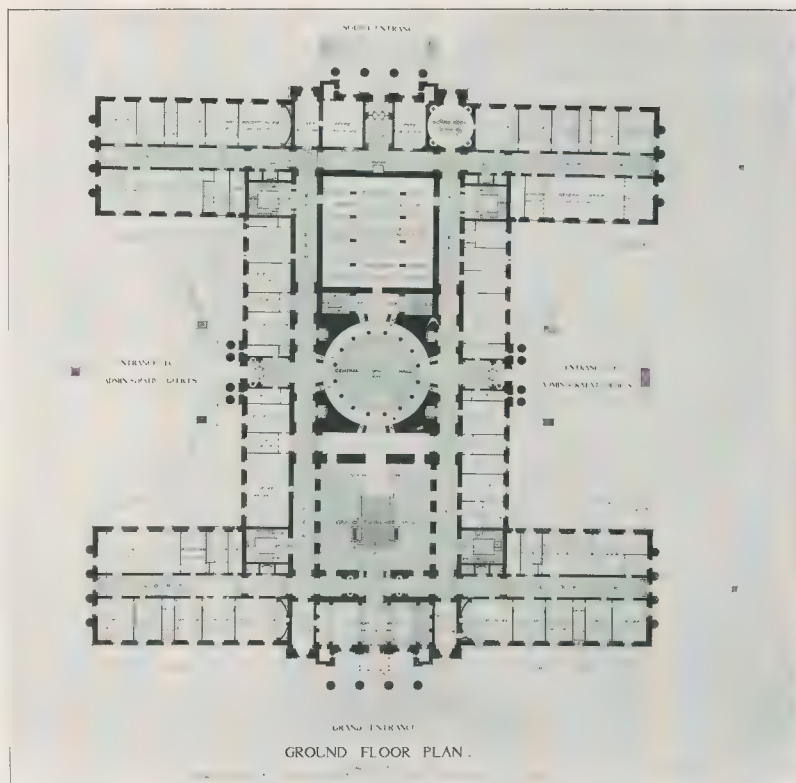
NORTH ELEVATION.



WEST ELEVATION.

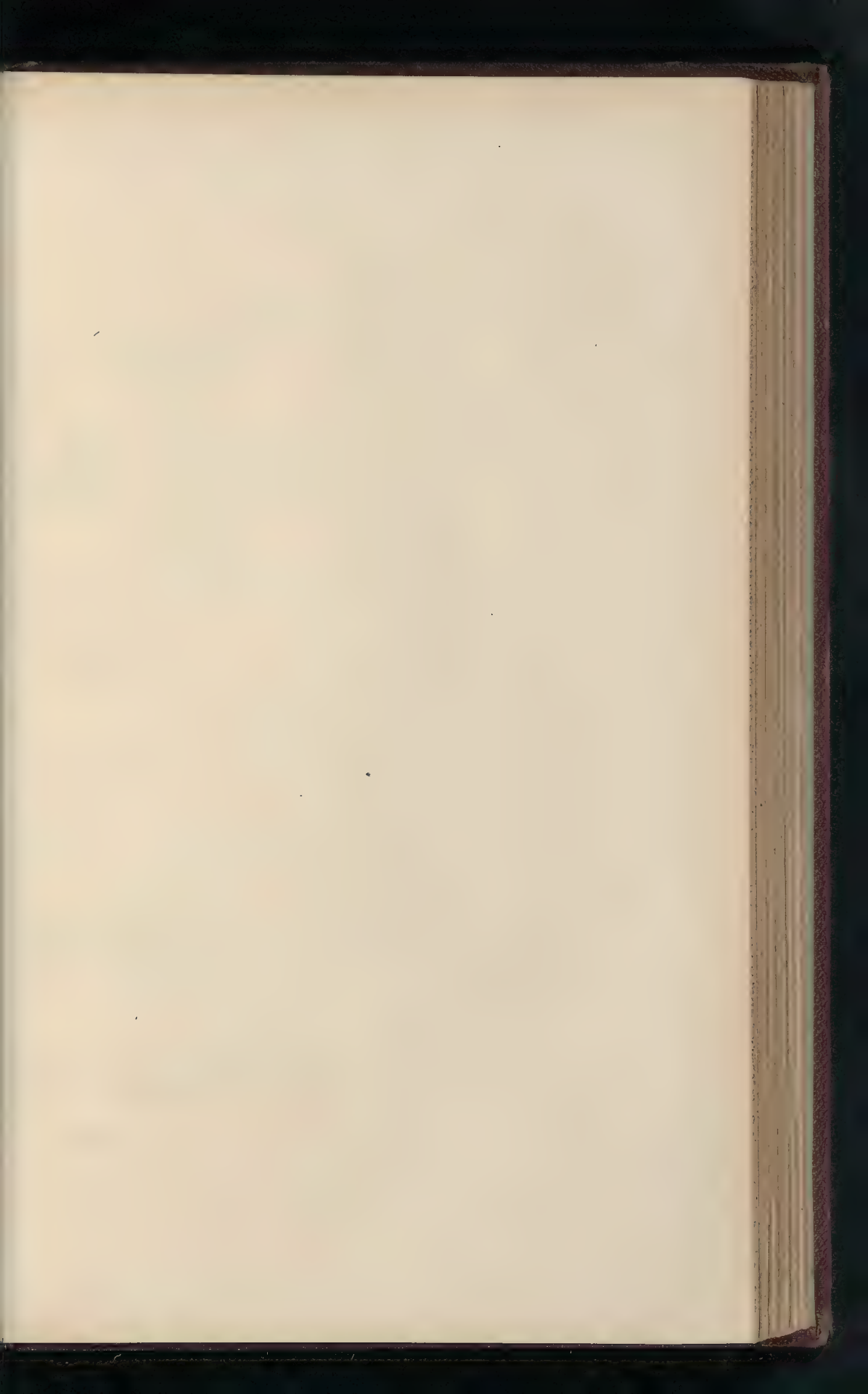


LONGITUDINAL SECTION.

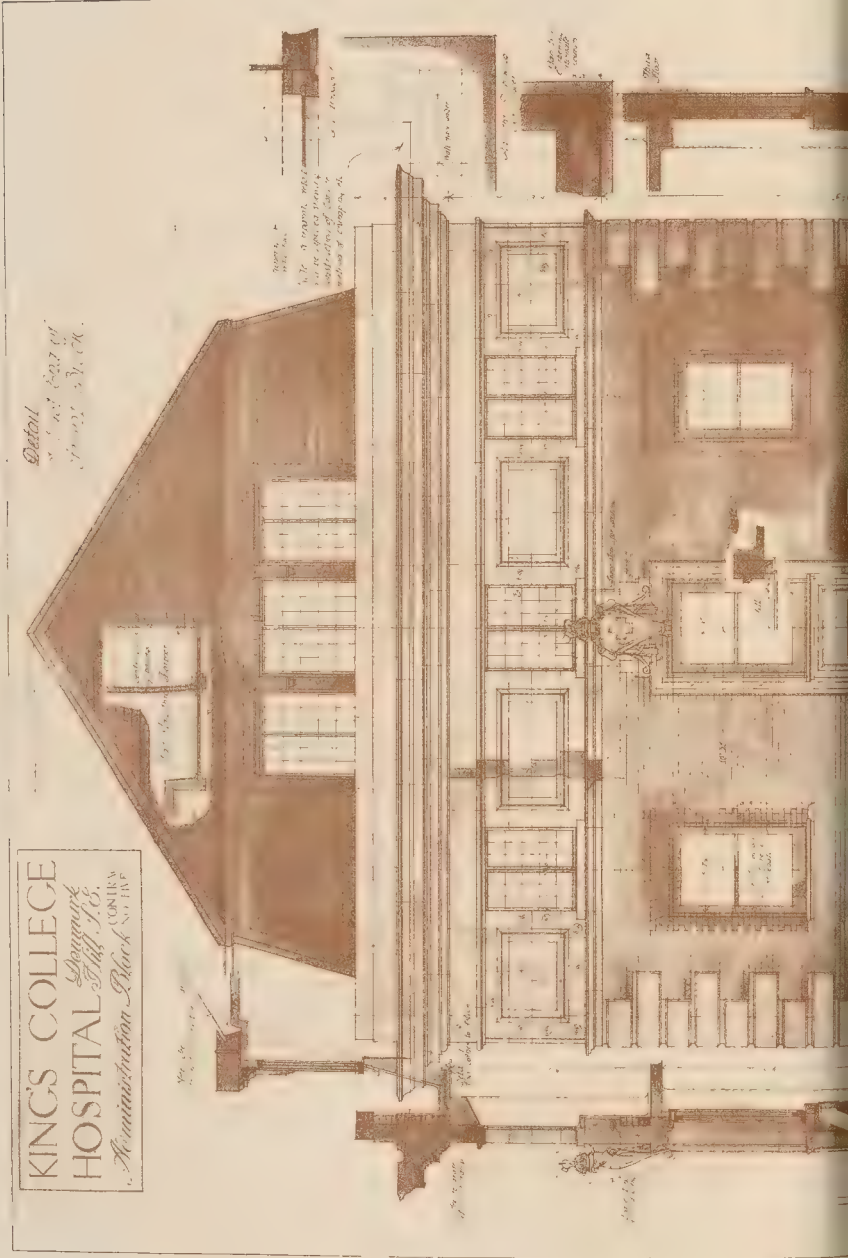


GROUND FLOOR PLAN.

Sprague & Co., Ltd., Printers, 10 & 11, Dean St., Soho, W.

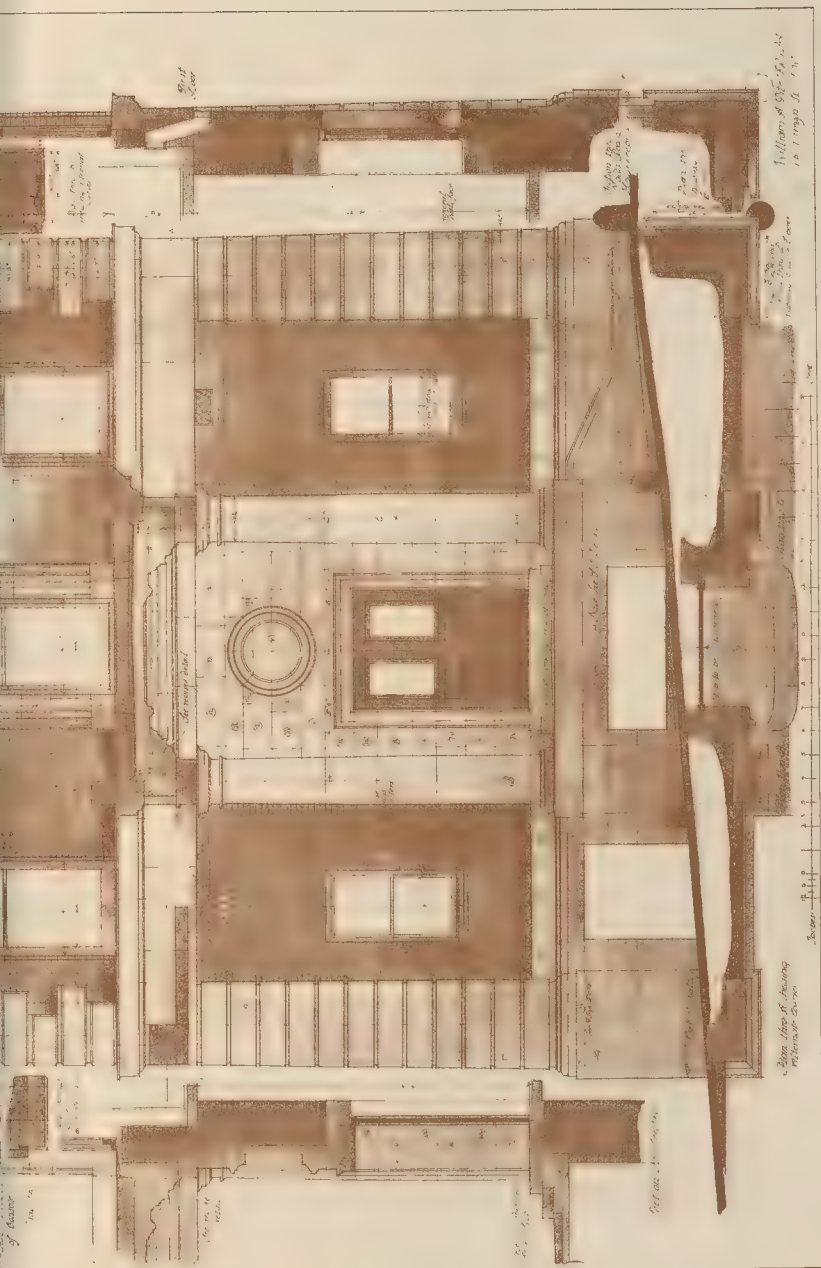


THE BUILDER, NOVEMBER 22, 1912



KING'S COLLEGE
HOSPITAL
CONTR. BY
Administration Block No. 115

Detail
of
Roof
Structure



KING'S COLLEGE HOSPITAL, DENMARK HILL, S.E.—MR. WILLIAM A. PITE, F.R.I.B.A., ARCHITECT

CONSTRUCTION & ENGINEERING REVIEW



KING'S COLLEGE HOSPITAL.

THE transfer of King's College Hospital from Lincoln's Inn to Camberwell is rapidly nearing the realisation of an enterprise of sufficient importance to arouse interest of all classes of the community. During the past few years the Press and professional organs have occasionally reflected the public of the steady growth of this project, but the time has now arrived in the history of its construction in some substantial idea may be formed of its magnitude, whether viewed as an institution meeting the crying needs of a densely-populated neighbourhood or as a striking architectural addition to a district re-built of a distinctly gloomy nature.

Before describing the new buildings it may be out of place to give some particulars of the old hospital. In the year 1339 Council of King's College, realising that medical teaching was essential for the complete education of its medical students, took steps for the formation, in the parish of St. Clement Danes, of a public hospital for relief of poor, sick, and infirm persons. The hospital was started in a building on the side of Carey-street, formerly the workhouse of the parish, and a lease of the building was taken from the Guardians of the Poor of the Strand Union and the Churchwardens and Overseers of the Poor of St. Clement Danes.

The workhouse buildings were converted into a hospital by Sir Robert Smirke. A sum of £25,000 was expended in this work, and accommodation was found for 120 patients, housed, however, in wards, which, though regarded as palatial in those days, were of cramped dimensions compared with modern notions.

The hospital thus established was found to be a real need, but complaints were made as to the position it occupied, so much so that in 1841 a Sub-Committee of the Local Government reported that the then site of the hospital "operated disadvantageously to its permanent well-being," owing to the difficulty of approach and remoteness of the site, the thoroughfares, and the vicinity of present buildings to the burial ground to which it abutted. Subsequently the site of the hospital increased so rapidly that it was found requisite to obtain additional land.

In 1848 the hospital authorities were able to acquire the adjoining property, known as the Grange Inn, and 26 and 27, Clement's-lane. This property was shortly afterwards demolished, and a movement was made to in the freehold of the hospital, which included the converted workhouse, with a view to rebuilding. In 1850 the freehold was transferred, subject to a fee farm rent of 240*l.* annum. The land thus acquired comprised

an area of 6,960 ft. super., representing a price of nearly 9*d.* per foot rental—a good figure in those days for land, situated as that was in the heart of a slum area far worse probably than the Tabard-street area in another part of London, which is about to be cleared.

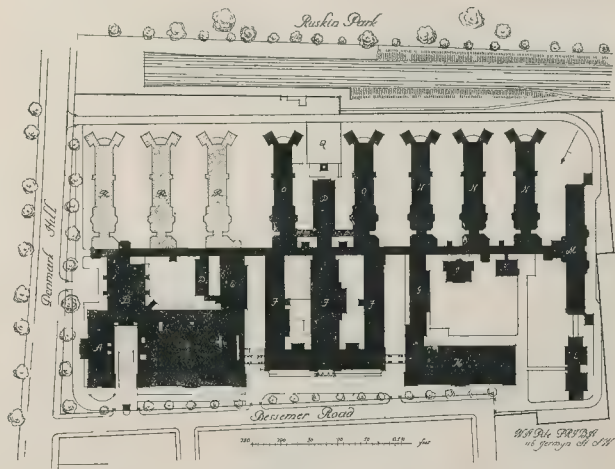
Further land was necessary to enable a hospital large enough for the needs of the locality to be provided. The district was one of the most densely populated, and it was among the worst in London. The courts, alleys, and streets were close, foul, and filthy, and it was described as being "not merely a rookery, but a nest of rookeries."

This need of extension was so well recognised by the Governors of the hospital that they applied for and obtained an Act of Parliament enabling them to purchase land compulsorily, and it was determined to erect a new hospital, together with a chapel for divine worship. The site being acquired, a large hospital was proposed to be erected and plans were prepared, the architect being

Mr. T. Bellamy, and the building was arranged to be erected in three blocks, the total amount of the contracts for which exceeded 50,000*l.* for the structure.

By the year 1900 it had begun to be felt that the changes in the locality all tended to deprive the hospital of much of its usefulness. The building had no frontage to any important arterial thoroughfare with its large traffic, and the approaches to the hospital from the Strand and Holborn were so tortuous and indirect, especially for vehicular traffic, that a considerable detour had to be made. Added to that, the advance in sanitary knowledge and the practice of hygiene had operated to cause the buildings to be far behind modern ideas. A report of the hospital surveyor pointed out that a large outlay was needed to modernise the sanitation, and that there was insufficient free space available for the purpose. The site, being surrounded by public streets, could not be extended.

The site of the new hospital comprises 12 acres, and is admirably situated on Denmark-



King's College Hospital: Block Plan.

- | | | |
|------------------------------------|---|----------------------------------|
| A Casualty Department. | G Pathological and Post-Mortem Block. | M Special Ward Block. |
| B Baths and Electrical Department. | H Medical School. | N Two-Story Ward Blocks. |
| C Out-Patient Department. | J Operation Theatres. | O Three-Story Ward Blocks. |
| D Almoner. | K Gynaecological and Clinical Theatres. | P Chapel. |
| E Dispensary. | L Isolation Block. | Q Central Station. |
| F Administration Block. | | R Ward Blocks, future extension. |

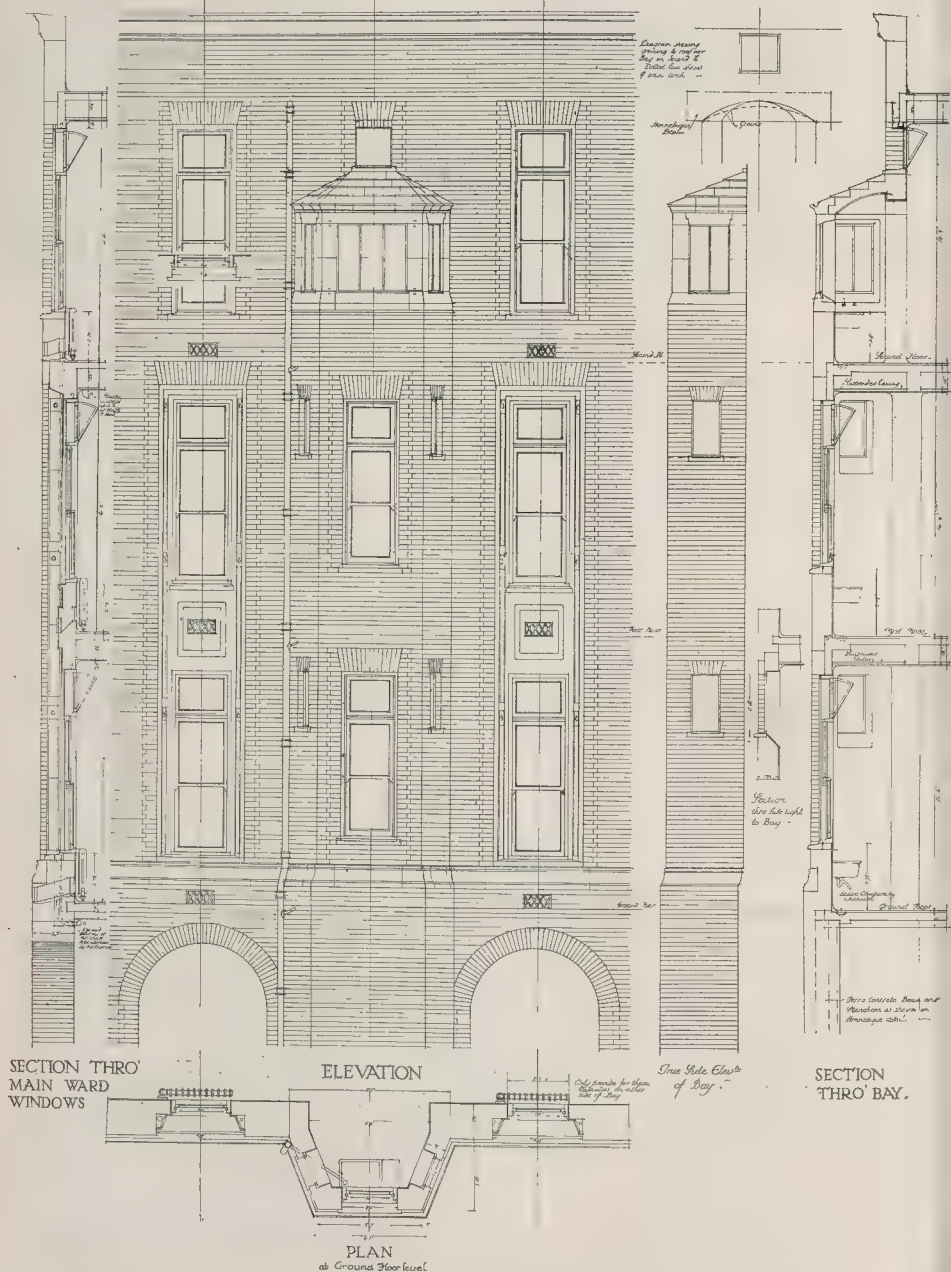
*Detail of
Sanitary Sink Bay
to Main Ward*



*Half Plan
at 1st Floor*

*Half Plan at
Second Floor*

WARD PAVILION NO. 5.



King's College Hospital, Denmark-hill.
Mr. W. A. Pite, F.R.I.B.A., Architect.

ll, having a fine outlook over Ruskin Park
wards the south, thus possessing an un-
interrupted view over a beautiful stretch of
trees and grass on rising ground. This
unrivalled situation is not possessed by any
other London hospital. This site was pre-
sented by the Hon. W. F. D. Smith.
The buildings which we see to-day, the
outcome of a design by Mr. William A. Pite,
R.I.B.A., won in competition, were com-
menced about four years ago, and the seal of
royal approval on the scheme was conferred
when King Edward VII. laid the foundation-
stone on July 20, 1909, an act which unhappily
proved to be the last of its kind that his
Majesty performed.

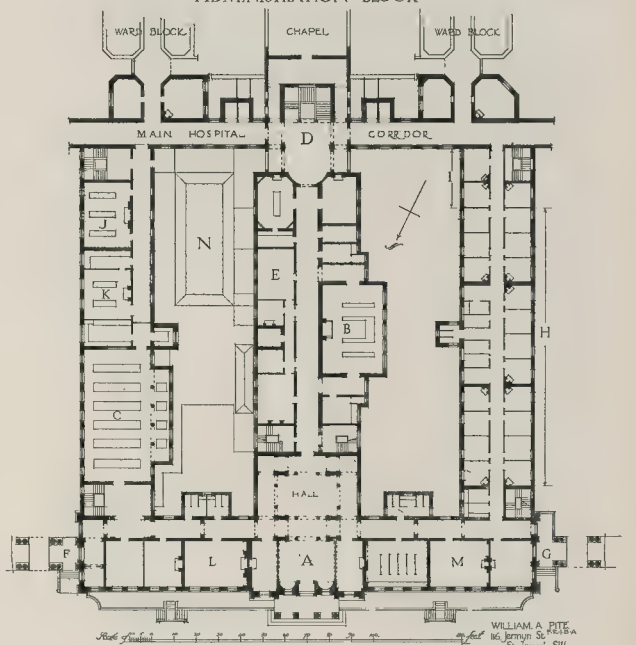
Viewed externally the buildings form an
imposing group. The main front, dominated
by it is by the administration block and
linked on either side by the lower buildings
the out-patients and medical school,
powerfully suggests the principle of "central-
isation," the keynote of the hospital plan.

The blocks already roofed in and nearing
completion are the out-patient, casualty, and
dining departments; the administration
block and chapel, with linen department
under; the two three-story ward blocks,
named respectively the King Edward VII.
and King George V. blocks; the central
atrium, placed below ground and between
two two-story ward pavilions; and the major
portion of the main hospital corridor, nearly
100 ft. in length, which forms a backbone to
the whole lay-out.

The blocks now in course of erection com-
prise the remaining two-story ward pavilions,
a large special ward block, operating theatres,
and the pathological block, which includes the
laboratories and mortuary. The above-men-
tioned blocks, together with an isolation
department not yet commenced, will be ready
for occupation in a year's time.

The casualty department is conveniently
situated on that portion of the site first
approached from the main thoroughfare,
near the hill. Here accident cases can be
dealt with with dispatch and removed with a

GROUND FLOOR PLAN OF
ADMINISTRATION BLOCK



- A Principal Entrance.
- B Road-room.
- C Nurses' Dining Hall.
- D Principal Staircase.
- E Secretary.
- F Nurses' Entrance.
- G R.M.O.'s Entrance.
- H R.M.O.'s Quarters.
- I Chaplain's Quarters.
- J Sisters' Mess-room.
- K Minor Mess-room.
- L Staff-room.
- M R.M.O.'s Recreation-room.
- N Kitchen Department under.

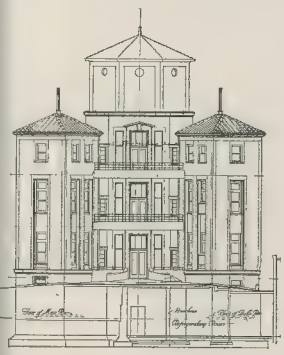
NOTE.—Nurses' bedrooms over the East, West, and Front Blocks. Servants' bedrooms over the Centre Block.

minimum of time and difficulty to the wards
immediately behind. Close at hand is the
bathing and massage establishment, and a
department fully equipped for electrical treat-
ment. To the right of the casualty block is
situated the out-patients' department, of which
the prominent feature is its spacious waiting-
hall surrounded by consulting-rooms. The
out-patients after having received their treat-
ment leave the hospital by way of the
almoner's department and dispensary.

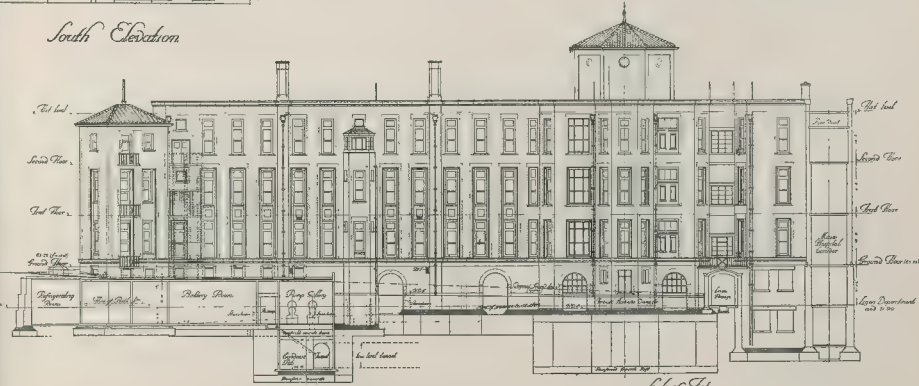
The administration block, six stories high,
provides accommodation for the entire staff
and kitchen department.

Perhaps no part of the hospital has had
more thought expended upon it than the ward

pavilions. The combination of technicalities
resulting from the great advances of recent
years in medical and surgical science make
the task of the hospital architect one of
increasing difficulty, but the result attained
in this important section of hospital equip-
ment can scarcely fail to be appreciated not
only by doctors and nurses, but by patients.
The several pavilions are ranged parallel to
one another, and project from the main
hospital corridor at intervals during its entire
length; they are carefully set with due regard
to aeration and sunlight, and each floor is
provided with a sheltered sun balcony capable
of receiving several beds and commanding an
uninterrupted view of Ruskin Park.

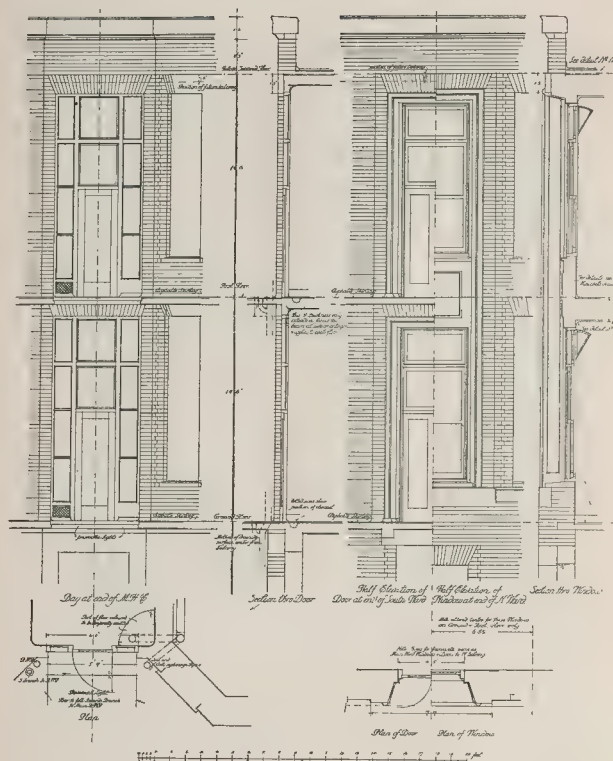


South Elevation



East Elevation

Ward Block No. 5.



Details of Ward Pavilion No. 9.

Direct ventilation without draughts is secured by the use of "Austral" windows, the frames of which are placed flush with the inside wall-surfaces, thereby preventing any unnecessary lodgment of dust. This constitutes a new and valuable development in hospital detail.

A chimney with some architectural claims marks the position of the power station in the centre of the site. This contains boilers for the generation of steam for heating and hot-water supply. The engines are of the Diesel type, and are employed in providing the electrical supply.

The two-storied operating blocks, serving electric bed-lifts, are reached from the hospital corridor on its northern side, the larger one being for general surgical cases, while the smaller contains gynaecological, septic, and clinical theatres.

The Medical School, which enjoys a well-earned reputation, will form the corresponding block to the out-patients', which will resemble and balance in general effect. This important section of the hospital, comprising library, museum, and lecture theatre, is to be erected from the proceeds of a special fund now being raised.

It is worthy of mention that a large portion of the work illustrates the extensive use of reinforced concrete on the Hennekelly system, a material eminently suitable for large buildings where economy and resisting qualities are among the primary considerations. Portland stone and red brickwork with red dressings form the principal elements of the simply-treated dignified elevations.

In conclusion, it should be stated that the present buildings will furnish 366 beds, which is 142 in excess of the hospital which they supersede, but when fully completed the number will be increased to 600. King's College Hospital, therefore, is destined to rank among those monuments which serve to illustrate the civilisation of our times.

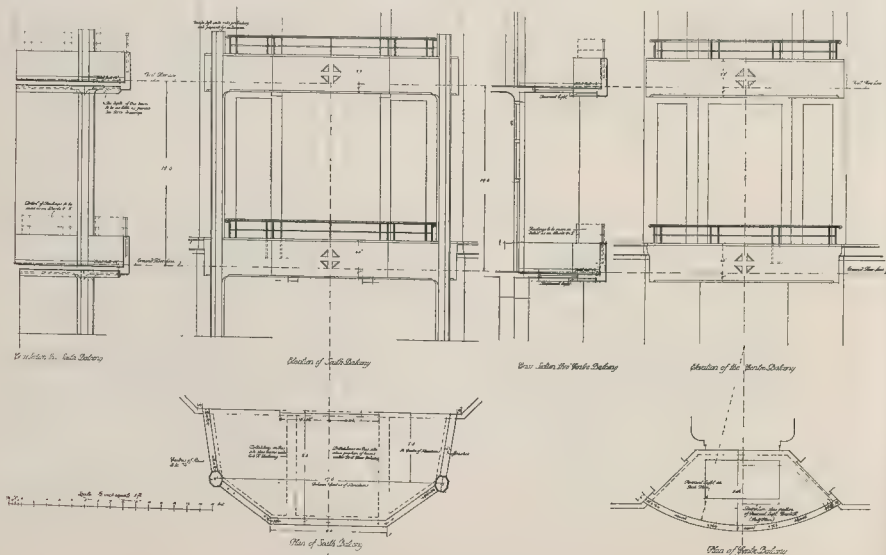
The contractors for the work are Messrs. Foster & Dicksee, Ltd., of Rugby, and the clerk of works Mr. Thomas Simpson, who acted in a similar capacity at St. Bartholomew's Hospital.

The whole of the engineering work, other than the structural and sanitary work, has been carried out from the designs and under the supervision of Professor D. S. Capper, the Committee's Consulting Engineer, Messrs. Kirkland & Capper, 17, Victoria Street, S.W.

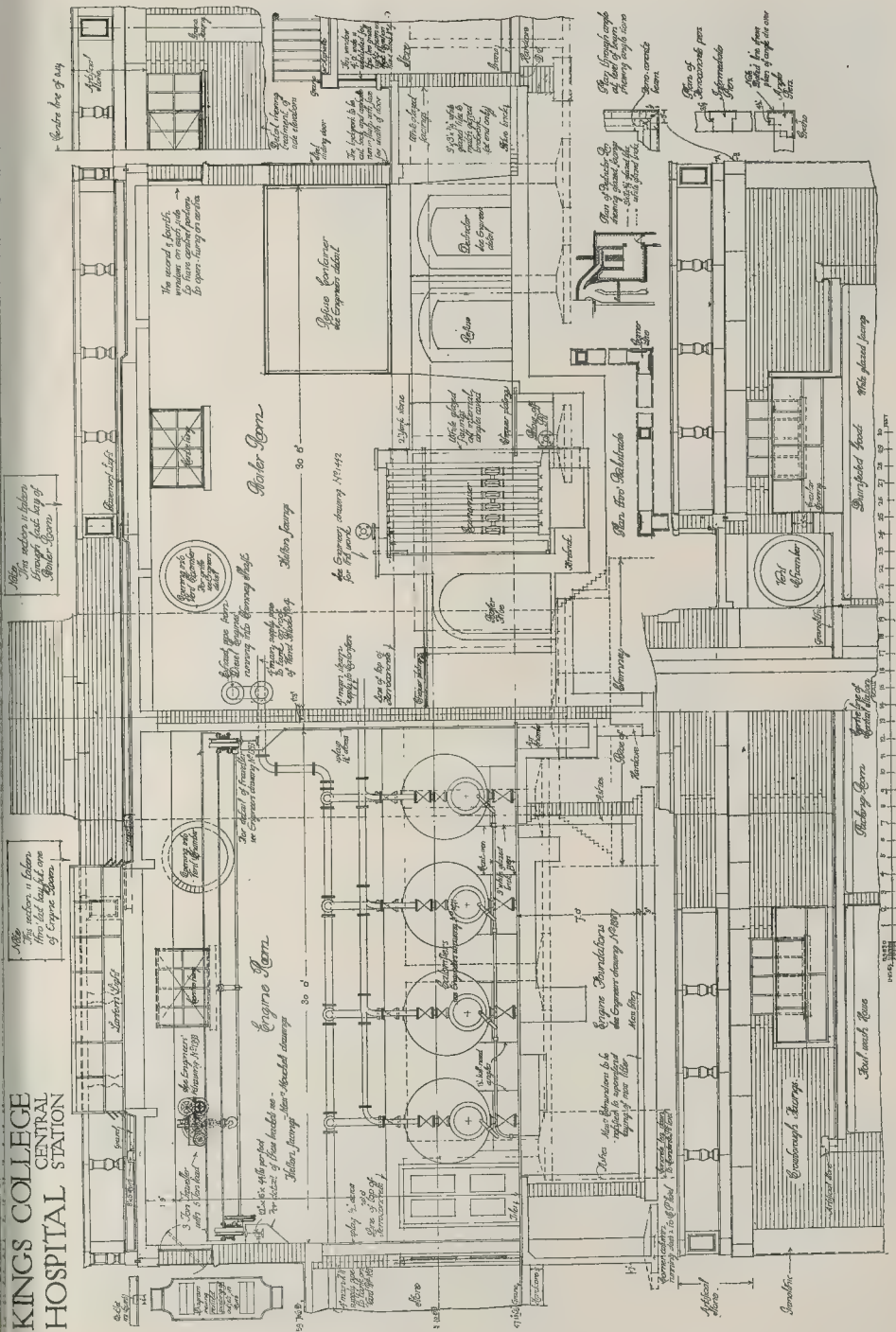
All the lifts are of the push button type and are being installed by the Otis Elevator Company, Ltd., 4, Queen Victoria Street.

The electric lighting has been executed by Messrs. Duncan Watson & Co., Ltd., of Bolding & Sons, and Edmundsons, Ltd., under the direction of the Consulting Engineer to the hospital.

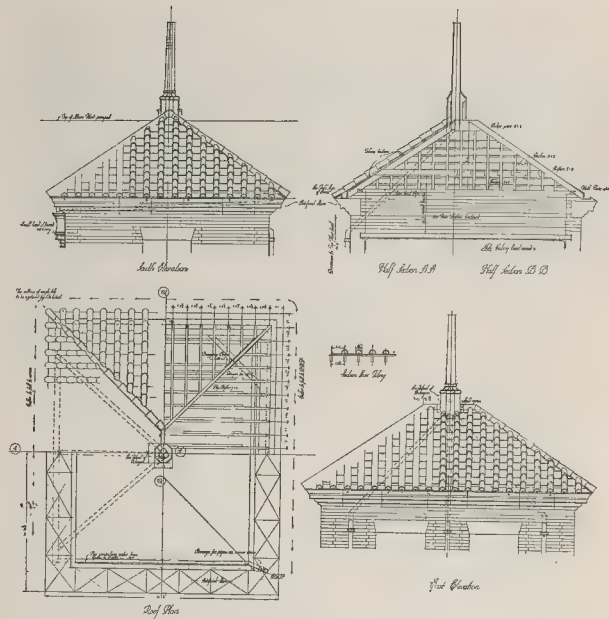
The Teale Fireplace Company, Cookridge Street, Leeds, have supplied the double ward stove which we illustrate on page 617. It is known as the "Derby Economiser" type, with double fire descending flues and ventilating arrangement for the admission of fresh warm air. The stove is covered with glaze tiles and the base is formed in iron, the finished with polished stone or marble. Details are provided at the sides giving access to the flues.



Ward Pavilion No. 9. Details of Central and South Balconies.



King's College Hospital, Denmark Hill.
Mr. W. A. Pite, F.R.I.B.A., Architect.



Details of Annexe Roof. Wards 4 and 5.

the interior so that the flues can be swept. The cold air supply is carried in fireclay tubes under the floor, and provision is made for cleaning these out from end to end.

The asphalt in connexion with the building has been executed by the Limmer Asphaltic Paving Company, Ltd., of Caxton House, Westminster, S.W., and the work executed comprises the whole of the vertical damp courses, flats over the out-patients' block, administration blocks, ward blocks, etc. The paving to the main waiting-hall and the corridors in the out-patients' block is covered with the company's special asphalt, which is pleasing in appearance and affords an excellent foothold. The dome over the entrance-hall and the beam to the lantern lights are in ferro-concrete, and the whole of this work is covered with this company's Montfort's System asphalt. It is interesting to note that, notwithstanding the extreme heat of the summer of 1911, the circular work on the dome and on the circular ventilating pipe-trunks show no movement nor any tendency to "creep." The work still to be done comprises the asphalt to the roof of the central station, sun balconies, etc., and also the paving of the courtyards with the company's Lithofast block paving.

The freehold site of the old hospital, over an acre in extent, and the existing buildings are offered for sale or to be let on a building lease, or alternatively an offer is invited for the retention of the existing buildings, subject to alterations to meet modern needs.

Tenders are to be given by December 18 this year to Messrs. Weatherall & Green, the hospital surveyors. Vacant possession will be given at the end of next year.

TWO NEW DOCK WORKS.

THE following are abstracts of two papers read at the ordinary meeting of the Institution of Civil Engineers on the 12th inst.:-

New Dock, Methil.

"The Construction of the New Dock at Methil," by Mr. B. Hall Blyth, jun., Assoc. M. Inst. C.E.

"Methil is the principal port for shipping coal on the east coast of Scotland. Before 1887 it had no dock accommodation, but in that year the first dock was opened, and a considerable quantity of coal was shipped. Every subsequent year showed a very large increase in the shipments, and before many years the North-British Railway Company,

who had purchased the first dock from Mr. Erskine Wemyss, of Wemyss Castle, built a second and larger dock, which was finished in 1899. For a few years these two docks were able to cope with the coal traffic, but lately, with the great increase in the output, the accommodation proved inadequate, and it was determined to build still another dock, which would be sufficient in every way for the trade for many years to come. Plans for this new dock were prepared by Messrs. Blyth & Westland, of Edinburgh, and the contract for its construction was let at the end of 1907 to Messrs. Robert McAlpine & Sons, of Glasgow.

The new dock is situated to the east of the two old docks, and is 16½ acres in extent, with a depth of water of 32 ft. at high water of ordinary spring tides, and gates 80 ft. wide. It is approached by a channel 120 ft. wide and 1,800 ft. long, running along the outside of the sea-wall which enclosed the two old docks. This channel and the dock are situated almost entirely on the fore-shore, and are enclosed by a sea-wall, running along and outside low-water mark, from the land end of the existing pier or breakwater to a point near the mouth of the River Leven. This wall is nearly a mile long; it is built for three-fourths of its length of concrete, and continues with a pitched slope where it is well above low water. The entrance to the present docks, which is well protected, is used for the new dock, a part of the existing pier having been removed across the line of the new channel.

The whole area reclaimed by the sea-wall amounts to 44 acres, the excavation for the dock and channel being used to level up the rest of this area to quay-level for siding accommodation for the dock.

For loading the coal, the dock is equipped with hydraulic hoists, of which there are six at present; but provision is made for three more when they are required. With all these hoists and those in the old docks, no difficulty will be found in shipping 10,000,000 tons of coal per annum.

The sea-wall was the first work started, the idea being to build this wall and use it as a coffer-dam to enable all the works inside to be done in the dry. The wall was constructed on a bag-work foundation up to 2 ft. 6 in. above low water, and from that point to quay-level of block work and mass concrete *in situ*. The width of the wall was originally 8 ft. at the top, i.e., quay-level, with counterforts every

25 ft., and a backing of 20 ft. of rubble the excavations. This, however, was carried out, as no suitable rubble was in the excavations, and the wall was of concrete, 17 ft. thick. The height of wall varied according to the level of bottom. At the north end it is about 10 ft. high to quay-level, and at the south end maximum height of 40 ft. Quay-level is above high water, and the parapet of wall is 10 ft. above that level. For the 400 yds. from the south end of the side of the entrance channel and the sea-wall parallel, and they were built together, making the wall in all 27 ft. wide at quay-level.

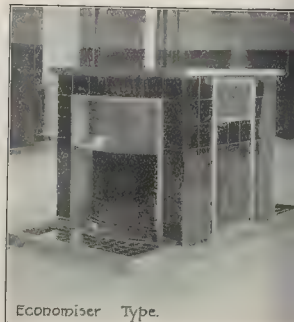
Two and a half years were required for building of the wall. During the first years very bad weather was experienced, very little progress was made. Frequent storms and rough seas delayed the work, often washed away the temporary staging and roads. Difficulty was also experienced in shifting the sand overlying the rock. This was in some cases as much as 11 ft. deep, all of it had to be removed before the work could be put in. The bag-work was put in position by divers. Goliath cranes were employed for building the wall at north or shallow end, and derrick cranes at the south end.

After two bad years a very fine summer in 1910 enabled the wall to be finished, more than 800 lineal yds. being constructed in six months. The wall was closed in Oct. 1910, and after the parapet was erected a bank of soft material was put in along inside the water was pumped out, and the wall was found to be practically watertight.

Along the front of the old breakwater the sound end of the old sea-wall 50 concrete blocks had been thrown pell-mell to break up the seas and protect the wall. Some of these had to be moved to allow new wall to be built, and were then repositioned outside the new wall. After the completion of the new sea-wall more of these blocks were made and placed along the front where the wall is on a curve concave to the sea, so now the wall is protected in this way practically from the south end to opposite dock gates.

The gate entrance and the excavation of the dock and the dock walls were then immediately proceeded with. The gate entrance was built of concrete, the side walls being of freestone. The hollow quoins, the paths, and sill-face were granite. In a few months this work was all completed and ready for the erection of the gates. The excavation in the dock, amounting to 570,000 cubic yds., and the dock walls, which were built of concrete with granite copes, and were over 6,000 ft. long, were all finished in ten months. The excavations throughout the works were in soft unformed rock, but most of it required blasting before being lifted by steam cranes. Once the dock was finished a concrete coffer-dam of blocks was built across the entrance to keep it dry while the water was allowed to rise in the dock. When the water in the dock was well advanced the entrance channel was started. A coffer-dam was built at the outer end and one in the centre of channel, to enable all the work to be carried out in the dry.

The principal work in the channel, besides the excavation, was the underpinning



Economiser Type.

A Teale Fireplace in King's College Hospital.

pletion of the east side wall, which had been built only from ground level along with sea-wall, and the erection of the great timber jetty along the whole of the west end of the side wall and the dock gates. The sides of the channel were taken out to a width of $1\frac{1}{2}$ to 1, and the jetties were erected on the slopes. The old sea-wall across the end of the new channel was removed, the old pile being used for forming a paved apron at the back of the sea-wall to carry any water coming over the sea-wall during storms. The fairway outside the new channel was deepened by dredging.

The contract for the hydraulic hoists, pipes, valves, and dock gates was carried out by Messrs. Sir W. G. Armstrong, Whitworth, & Co. A large hydraulic power and electric station was erected at the north-west corner of the dock.

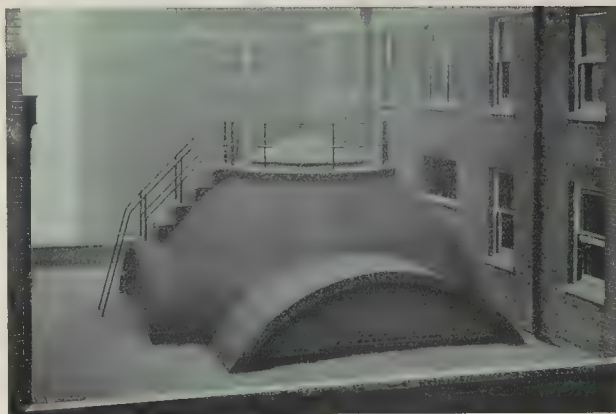
The main access to the dock for coal is from the north, and a yard capable of storing 100 tons of coal has been laid down about a mile from the dock. The coal coming from the west has to be brought to the dock and shipped at a higher level, and arrangements to the existing docks and the railway lines round them will have to be made when the new dock is open for traffic. The total cost of the works will be about £1,000,000. Messrs. Blyth & Westland were engineers for the works, and the author acted as resident engineer.

Port Talbot Docks.

Alterations and Improvements of the Port Talbot Docks and Railways during the last Decade," by Mr. William Cleaver, M.Inst.C.E.

The author points out that experience of the maintenance and working of large engineering undertakings sometimes indicates certain details in the original designs which proved to be not altogether suited to their purpose, and that the modifications which would be necessary would often afford valuable information if published. He thereupon submits an account of the more important alterations and improvements carried out under his supervision during the last ten or twelve years at the Port Talbot Docks and Railways. After giving a short history of the undertaking, he proceeds to describe in detail channel training works, sand suction dredging, the design of suction nozzles, lifting discharge pipes, pontoons, etc. Channel maintenance by means of sluicing is dealt with, and in connexion with this the fallacy of river scour is explained. Details are given of a dam or groyne built in the river to prevent the very scour which was originally intended to prove beneficial, and also the effects of the erection of the dam in raising the river bed, restoring bridge foundations, reducing dredging, etc. Improved dock moorings, designed by the author, are described, and also the strengthening of existing moorings.

Mention is made of the use of reinforced-concrete structures at Port Talbot Docks, and the general results of the experience gained,



Dome at King's College Hospital, showing Mastic Asphalt made by the Limmer Asphalt Paving Co., Ltd.

as well as the specific reasons for the adoption of this material at Port Talbot.

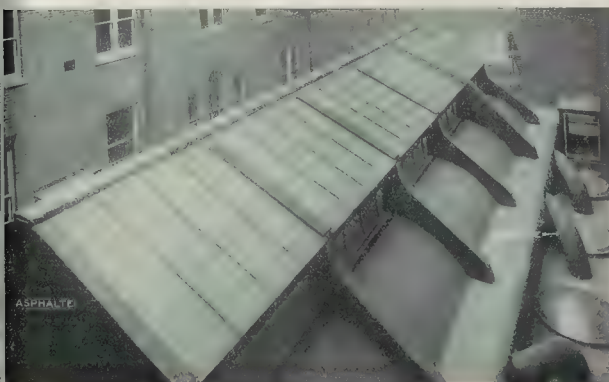
The paper then describes the present methods of dredging in dock and the deposition of the spoil for reclamation purposes, and gives particulars of other methods tried previously with the same end in view.

Details are given of the laying by diver of what is believed to be the first extensive submerged high-pressure hydraulic mains and returns in this country. The new electric and hydraulic power station is described. An account is given of the damage done to the breakwaters, etc., by the great storm of December 16, 1910, and the steps taken to repair the work and to prevent similar damage in future are described.

Reasons are given for the provision of new lock gates, and the necessity for having additional sluices arranged in them, and a new method of fixing fender chains for the protection of the gates from collision is also described. The author gives reasons for his view that the usual aprons in front of sluice culverts, etc., are inadequate, and also refers to the necessity of substantial dock drains. The paper concludes with particulars of the methods adopted by the author for the prevention of subsidence in railway embankments, and also of special repairs carried out on a brick arch viaduct without interfering with the traffic.

MANCHESTER MAIN DRAINAGE.

A QUARTER of a century ago the area drained by the main outfall sewers of Manchester was only 5,934 acres, while in the present day the drainage area is 15,369 acres.



Roof and Culverts at King's College Hospital, showing Mastic Asphalt made by the Limmer Asphalt Paving Co., Ltd.

The inadequacy of the existing system of sewers has long been recognised, but it has not been generally known that, despite the provision of more than two hundred storm overflows into the rivers Irwell, Medlock, Irk, tributary streams, and the Ship Canal, the sewage in certain districts has backed up into house drains during heavy rains, and that in some cases, although perceptible flooding has not occurred in buildings, the foundations have become literally saturated by leakage from the drains.

Undesirable as this state of things may be, the pollution of the rivers and Canal is equally so, and in order to obviate both of these evils a new system of main drainage has been designed by Mr. T. de Courcy Meade, M.Inst.C.E., the City Engineer, and sanctioned by Parliament.

The undertaking is the largest of its kind in the country apart from the main drainage system of the metropolis, and will provide for the drainage of at least 38,000 acres with the population of nearly one and a half millions; while it is believed that if additional districts, that may hereafter be included within the city boundaries, are able to deal locally with part of their storm waters, the area served by the new sewers may be considerably extended.

The estimated cost of the works is 1,000,000l., and it is anticipated that their completion will "make Manchester one of the best drained and in that respect the most sanitary city in the kingdom."

Under the new scheme the overflow of storm water into the rivers and Ship Canal will not take place until the ordinary flow has been diluted at least six times, and the effluent will carry few impurities, as the bulk of these will have been removed previously at the Davyhulme Sewage Works.

The most striking feature of the undertaking is the series of main sewers, the cross-section of which is larger than that of the London tubular railway tunnels. These sewers are being constructed by tunnelling, in order to minimise surface disturbance and consequent interference with traffic, and are lined with hard bricks set in Portland cement.

Up to the present the ground penetrated has been hard and dry, but if water-bearing strata should be encountered the work will be continued by the shield method.

In addition to the main sewers, the scheme includes an important improvement of the River Medlock. A central brick channel is being constructed to carry the normal flow of water, with sloping banks on either side forming a larger channel for flood waters.

Three contracting firms are now actively engaged on the works in Hulme, Moss-lane East, Rusholme, and Clayton, these districts requiring relief from storm waters more urgently than other parts of the city.

Gorton will be the next district to receive attention, and the system will be extended gradually until it provides for the needs of the entire city.

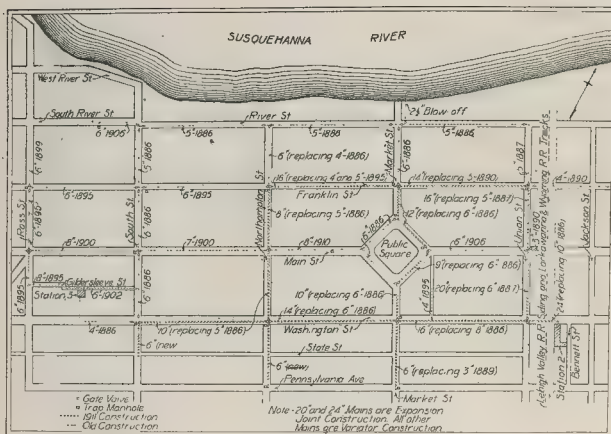


Fig. 1.

CENTRAL HEATING IN AN AMERICAN CITY.

ON various occasions we have referred to the advantages of central heating, not merely in connexion with isolated buildings or groups of buildings, but as applied to entire districts or towns.

In the present article we give some practical details of the comprehensive system installed in the city of Wilkes-Barre, an important manufacturing centre on the north branch of the Susquehanna River, in Pennsylvania.

More than a quarter of a century ago some 2 miles of public supply steam heating mains were laid in the city by the Wilkes-Barre Heat, Light, and Motor Company, since merged into a larger corporation under the style of the Wilkes-Barre Company, by whom the system has been thoroughly modernised and extended so that to-day the underground steam mains represent the collective length of 5 miles.

After having been in service for more than twenty-five years, the original mains not unnaturally gave indications of deterioration, and their capacity was so taxed by increasing demands that it was necessary to convey the steam at unduly high pressure in order to ensure supplies to consumers.

As described by Mr. Donald M. Belcher in a recent issue of the *Engineering Record*, the extensions undertaken last year by the Wilkes-Barre Company include the construction of new mains, ranging in diameter from 6 in. to 24 in., capable of permitting exhaust steam from the electricity station engines to be utilised for heating purposes.

Fig. 1 is a plan showing the principal pipe lines in the steam distribution system as remodelled.

Method of Protecting Pipes.

The new pipe lines are of wrought-iron throughout, and all joints except those with special fittings are made with long couplings of heavy pattern.

The pipes are very adequately protected to minimise loss of heat in accordance with the methods generally adopted in American central heating systems, as shown in Fig. 2.

A double spiral winding of asbestos paper was first applied and held in position by copper wire ties. Then the pipes were encased by cylindrical lagging, 4 in. to 5 in. thick, formed of tongued and grooved strips of wood, and leaving an annular air space of 1 in. between the asbestos-covered pipes and the lagging, the latter being bound with $\frac{1}{8}$ -in. galvansied-steel wire, wound spirally under high tension and embedded into the wood. The casing is coated outside with asphalt and lined inside with bright tin plate. Guides and rollers, spaced about 8 ft. apart, are provided to keep the pipes in correct position and to permit movements caused by expansion and contraction.

Outside the lagging a sheathing of 3-ply tarred paper was placed as a protection for the upper part of the pipe line.

The efficiency of the protection in respect of heat losses may be judged by the statement that tests show the loss from condensation to be less than 5 per cent. of the amount of steam supplied.

Expansion Joints and Fittings.

To provide suitably for the effects of expansion and contraction two types of fitting were employed—the ordinary expansion joint and a special type of expansion joint described as a "variator." The variator consists of an outer casing or body having at each end a corrugated copper diaphragm with a centre hole into which is fitted a special movable piece attached to the end of the steam main. The two diaphragms are spaced at such distance apart as to permit the pipes to expand into the body of the variator without coming into contact with each other, and the body is securely anchored into the brick walls of the chamber provided for reception of the expansion joint.

In lines where variators are used the pipes are laid in 50-ft. lengths, one end anchored into brickwork and the other end free to expand or contract. In special positions, variators having only one copper diaphragm are used, one end providing for expansion and contraction, and the other end acting as an anchor.

All special fittings are enclosed in water-tight brick chambers, packed with shavings as insulating material.

Ordinary expansion joints, as applied to the 24-in. main in Washington-street and the 20-in. main in Union-street, are placed in brick inspection chambers. Joints of this type provide for the expansion and contraction of pipe sections about 125 ft. long.

The chief advantages of the variator type of expansion joint are its automatic action and the elimination of packing. Therefore, it obviates the need for periodical attention and the cost of access manholes.

Main Pipes and House-Service Branches.

The mains were laid at the average depth of about 6 ft. below street level, thus ensuring ample safety from mechanical injury and protection from climatic extremes.



Fig. 2.

In order to facilitate the flow of condensed water, the mains were laid at the minimum gradient of 2.4 in. in 100 ft., and steam provided where necessary for the removal of water, these traps being fitted in chambers. All the trenches and chambers are drained by 4-in. earthenware pipes.

All house-service branches are taken from the top of the variators or anchor fittings, branches varying in size from 2 in. to 4 in. diameter, and being protected similarly in main pipes.

Steam pressure is reduced as required by a reducing valve inside the building, and return pipes are connected with a steam discharging into a cooling coil whence water, condensed, is delivered into the drain. The coil is enclosed and the heat imparted to the water in the coil is utilised for warming air.

Steam supplies commence in September and are continued to June in every year. Charges to consumers are usually based upon the number of cubic feet in the building warmed, but those desiring to be charged on a meter can adopt this arrangement, the meter recording the quantity of water returned to the cooling coils.

At the present time about 250 consumers taking regular supplies of steam for heating purposes, their experience being that the system of public supply is economical and labour-saving.

As reconstructed, the central heating system of Wilkes-Barre is capable of being operated under the low pressure of 5 lb. per square inch when supplying 90 per cent. of the available sources of consumption along the mains provides for considerable extension of districts hitherto unsupplied.

The total cost of the new mains, including trenching, pipe-laying, repaving, and incidentals, varied with the dimensions of the pipes as follows:—

Diameter of Main.	Nature of Faving.	Cost per 100 feet.
6 in.	Brick	\$ 3.00
8	"	1.30
10	Asphalt	1.60
12	"	1.13
14	"	1.18
16	Brick	1.18
18	Asphalt	1.19
20	"	2.86
22	"	2.11
24	Brick	3.82
	"	4.15
	"	5.18

The original and the new mains were laid by the American District Steam Company, North Tonawanda, New York State, and the removal of the old mains and the reconstruction of the house-service branches having been carried out by the Wilkes-Barre Company under the direction of Mr. Donald M. Belcher, A.M., Soc. C.E.

HEAT LOSSES FROM IRON BUILDINGS.

WITH the object of determining the coefficient of heat transmission the tests on corrugated iron sheets an elaborate investigation has been conducted at the works of the Green Fuel Economiser Company, at Marston, New York State. The building in which the tests were made is 225 ft. long by 4 ft. wide, with the average height of 32 ft. It is covered with corrugated iron without lining of any kind, but precautions were taken to render the building as air-tight as possible. Calculations made by the formulae of Professor Grashof, Dr. Rietschel, Professor Woodbridge, for single window gave results which were fairly in agreement, the values of the coefficient of transmission ranging from 0.955 to 1.000 British thermal units per square foot per hour for the difference of 1 deg. Fahr. between the interior and exterior temperature.

From the results obtained during the tests it was found that the average rate of heat transmission per square foot per hour for a difference of temperature was 1.000 units as computed from the heated surface employed, and 1.33 heat units as calculated from the amount of steam condensed in the air heater.

Making allowance for the corrugation of the sheets, the actual surface of the metal is about 135 times the superficial area

the walls and roof. Therefore the values stated become 187 and 182 heat units respectively.

Consequently it appears that for buildings of this kind the coefficient of heat transmission may safely be taken at 2 British thermal units per square foot of actual surface or degrees difference of temperature.

ENGINEERING NOTES.

Sewage Sludge Disposal. The plant devised by Dr. J. Grossmann, of Manchester, for the disposal of sewage sludge was opened at Oldham recently. By Dr. Grossmann's process about 1,000,000 tons of valuable manure capable of recovery, and at present running to waste, could be produced in this country, and 50,000 tons of phosphates, 50,000 tons of potash salts, and nitrogen equal to 100,000 tons of phosphate of ammonia taken back to the land. These constituents have an intrinsic value of about 2,500,000*l.*, and would be available for manuring at least 3,000,000 acres of land. The plant at the Oldham Sewage Works is capable of dealing with all the sludge produced from the whole population of Oldham. The settled sludge is pumped into special draining tanks, in which it is reduced to a slimy consistency. From those tanks it is moved by mechanical means into a receptacle below, from which it is taken by bucket elevators to the top of the building into a storage tank. From this storage tank it is distributed into six hoppers, each of which is connected with a drying machine, which it automatically feeds. These drying machines, which are bricked in and heated by coal, contain an internal arrangement, driven by gearing and pulleys, by means of which the sludge is automatically moved from the inlet to the outlet, and the movement is adjusted in such a manner that by the time the sludge arrives at the outlet it is completely dried. Each dryer has placed underneath it a distillation rectort. In this it is automatically mixed with a little acid and moved along towards the outlet of the machine, from which the finished manure is automatically discharged. The building in which the plant is housed is 20 ft. by 45 ft. and 30 ft. high.—*The Times.*

Diesel Pumping Engines (Metropolitan Water Board). The remarkable progress of the Diesel internal-combustion engine during recent years is further marked by its adoption on a large scale by the Metropolitan Water Board, who are thus leading the way in applying this type of motor for pumping public water supplies in the United Kingdom. The Board are about to install at Cricklewood three 4-cylinder Diesel engines, each of 200-horse-power, and a similar set at Portis Green. The engines driving pumps capable of lifting 12,000,000 gallons daily to a height of 250 ft. At Dartford a Diesel engine will be employed for driving a pump capable of raising 50 gallons a day to a height of 520 ft. The Diesel engine, now made by various firms in this country, represents a decided advance upon former ideals. The inventor set himself the task of attempting to realise, within the limitations of practice, an approach to the "Carnot cycle," and in order to attain his end became necessary to adopt a degree of compression much higher than that previously used, and it was required that the charge should be compressed to the maximum pressure at which the motor was to be operated, and that this pressure should not be exceeded by gases generated during combustion. In this engine the high temperature produced by compression of the air is sufficient to ignite the combustible, and it is only necessary for the fuel to be injected into the heated air to ensure its ignition and combustion.

New Reinforced Concrete Loading Pier at Southampton-Sea. CONSTRUCTION work has commenced for the new loading pier which the Corporation of Southampton-on-Sea has decided to erect under the superintendence of Mr. Ernest J. Elford, M.Inst.C.E., the Borough Engineer. The total length of the pier will be 600 ft., and it has been designed for a working load of 5 cwt. per square foot. The work will be executed on the "Picket System" of reinforced concrete, elected in open competition. Mr. T. W. Seddette, Enfield, N., is the contractor. The contract is for 11,690*l.*

Bridges in the Norwich District.

At a recent meeting of the Eastern Highways Committee the County Surveyor said the damage done by the great storm was being attended to as quickly as possible. The Committee have arranged for the reconstruction of a certain number of the smaller bridges in ferro-concrete, and for the reconstruction of Coltishall Bridge in ferro-concrete. Ingworth Bridge is to be reconstructed in steel. At the present time for the purpose of the Local Government Board loan they were instructed by the Local Government Board to prepare plans and estimates for four different types of bridges. The larger bridges would be either in ferro-concrete or in steel. With the two extra assistants who had been allowed him, no time was being lost in getting the plans and surveys made. In the meantime temporary bridges had been made all over the county, and he did not think there was much inconvenience to traffic except in the case of Coltishall, where there was a foot-bridge.—Mr. Sancerot Holmes said the Chairman of the Board, Sir George Gibbs, and he, with Mr. Killick and the County Surveyor, had made a tour of inspection. They saw every important bridge that had been damaged and every important road that had been washed out. Careful notes were taken of what was seen; and Sir George intimated that his Department was prepared to meet the county generously with a free grant of money. The amount of money which the Road Board would grant and the actual way in which it was to be applied was still under consideration. There was every hope that when the plans had been fully considered the Road Board would see their way to grant some considerable assistance. In making this tour of the bridges it became evident that a great cause of the disaster was that the foundations of the old bridges were inadequate, and were not carried down to a sufficient depth. The new bridges would not have these defective foundations.

The Melting-Points of Fire Bricks.

In the subjoined table we give the results of tests conducted by Mr. C. W. Kanott in a paper contributed to the *Journal of the Franklin Institute*. It should be noted that in every case the melting-point was taken as the lowest temperature at which a small piece of the material could be distinctly seen to flow.

Material.	Melting-Point, Deg. C.
Fireclay brick.....	1555-1725 (mean 1640)
Pauxite brick.....	1568-1785
Silica brick.....	1700-1705
Chromite brick.....	2051
Magnesia brick.....	2165
Kaolin.....	1745-1740
Bauxite.....	1520
Bauxite clay.....	1785
Chromite.....	2110
Alumina (pure).....	2010
Silica (pure).....	1750

The British Engineers' Association.

The British Engineers' Association, which was incorporated on April 26 of this year under a certificate from the Board of Trade, and was brought into being for the purpose of promoting the interests of British engineering firms in China, has developed considerably since that date. While Germany and the United States and certain other of Britain's competitors already have associations of this sort this is the first attempt made by British manufacturing engineers to convert that dead-weight of influence which must exist in an industry which pays more than 2,000,000*l.* a week in wages into an active practical force for the furthering of their interests abroad. This Association now comprises a large number of the best engineering firms in Great Britain. Already the Association has made arrangements for the collection of first-hand information on the subjects which affect engineering interests in China, and is issuing it in the form of confidential reports to its members at frequent intervals. A feature in the policy of the British Engineers' Association is the encouragement of the education of Oriental engineers in the British language and on British lines, whether by British engineering schools in the countries concerned or by facilities at the educational establishments and in the engineering works of Great Britain. At the present day the Germans are spending 100,000*l.* on the erection of German engineering schools in China, and are paying very large sums,

amounting to as much as 1,000*l.* each, for selected Chinese, who are to be educated in Germany for ten years, first as Germans and afterwards as engineers. The Association is devoting its attention exclusively to China at the present day, because that is the country where, above all others, British engineering interests are in most urgent need of support. When thoroughly organised to cover the ground efficiently the Association will turn its attention to any other country where British engineering interests may be suffering. The offices of the Association are at Caxton House, Westminster, and the Secretary is Mr. Stafford Ranscane.

Loan Periods for Reinforced Concrete.

Writing to the *Times Engineering Supplement* relative to the attitude of the Local Government Board to reinforced concrete, Mr. J. S. De Vesian, M.Inst.C.E., adduces further facts and arguments which deserve to be taken into serious consideration by the head of the Department mentioned. As the chief of a firm by whom some 1,500 reinforced concrete structures have been carried out in this country, and on most of which not one penny has been spent in maintenance, Mr. De Vesian naturally considers it hard that loan periods for such works are usually limited to ten years, while periods of thirty years are readily granted for timber-structures. Referring to structural steel, the writer points out that the life of bridges in that material over salt-water estuaries may be under twenty years, whereas reinforced concrete should be practically everlasting, and its first cost in bridge work is from one-third to one-half that of structural steel. Nevertheless, his firm lose many such works for which contracts have been provisionally accepted by local authorities simply on account of the short loan periods offered by the Local Government Board. Other firms of engineers making a speciality of reinforced concrete have to put up with similar losses, which are doubtless as annoying to them as they are pleasing to structural steel firms. Apart from personal considerations, however, Mr. De Vesian brings forward the point that another result is that "the community has had to spend many thousands of pounds in capital and many hundreds of pounds in maintenance charges in order to obtain the longer loan period for an inferior article." We hold no brief for either material, but cannot avoid the conclusion that the Local Government Board are entirely wrong in placing unnecessary and unfair obstacles in the way of a form of construction which extended experience, including that of important Government Departments, has proved to be worthy of entire confidence.

A Modern Timber Railway Viaduct.

Among other damage caused by the floods in Norfolk was the destruction of the railway viaduct, including three brick arches of the Great Eastern Railway between Fornett and Flordon. In order to rebuild the river piers it was necessary to dam the stream above the site and to construct a temporary timber channel to carry the water past the excavations. Owing to the impossibility of obtaining prompt delivery of steel for the new girder spans, the latter were built in timber at the works of the railway company. This reversion to an obsolete form of construction was one of the results attending recent strikes directly and indirectly affecting the steel industry.

Large Testing Machines.

In a paper read at the Congress of the International Association for Testing Materials Professor Gaetano Lanza gives particulars of machines for testing full-size members in various parts of the United States. The subjoined list includes only those with a capacity of 600,000 lb. and over:—

	Capacity.
American and Steel Wire Co., Pittsburgh	600,000
Pa. timore and Ohio Railroad.....	600,000
Pennsylvania University.....	600,000
Pittsburgh Testing Laboratory.....	600,000
Pressed steel Car Co., Pittsburgh.....	600,000
Illinois University.....	600,000
West Virginia University.....	600,000
Wisconsin University.....	600,000
Lehigh University.....	800,000
Watertown Arsenal.....	800,000
Rensselaer Polytechnic Institute.....	1,200,000
U.S. Bureau of Standards, Washington	2,200,000
Phoenix Bridge Co., Phoenixville.....	2,400,000
American Bridge Co., Ambridge.....	4,000,000
U.S. Bureau of Standards, Washington	10,000,000

* Two under construction. † Under construction.

THE BUILDING TRADE.

THE BUILDERS' BENEVOLENT INSTITUTION: ANNUAL DINNER.

THE sixty-fifth annual dinner of the Builders' Benevolent Institution was held on Thursday last week in the Whitehall Rooms, Hôtel Métropole, Charing Cross, W.C. The chair was occupied by the President, Mr. F. G. Minter, who was supported by Messrs.

G. L. Alexander
A. H. Adamson
J. Arnold
J. G. Alexander
A. L. Aston
H. H. Bartlett
H. B. Arthur
(President, Institute of Builders)
W. Bryant
J. Boyce
S. Y. Boreham
H. J. Brown
R. D. Brierley
F. J. Barnes
R. O. Bryen
John T. Bolding
A. T. Benjamin
G. Bartlett
J. Byford, J.P.
H. D. Bisco
E. G. Becker
H. Britton
A. B. H. Collis
G. C. Clarke
J. W. Chessum
Ben Carter
W. Cretell
H. A. Cunis
A. E. Clark
T. J. Collins
G. C. Crump
J. E. Clark
C. G. Chapman
A. E. Cross
T. D. Cooper
Wm. Chilcot
R. B. Chessum
H. Campbell
T. P. Cushtway
J. E. Drower
A. J. Dearberg
G. H. Derby
W. Dutton
E. W. Davis
W. Eckstein
A. Farquharson
W. W. Farthing
F. W. Foster
T. W. Felce
F. Forbes
Arthur Fiv
G. Bard Godson
J. Grimmond
C. Gude
L. Gill
C. O. Groves
L. Gliksten
W. Gibbs
J. Gibbons
F. Higgs
Edmond J. Hill
R. J. Holliday
J. H. Howorth
J. C. Hill
C. J. Hare
S. R. Hall
A. C. Finch Hill
C. A. Harman
J. F. Hamlyn
C. W. Hall
A. J. Harding
G. T. Hellicar
H. Hardy
G. Thrale Jell
P. Jarvis
W. A. Jones
P. W. Jones

J. Wolfe King
A. V. Kinsbury
R. E. Kysa
C. F. Kearley
J. Kirkby
T. Keating
Ernest King
Walter Lawrence, jun.
C. E. Lawford
L. G. Lawford
H. Lawson
T. Lindley
F. May, J.P.
F. A. Minter
Leonard Martin
C. H. Maiev
G. Mitchell
A. G. Oasley
W. Mitchell
W. Norman
J. Newlands
G. H. Norris
S. Nicholls
Guy Nicholson
Alfred Neal
B. E. Nightingale
G. J. Newman
A. J. Orr
J. G. Oasley
J. F. Parker
R. B. Plowman
G. B. Parry
G. B. Parker
C. B. Parker
W. Pangbourne
W. Pearce
J. Pullman
T. W. Peberdy
E. E. Price
A. E. Prece
A. Parrott
F. W. Reed
F. W. Renshaw
W. H. Salmon
E. H. Selby
W. Laidlaw Smith
T. Shirling, jun.
D. H. Stringer
W. Smith
S. Salter
H. G. Stanbrough
W. B. Simpson
E. A. Schnell
S. Cecil Searle
J. Sabey
H. Sabey
T. Simpson
F. Searchfield
H. Springfield
W. R. Townsend
M. Taylor
J. Tenn
E. R. Vaughan
H. W. Virgo
R. B. Vick
A. Veit
W. T. Walker
F. E. Wallis, J.P.
B. C. Wotton
J. Whitty
S. W. Wilks
J. J. Wilson
E. E. Way
W. Wood
W. P. Willis
J. Willis
C. Yates
T. Costigan (Secretary)
and others

The loyal toasts having been honoured, the President gave the toast of the evening, "The Builders' Benevolent Institution." He said the Institution had now been in existence sixty-five years, and was the only charity of its kind existing in London. The good work that had been done in the past must still go on, and to ensure this funds must be forthcoming. This annual dinner was the only occasion when a general appeal was made throughout the building and allied trades, and it was on the result of this appeal that so many poor and unfortunate men and women had to depend for the pension that the Institution set out to provide. He felt they would all agree that no one worked harder than the present-day builder, and as a rule when success did come it was because nothing had been left undone. The modern builder had to be a man of many parts, combined with an unlimited supply of tact and common sense, but, like many other

trades and professions, the man was not always fitted to the part. Nature had not always endowed him with those gifts both physically and mentally that were required to make success, and even with these combined the fortune of war sometimes went the wrong way. Therefore some had of necessity to go under, and for these unfortunate brothers he appealed. A large sum had to be made up to enable them to continue the benefits for another year. There were many good and generous-minded men connected with the building industry of London, and to them he appealed. Some might plead bad trade, over-competition, cut prices and little or no profits, all of which was to a great extent true, but, after all, what was given in a good cause was only lent and was rarely, if ever, missed, and so long as the Builders' Benevolent Institution existed it should and must be supported. He thought that those builders who had not hitherto supported the cause should now come into line until the Builders' Benevolent Institution was looked upon as something they must all subscribe to as regularly as the postman's Christmas box. It should be brought home to all that it was a duty they owed to themselves, and not leave quite so much of it to their kind friends to whom they were already so much indebted, the merchants and allied trades. The Committee of the Institution was composed of hard-headed, clever business and professional men such as Messrs. Bolding, Stirling, H. Northcroft, B. Carter, James Holliday, Frank May (who was the Hon. Treasurer), and others, and such well-known names as these in the building world were sufficient to guarantee that the funds were economically distributed and that no leakage of any kind could exist; and not only this, but real sympathy was expressed by them all in distributing and managing the funds to the various old and unfortunate people, both men and women, who came to the Institution for pensions and other assistance. There were some sixty odd pensioners on the books relying solely on these funds to keep the wolf from the door, or what was even worse to a great many—the workhouse.

Mr. F. G. Rice, Past-President, then proposed the toast of "The President," giving eloquent expression to the valued work of the President on behalf of the Institution and to the manner in which he had thrown his heart into the cause.

As Mr. Harold Begbie said:—"Man lives, and toils, and dies," "That other men may build upon the labour of his years," and that was what a President of an Institution like theirs did. Might he (the President) be as successful as he (the speaker) was in finding a successor.

The President, who was received with musical honours, briefly and suitably replied.

Mr. Arthur Bartlett, President of the Institute of Builders,

then proposed the toast of "The Architects and Surveyors." Having remarked on the pleasure it gave them to see so many architects and surveyors present that evening, he said that the presence of these gentlemen was doubly welcome, because it showed that they took a very great interest in the welfare of the building trade—an interest on the part, not only of new friends, but of architects and surveyors who had supported them for so many years. He ventured to think that at the present time the work of architects had attained a very high degree of excellence, and he thought that this was exemplified all round in modern buildings which were being executed. Not only that, but he thought that the attention which architects had to give to these works showed what a great amount of study they had to give to the preparation of their designs. Architects had not only to design their buildings, but they had to know all about construction, about engineering—electrical engineering, civil engineering, hydraulic engineering—heating and ventilation, and in fact they must keep in touch with the latest developments in science and invention and in the production of new materials, etc. Moreover, they had to know a great deal about law and be experts in large

numbers of details. How architects managed to acquire the knowledge necessary to carry their professional work was a mystery to him and he did not envy them. He had one complaint to make, however, and that was of the growing tendency to specify so many specialists and sub-contractors. That really a very serious problem, for it threatened practically to wipe out the builder, and if practice were extended it seemed to him that specialists would be appointed for everything. He could not help thinking that with all the experience builders might be entrusted to a little plastering or joinery at a pinch, so far had things gone that the latest seen to be the arrival of the digging specialist. He did not understand why this should be, why the architect should be so anxious to get the builder trouble, for all builders seemed to exist for now was to draw cheques, certain cases the introduction of a specialist was necessary, but he did not think that need to be carried to anything like the extent it is. Builders would in the end be nothing more than financial experts, get prices from a series of sub-contractors add them up, take 10 per cent. off the top, and send that in as a tender, and, of course, was a difficult thing to make a living in that way. Surveyors were always very sympathetic toward the building trade, and builders out of very many difficulties, and it was shown in the last few weeks in regard to Insurance Act, for they had appointed a Committee to consider the question of the bearing of the Act upon their work and had decided to include a clause in their specifications to cover the extra cost of insurance.

Mr. Guy Nicholson, F.S.I.,

replied for both architects and surveyors. In the course of his remarks he said they were all suffering from the effects of low prices, and the evil was increased at the present day, that vicious "Ltd." In past days if a cutting times too fine he ultimately passed through the hands of the Official Receiver; but nowadays while he had to do the same thing, he appeared again and did not seem to be repeating the experience. He used to think that if they had, say, six good firms and had limited competition, that that gave the best result and that they got respectable prices, but his faith had been rudely shaken, for prices were got from leading firms now which came to realise what a tremendous reserve capital those firms must have to draw up to meet their losses. Everyone was hit, round; if work was taken at too low a price it increased the difficulties of the architect or the surveyor, for if an estimate were properly priced and there were comparatively extras on a work the client did not mind so much as when he got a lot of extras to 10 per cent. below prime cost. Extremely low estimates led to a great desire for extras, for was perfectly natural when a man was faced by a loss at the end of a job to want to make it up somewhere, and he looked to architect and surveyor, somehow or other to get him through, forgetting that if he helped this way the architect and surveyor would have a very uncomfortable time with the client possibly leading in the end to an arbitration. Arbitrations were good things for the profession, but not much good to anyone else. In this matter of low prices public bodies were perhaps the worst offenders. They were very particular what wages should be paid to workmen, but they were not so particular about the wages paid to those who put the workmen—that did not seem to matter. These public bodies seemed to think that some miracle they would get the best class of work for the lowest prices. It was going to a bootmaker and trying to get 7s. 6d. a pair of boots equal to a pair worth 25s. Public bodies put their work out to competition, and they were beginning to do the same thing with architects and surveyors. They did not dream of advertising for consultants to conduct their legal cases at the lowest price. He wished that the highest class of builders would make some sort of agreement among

themselves not to tender below prime cost, it seemed to him that they were going on in vicious circles, and that the burdens of Institution like the Builders' Benevolent Society were less able to subscribe. As to subcontractors, he had been speaking to an architect on the subject, and that architect said: "On my last contract the contractor asked me not to give the hot-water work to a specialist, and I took his advice and gave it to him, but ever since I have been afraid to meet the architect."

Mr. J. T. Bolding then read a list of contributions towards the funds of the Institution, the grand total being over 1,000*l.*, including 40 guineas from the President and 100 guineas from the Institute of Builders.

Mr. H. H. Bartlett proposed the toast of "Vice-Presidents, Trustees, Committee, and Stewards," and in the course of his remarks he said he did not suppose there was a charitable institution in London whose funds were administered at such a low cost as they were in that Institution. Payment was made to those who gave their time so willingly and so carefully to the work, and every case was considered on its merits, and help was given only to the right people, especially referred to the work of Mr. May, of the Trustees, and Mr. Bolding, one of the Trustees. No one had given so much time as Mr. Bolding to the work: what he did was well done and for the good of other people.

Mr. Bolding replied, and referred to the splendid reports of the President on behalf of the Institution. As to the Committee, they always gave great care to the various cases that came before them, and no unworthy candidate ever received a pension. The only anxiety the Committee had was that so much depended on the liberality of those who attended that evening, for they always had the fear that they might have to dispose of invested funds, thereby reducing the stability and income of the charity, but so long as they got gentlemen like Mr. Minter to act as their President there need be little fear for the future.

GENERAL BUILDING NEWS.

FREEMASONS' HALL, EDINBURGH.

The new Freemasons' Hall, Edinburgh, which has been erected on the site of the old hall, was designed by Mr. A. Hunter Crawford, of Messrs. Hunter Crawford & Williamson, architects, of Edinburgh, and the cost of the building has been about 40,000*l.* The most important part of the building is the main hall, which provides accommodation for 700 people and is 54 ft. by 64 ft., and the walls of which are covered with a soft grey Eclair marble. A large organ has been erected in this hall at a cost of 1,500*l.*, and has a carved oak front designed by Messrs. Scott, Morgan, & Co. The building also includes board-room, offices, committee-rooms, museum, library, smoking-room, kitchen, etc. Electric lighting is used throughout, and the figure of St. Andrew over the front doorway was executed by Mr. H. S. Milner, A.R.S.A., and is in Pasturehill stone from Cumberland.

BUILDING EXTENSION, HEATON.

The additional premises which have been erected for Messrs. F. Beavan & Son were designed by Messrs. Marshall & Tweedy, architects, of Newcastle. The building is four stories high and is surmounted by a glass dome. The floors are connected by electric lifts, and the fittings throughout are of light metal. The lighting is by electricity, and the heating on the low-pressure hot-water system. The firms engaged on the work are:—Contractor, Mr. Alex. Peingie, Gateshead; Messrs. Henry Walker & Son, Ltd., Newcastle; installed the heating system; Messrs. Falconer, Cross, & Co., the electric lighting; and Messrs. Smiths, of London, the electric clocks.

NEW WORKS, GLASGOW.

New works and offices are to be erected for Messrs. John Wallace & Sons, Ltd., at a cost of about 20,000*l.*, from plans prepared by Mr. William Baillie, architect, of Glasgow. The works will consist of machine and fitting shops, foundry, store, pattern, paint, and new shops, and the buildings will cover about 2 acres of ground.

TRADE NEWS.

Under the direction of Messrs. Thomson & Jones, architects, Glasgow, Boyle's latest

"air-pump" ventilators have been applied to Free Church College, Glasgow.

The Electric Palace of Varieties, Belper, is being ventilated by means of Shorland's patent exhaust roof ventilators and special inlet ventilators, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsforth, Manchester.

WATER SUPPLY, PETERHEAD.

The tender of Messrs. M'Adam & Son, contractors, of Aberdeen, has been accepted for the construction of the new reservoir at Forehill at the sum of 6,936*l.* 11*s.* 6*d.* The engineer of the works is Mr. W. D. Ironside, of Aberdeen. The capacity of the new reservoir will be about nine million gallons, and it is intended to have the basin ready for containing water by next summer.

DUDLEY BUILDING TRADE.

The bricklayers, carpenters, and labourers in the building trade at Dudley have jointly approached their employers with a view to securing advances in wages. The bricklayers and carpenters ask for an increase of 3*d.* per hour and the labourers 1*d.* per hour. The employers will discuss the matter at a Conference, and it is generally expected that the requirements of the men will be favourably considered.

BUILDING TRADE PROPOSALS.

Following the failure in the recent ballot to bring about an amalgamation of the building trade unions, the Parliamentary Committee of the Trade Union Congress propose, it is stated, that a central fighting fund shall be established, controlled by executives representing the subscribing societies, and leaving complete autonomy to each union so far as friendly benefits are concerned.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Act were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Bethnal Green, North-East.—Illuminated sign in front of Nos. 62, 64, and 66, Green-street, Bethnal Green (Mr. F. E. Harris for Picture Amusements, Ltd.).—Consent.

Hamstead.—Retention of glass screens to a porch and wooden balustrading over the bay-windows and porch at No. 23, Belsize-avenue, Hampstead (Messrs. F. Troy & Co., for Mr. J. C. Biggs).—Consent.

Kensington, North.—Re-erection of the Latimer-road Mission building, Blechynden-street, Kensington (Mr. F. Warman for the Ragged School Union).—Consent.

Kensington, South.—Erection of a porch at No. 123, Church-street, Kensington (Messrs. Chatterton & Sons for Admiral Slade).—Consent.

Lewisham.—Erection of a one-story shop in front of No. 55, Ennersdale-road, Lewisham (Mr. R. Coppin for Mr. J. Strickland).—Consent.

Lewisham.—Erection of Nos. 211 to 221 (odd numbers only), inclusive, George-lane, Lewisham, and of a building on the northern side of George-lane (Mr. F. E. Wright).—Consent.

Lewisham.—Erection of porches, bay-windows, oriel-windows, and sham half-timber work to ten houses on the north-western side of Beckenham-lane, London (Messrs. R. Sawyer & Son).—Consent.

St. George, Hanover-square.—Erection of a projecting sign at No. 20, Conduit-street, Regent-street (Messrs. Waring & Gillow, Ltd.).—Consent.

Southwark, West.—Erection of a fascia in front of the one-story shop at No. 47, London-road, Southwark (Mr. P. H. Adams).—Consent.

Strand.—Projecting iron and glass shelter in front of Nos. 3 and 4, Coventry-street (Messrs. Gilbert & Constanduros).—Refused.

Wandsworth.—Retention of bay windows, porches, sham half-timber work, and barge-boards to three houses on the eastern side of Oakley-road, Streatham (Messrs. J. S. Quilter & Son for Messrs. Chapple & Utting).—Consent.

Whitechapel.—Addition to the Alexandra wing of the London Hospital (Mr. J. G. Oatley).—Consent.

Width of Way.

Hammer-smith.—Erection of buildings on the southern side of Harrow-road, Hammer-smith (Messrs. J. S. Quilter & Son).—Consent.

Width of Way and Lines of Frontage. **Marylebone, West.**—Erection of an addition to No. 27, Grove End-road, St. Marylebone, next to Garden-road (Messrs. C. Smith & Son for Mr. F. Hodgson-Roberts).—Consent.

Marylebone, West.—Addition to the "Three Arts" Club, No. 194, Marylebone-road, St. Marylebone, to abut upon Marylebone-road and Northumberland-street (Mr. C. Stanley Peach for the Governors and Managing Committee of the Three Arts Club).—Refused.

Worwood.—Two greenhouses on the northern side of Water-lane, Brixton (Messrs. G. Beard & Sons).—Consent.

St. George, Hanover-square.—Projecting feature at the Berkeley Hotel, Berkeley-street, Piccadilly (Mr. R. Griggs for the Berkeley Hotel Company, Ltd.).—Refused.

Width of Way and Space at Rear.

Hammer-smith.—Re-erection of a building on the northern side of King-street, Hammer-smith, to abut upon the eastern side of Dimes-place (Mr. J. W. Hawkins).—Consent.

Lines of Frontage and Construction.

Battersea.—Erection of a temporary wood and iron motor shed at the rear of No. 33, Spencer-road, Wandsworth Common, next to North Side (Mr. T. Wilson).—Consent.

St. Pancras, South.—Retention of an advertisement hoarding at Nos. 155 to 165, Euston-road, St. Pancras (Mr. H. B. Price for the Borough Theatre Billposting Company, Ltd.).—Refused.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ASHFORD.—Proposed baths; Mr. William Terrill, Surveyor, Urban District Council Offices, Ashford.

Barnoldswick. Plans have been passed as follows:—Fifteen houses, Harrold-street, for Mr. Sandy Harmer; twenty-six houses, Colindale-street and Bracewell-street for Mr. J. Downs; four houses, Dam Head, and five shops, Gisburn-road.

Beverley.—School, Mill-lane (3,800*l.*); Mr. Frederick Singleton, builder, Blenkins-street, Hull.

Blackpool.—Two shops and four houses, Whitgate-drive, for the Industrial Co-operative Society.

Bolton.—Extensions to cottage homes (12,253*l.*); Mr. J. Cocker, builder, 35, Walkden-road, Walkden, Manchester. Conversion of Towneley's House into receiving home (3,055*l.*); Mr. W. Cunliffe, builder, Stanley Works, Deane-road, Bolton.

Bredbury.—Extensions to premises for Messrs. Bridson & Fowler, Ltd., flour mill machinery manufacturers.

Brierley.—Twenty houses for the Hodrold Coal Company, Ltd.

Bromborough.—Extensions to premises of Associated Enterprises, Ltd., Bromborough Port Estate, for Messrs. Lever Brothers, Ltd., Port Sunlight; warehouse for the Knowles Oxygen Company, Ltd., Walsall-street, Wolverhampton.

Bromley.—Alterations and additions at Isolation Hospital; Architect, Guardians' Offices, Park House, Bromley.

Buckburn.—School; Mr. G. Bennet Mitchell, architect, 143, Union-street, Aberdeen.

Castleford.—Proposed additions at school (1,200*l.*); Rev. W. A. Hewitt, Vicar, Parish Church, Castleford.

Castlereagh.—Fifty houses; Messrs. Gibson & Boyd, builders, care of the Clerk, Rural District Council Offices, Castlereagh.

Chester-le-Street.—Additions to offices for the Pelton Colliery Company, Ltd., Milbura House, Newcastle-on-Tyne.

Clayton-le-Moors.—Proposed additions to Sunday school for the Trustees.

Clydebank.—Fire-station and copper store for Messrs. John Brown & Co., shipbuilders.

Coalville.—Mortuary; Mr. L. L. Baldwin, Surveyor, Urban District Council Offices, Coalville.

Cockley.—Additions to works for the Chaddeley Manufacturing Company.

Coppor.—Church (5,880*l.*); Six Chapels Nicholson, architect, 2, New-square, Lincoln's Inn, W.C.

Crewe.—Parish hall off West-street; Rev. W. Scholus, Vicar, St. Barnabas Church, Crewe.

Cullen (Banffshire).—Proposed poor house (1,000*l.*); Surveyor, Parish Council Offices, Cullen.

Dalmarnock.—Electricity generating-station; Mr. W. W. Lackie, Electrical Engineer, City Hall, Glasgow.

Darlington.—Additions at workhouses (560*l.*); Mr. C. H. Leach, Clerk, Guardians' Offices, Darlington.

Denby.—Eight houses, Over-lane; Messrs. Harris & Hunt, builders, Marehay, Ripley, Derby.

* See also our list of Competitions, Contracts, etc., on another page.

Denton.—Extensions to premises, Wilton-street, for Messrs. Wilde & Booth, felt hat manufacturers.

Dorset.—Schools, Portland, Uphill, and Underhill; County Surveyor, Shire Hall, Dorchester.

Dover.—Post-office, Priory and Newbiggin streets; Messrs. Ellis Brothers, builders, New Romney. Six houses, Ashby-avenue; Mr. G. Munroe, builder, Union-road, Dover.

Dudley.—Proposed rebuilding of works for Mr. John Buckles.

Dukinfield.—Proposed Sunday-school for the Trustees, Baptist Church, Dukinfield.

Co. Durham.—Schools, Blackhall Mill, Atherley, Fishburn (4,600l.), and Peases West; also enlargement of Ferryhill Station School (3,955l.); Mr. W. Rushworth, Architect, Shire Hall, Durham.

Durham.—School, Chilton-lane (3,000l.); Mr. W. Rushworth, Architect, Shire Hall, Durham. Bath house at Asylum (364l.); Mr. T. Coates, jun., builder, 50, Hallgate-street, Durham.

Eastry.—Children's homes off Gore-lane; Mr. F. S. Cloke, Clerk, Eastry Guardians' Office, Sandwich.

Fareham.—Chancel and organ chamber (2,458l.); Vicar, Holy Trinity Church, Fareham.

Farnworth.—Church school, Kearsley Moor; Mr. F. R. Freeman, architect, Smalley's chambers, Bolton. Fire-station (2,200l.); Mr. R. W. Cass, Surveyor, Urban District Council Offices, Farnworth.

Fleet.—School (200 places); Mr. D. T. Cowan, The Castle, Winchester.

Foggington.—Proposed school; Mr. J. E. Young, County Education Offices, Devon.

Forden.—Conversion of workhouse into lunatic asylum; Mr. G. A. Hutchings, Surveyor, County Hall, Welshpool.

Grays Barton.—Church institute; Mr. H. W. Sheffield, architect, Wallingborough.

Glasgow.—Works, Paton-street, for Messrs. John Wallace & Sons, Ltd., agricultural engineers, Graham square, Glasgow. Alterations and additions to premises, corner of Paisley-road West and Stanley-street, Kinning Park, for the Savings Bank of Glasgow. Four houses, Mount Annan-drive, Mount Florida; Messrs. Robert Sproul & Son, builders, Bank-street, Cambuslang, Glasgow. Three houses, Netherpton-road, Mount Florida; Mr. Richard Henderson, architect, 121, St. Vincent-street, Glasgow. Buildings, Hyde-park-street, for Messrs. Bilsland Brothers, bakers, Glasgow. Church, Newlands, for the Merrylea Established Church; Mr. P. McGregor Chalmers, architect, 55, Bath-street, Glasgow.

Glass Houghton.—Seven houses for the Co-operative Society, Glass Houghton.

Headingley.—Adaptation of Oak House into flats; Mr. W. Towers, Surveyor, City Hall, Leeds.

Hednesford.—Proposed school; Mr. J. P. Gardner, Education Offices, Cannock. Helensburgh.—Two houses, West Argyle-street; Messrs. T. & J. Low, architects, 18, Hamilton-street, Greenock.

Highbury.—Premises, Church-street, for the Highbury Social Club and Institute.

Holyhead.—Golf house (1,700l.); Mr. J. Hughes, builder, King's-road, Holyhead.

Huddersfield.—Proposed additions at hospital (1,500l.); Mr. D. J. Bailey, Clerk, Colne and Holme Joint Hospital Committee, Yorks Bank-chambers, Huddersfield.

Hyde.—Proposed vicarage; Vicar, St. Mary's Church, Newton.

Ipswich.—Proposed goods depot (50,000l.); Mr. John Wilson, Engineer, Great Eastern Railway Company, Liverpool-street Station, E.C.

Kirkburton.—Six houses; Mr. Fred. Hobson, Surveyor, Urban District Council Offices, Kirkburton.

Langrish.—School; Mr. J. Taylor, surveyor, The Castle, Winchester.

Lees.—Proposed additions to premises for the Rome Mill Company, Ltd., cotton spinners, Springhead, Oldham.

Letchworth.—Proposed fifty houses (800l.); Surveyor, Parish Council Offices, Letchworth. Levenshulme.—School (2,000l.); Vicar, St. Peter's Church, Levenshulme.

Lincoln.—Tuberculosis dispensary, Bank-street; Mr. R. McBrae, Engineer, Town Hall, Lincoln.

Liverpool.—Theatre; Messrs. Naylor & Sale, architects, Market-place, Derby.

Langsamlet.—Tower to church; Mr. Glen-climbing Moxham, 39, Castle-street, Swansea.

Lowestoft.—Proposed concert pavilion at Sparrow's Nest; Mr. G. H. Hamby, Surveyor, Town Hall, Lowestoft.

Lymington.—Cottage hospital; Mr. H. Benjamin, architect, 14, High-street, Lymington.

Margate.—Proposed new buildings, rear of East Cliff House; Mr. W. T. Hatch, Engineer-

in-Chief, Metropolitan Asylums Board Offices, Embankment, E.C.

Markse.—Isolation hospital; Mr. H. D. Woodcock, Surveyor, Rural District Council Offices, Guisborough.

Meltham.—Offices at Spink Mire Mills for Messrs. Quarumby & Sykes, Ltd., rag merchants.

Middleborough.—Dispensary; Mr. S. E. Burgess, Surveyor, Town Hall, Middleborough. Millfield.—Engineering works, Diamond Hall site, for Messrs. H. C. Davis, Ltd., mill and factory furnishers, Holmside, Sunderland; pottery, Diamond Hall, for Mr. W. L. Patison, Newcastle.

Newcastle.—Theatre, Tosson-terrace; Mr. P. L. Brown, architect, Pearl-buildings, Newcastle.

Northfleet.—Four houses, Downs-road, for the Gravesend and Milton Waterworks Company.

Nuneaton.—Alterations at infirmary; Mr. C. Blakeway, Clerk, Guardians' Offices, Nuneaton.

Oakengate.—Warehouses adjoining railway for the Co-operative Society.

Paisley.—Reconstruction of part of works for the Gleniffer Soap Company, 3 and 4, Lonend, Paisley.

Pembroke (Ireland).—Houses, Ringsend and Sandymount (12,000l.); Surveyor, Urban District Council Offices, Pembroke.

Petersfield.—Alterations to infirmary (620l.); Mr. A. J. Mackarness, Clerk to Guardians, High-street, Petersfield.

Pinvin.—Sixteen houses; Messrs. Dicks & Waldron, architects, Market-street, Eversham.

Portsmouth.—Boiler-house and chimney-shaft at workhouse (2,560l.); Mr. E. H. Mitchell, Clerk, Portsmouth Guardians' Offices, Southsea.

Rastrick.—Proposed church (5,000l.); Vicar, St. John's Church, Rastrick.

Rattray.—Church, Balmoral-road (2,500l.); Mr. Lake Falconer, architect, Bank-buildings, Blairgowrie.

Raunds.—School (6,107l.); Mr. Robert Marriott, builder, Higham-road, Rushden.

Rotherham.—Congregational church, Kimberworth-road (2,800l.); Mr. J. Totty, architect, Moorgate-street, Rotherham.

St. Stephen's.—Houses (566l.); Mr. W. Petherick, builder, Nottermills.

Sale.—Council offices (7,000l.); Mr. William Holt, Surveyor, Urban District Council Offices, Sale.

Southampton.—Convenience, Bitterne Park (780l.); Mr. J. A. Crowther, Engineer, Town Hall.

South Kirby.—Five houses for the South Kirby, Hemsworth, and Featherstone Collieries, Ltd., Ropergate House, Pontefract.

Springhead.—School, off Higher Turf-lane, Austerlands; Mr. W. V. Dixon, Secretary, West Riding Education Offices, Wakefield.

Stourport.—Picture-house, Lichfield-road, for the Stourport Electric Company, Ltd.

Swinton.—Technical school, Cromwell-road; Mr. W. T. Postlethwaite, Education Offices, Swinton and Pendlebury, Lancs.

Tenterden (Kent).—Proposed school; Mr. W. H. Robinson, architect, Caxton House, Westminster, S.W.

Thirsk.—School (100 places); Mr. J. C. Wrigley, Secretary, North Riding of Yorks Education Offices, Northallerton.

Troon.—Extensions to laundry for Messrs. R. S. Wilson & Son, House, St. Madden's-street (700l.); Messrs. Muir & Co., builders, Troon.

Twickenham.—The following plans have been passed:—Additions to No. 64, Cole Park-road, for Messrs. Catherine Brothers, Ltd., additions to Red Lodge, Strawberry Hill-road, for Mr. E. Benfield.

Tynemouth.—Two schools; Mr. J. W. Linton, Education Offices, Tynemouth. Priory Church (7,000l.); Mr. A. E. Plummer, architect, 13, Grey-street, Newcastle-on-Tyne.

Warsop.—School; Mr. A. Greenwood, builder, Mansfield.

Wellington.—Institute (5,500l.); Mr. J. L. Holland, County Education Offices, Norton.

Whaley Bridge.—Sunday-school; Vicar, Christ Church, Whaley Bridge.

Whitechurch (Cardiff).—One hundred houses, Rhubina Garden Suburb, near Whitechurch, for the Housing Reform Company, Ltd., 3, Park-place, Cardiff.

Whitley Bay.—Enlargement of Pavilion Theatre for the proprietors.

Winchester.—Picture palace opposite General Post Office for Messrs. J. & J. Simpkins.

Wolverhampton.—Firemen's house; Mr. G. Green, Engineer, Town Hall, Wolverhampton.

Wresle.—Church, for the Vicar, St. John of Beverley Church.

Yorks.—Schools, Newton Hill and Althofts; Mr. J. Stuart, County Hall, Wakefield.

Ystradgynlais.—Sixty houses; Surveyor, Urban District Council Offices, Ystradgynlais.

INTERCEPTING TRAPS AND HOUSE DRAINS.

SIR MAURICE FITZMAURICE presided Tuesday evening over the adjourned ordinary meeting of the Royal Sanitary Institute at Buckingham Palace-road, to discuss further the paper read the previous week by Mr. H. P. Boulnois on "The Report of the Departmental Committee on Intercepting Traps and Drains."

Mr. C. H. Shenton considered the report so overwhelming against intercepting traps that it was a waste of time to go on discussing the merits of the trap, and they ought rather to consider how to apply the teachings of the report, because it would certainly have to be applied.

Mr. Cooper (Wimbledon) questioned evidence on which the Committee based their conclusions as to the non-dangerous character of sewer-gas. He also exhibited a plan showing how the drains were dealt with in some parts of Wimbledon, and remarked that one of the largest builders had told him that he had trouble with stoppages whatever where the drains were dealt with in this way.

Mr. Johnson (Wimbledon) pointed out that the blocking of intercepting drains was largely due to misuse, and if they were to condemn apparatus on that ground they would have to condemn drains.

Mr. Walter Jennings said that competent authorities had practically agreed that danger lurked in the smaller private drains rather than in the larger public sewers, while great importance and attention had hitherto been paid to the disconnection of private from the public drain, little or no had been given to the disconnection of water closets from soil pipes or house drains. He submitted that it was the duty of sanitarians to make secure the first line of defence, and remove the house impregnable to any incursion from the house drains before considering the main sewer, which, although great, was admittedly of secondary importance.

The discussion was continued by Mr. Porter, Mr. Scott Moncrieff, Mr. Mallet, Mr. F. O. Smith, Mr. A. J. Martin, Mr. Cotton, Mr. Gorinot, and Mr. Frith.

Mr. Boulnois, in reply, said that after a long discussion they appeared no nearer conclusion than when they started, but the discussion had been very useful. He thought the intercepting trap would have to go, but if so, the question was what precautions would they take beyond those they had already taken? First of all, their sewers must be constructed of proper size, with proper self-cleansing gradients and with sufficient ventilation. The drains must be connected at the proper level with the sewer in order to avoid splashback, which was a very important thing. They would also have to be exceedingly carefully made to avoid leakage. The soil pipe must be more carefully constructed and connected with the drain, and all sinks, baths, rain-water pipes, and waste must be disconnected and trapped.

The water-closet must be doubly sealed. The again, if the intercepting trap was to be done away with he thought iron pipes would come into almost general use, and personally believed in them thoroughly. It was only question of 25 or 30 per cent. more cost, and there was a sense of security about an iron pipe which had less joints and was stronger, which would make him happier to live in a house fitted with them than in one with stoneware pipes. What he hoped, however, was that they would get a better flush, for the present two gallons allowed was absurd. They ought to have a four-gallon flush, or three gallons at the least. Suggestions had been made that the Institute should further investigate the matter, but what more could they do after the report of the Departmental Committee? They might send a circular to all the authorities, and they would receive replies from half of them in favour of the trap and as many against. He thought they must accept the conclusion that the trap, although not absolutely condemned, was found in places to have caused trouble, and that therefore in future there must be a permission by-law, and the Local Government Board would have to withdraw their prescription and it must be left to the officials responsible for each town to do what they pleased on the merits of each case. At the same time, no one could deny that the people of this country were healthier than they were and that there was far less zymotic disease.

METROPOLITAN ASYLUMS BOARD.

At the fortnightly sitting of the Metropolitan Asylums Board on Saturday last week the following matters were dealt with:—
East Cliff House.—It was decided that the Works Committee be authorised to engage an architect for the purpose of reporting as to the accommodation which could most advantageously be provided on the site at the rear of East Cliff House.
North-Western Hospital.—It was agreed to ask the approval of the Local Government Board of modified proposals for the provision of additional isolation accommodation at this hospital. The first proposal was estimated to cost £2,600, but no estimate is given of the modified proposals.

METROPOLITAN WATER BOARD.

The following matters were dealt with at the monthly meeting of the Board held on November 11:—
Central Offices.—The General Purposes Committee reported having had their attention called to the site and buildings of King's College Hospital, Portugal-street, which, they pointed out, would afford ample accommodation not only for the existing staff, but for future requirements, and it was decided that a further report on the matter be presented at the next meeting.
Land at Littleton.—It was decided to purchase 589½ acres of land at Littleton, required in connexion with proposed new reservoirs, at 1,000, per acre, exclusive of timber.
London Building Act.—On the recommendation of the Works Committee, it was agreed to apply to Parliament next session for powers empowering the Board from the operation of the London Building Acts in respect of all buildings, structures, and works other than dwelling-houses.
Cottages.—An estimate of 1,000, was approved for the provision of cottages at the North Green Pumping-station, and it was decided to invite Messrs. J. Chessum & Sons to carry out the work at a schedule of prices.

LEGAL COLUMN.

Gas Company's Rights to Break up Streets.

In the case of *Schweder v. Worthing Gas Light and Coke Company*, which we noted the *Builder*, December 15, 1911, it will be remembered that the plaintiff, who owned land at both sides of a lane which was used as a public thoroughfare under the control of the Worthing District Council, obtained a mandatory injunction against the Gas Company, the defendants, because they had laid a main through a part of the roof of a tunnel which he had constructed under the road to connect the two portions of his property. Under the *Works Clause Act, 1847* (which was incorporated by the private Act of the Company), by sect. 6, power is given to the undertakers to break up streets, sewers, drains, or tunnels, and by sect. 7 they must not lay down or place any pipe into, through, or against any building, and by sect. 10 they must make good and reinstate. In that trial the Court found this to be a "building" and not a "tunnel" within the meaning of the Act, and it was further held that even if the structure was a "tunnel" the defendants were in default for not properly reinstating the erection. Under sect. 7 the undertakers cannot lay any pipe on land "not dedicated to public use" without the consent of the owner. The findings above set out rendered unnecessary for the Court to decide whether the land beneath the highway was dedicated to public use. The top of the subway was about 5 in. below the road surface. The mandatory injunction was suspended, and the Gas Company now proposed to lay the pipes only 1 in. below the surface, supported by pillars of concrete, and in a second action the plaintiff took this further point that the land beneath the surface of the highway was "not dedicated to public use." The Court, however, in this case decided against him, on the ground that sect. 6 applied to a road dedicated to the public, and that the limitation imposed by sect. 7 did not apply to the facts of this case, or override the provisions of sect. 6. It is to be observed that the two sections are by no means inconsistent, as, sect. 6 gives power to break up streets, etc., whereas sect. 7 relates to private structures and private land undedicated to the public.

Trade Union Law.

The case of *Dallimore v. Williams & Jesson*, which we noted in the *Builder*, May 5 last, has

been carried to the Court of Appeal, and raises an interesting point under the Trade Disputes Act, 1906.

The action was brought by an employer against certain officials of a trade union, who, it was alleged, had induced his employees to break their contracts with him; it was also brought for libel and slander. In the result the jury gave a verdict for the plaintiff as against both defendants for £500, on the ground of conspiracy and the inducement to break the contracts, and for 1000, against one of the defendants for libel. The slander was ruled by the Judge not to have been made out. In the Court of Appeal practically only one point had to be considered, which was whether on the question of conspiracy, etc., the defendants were protected by sect. 3 of the Trade Disputes Act. In answer to one of the questions left to the jury by the Judge they had found that there was no trade dispute in contemplation or existence, but he had directed them that, under the Act, a trade dispute must be a dispute between an employer and his workman or between the workmen, and not, as in the present case, between a trade union and the employer. The Court of Appeal held this to be a misdirection, and a new trial was ordered.

The definition of "trade dispute" in the Trade Disputes Act, sect. 3, subsect. 3, is "any dispute between employers and workmen, or between workmen and workmen which is connected with the employment or non-employment, or the terms of the employment, or with the conditions of labour of any person; and the expression 'workman' means all persons employed in trade or industry, whether or not in the employment of the employer with whom a trade dispute arises." In the case of *Conway v. Wade* (the *Builder*, August 7, 1909) the House of Lords, whilst considering the question as to whether a jury were justified in the circumstances of that case in finding that no trade dispute was in contemplation or existence, had not to decide the exact point raised in this case of the parties to a dispute. Under the above definition of "trade dispute," and the parties to such a dispute, it may some day be argued that where the dispute is between a union and employers or workmen the union is not "a person employed in trade or industry," and that agency for the members as workmen must be strictly proved.

In connexion with the decision of the Court of Appeal in the above case two other points may be noted. One of the findings of the jury was that the acts complained of were done out of spite; but the Court held that an element of malice would not deprive the defendant of the protection of the Trade Disputes Act if he could show he acted in contemplation or furtherance of a trade dispute. The finding of the jury on the question of the libel was left undisturbed, apparently on the ground that the interviews granted to the Press by the defendant could not be deemed to have taken place in furtherance of the trade dispute; but the respondents' Counsel was not called upon to argue this part of the case, and no detailed judgment was delivered upon it. The question whether sect. 4 of the Trade Disputes Act applies to libels, so as to prevent the founders of a trade union from being liable for libel, is one of extreme importance. If the libel is published in contemplation or furtherance of a trade dispute the Court of Appeal have held the section to apply (see *Vacher & Sons v. London Society of Compositors*, the *Builder*, April 12 last). Lord Justice Farwell, however, strongly dissented, and it is to be hoped that the point may one day come before the House of Lords. Since the above passage was written, the House of Lords have heard the appeal in *Vacher's* case, and decided that sect. 4 applies to libels, and that under that section the tort need not have been committed in contemplation or furtherance of a trade dispute for the protection of the section to apply.

The decisions of the Trade Disputes Act certainly tend to show the difficulties and uncertainties involved when special privileges are sought to be conferred on a limited class.

Claims for Abandonment of Undertakings.

When a statutory undertaking has been promoted, and persons have entered into agreements on the basis of the undertaking being carried through, on its abandonment it is sometimes difficult to ascertain whether or not a claim can be substantiated against the Parliamentary deposit.

In the recent case *re West Yorkshire Tramways Bill, 1906*, the applicant was the leaseholder on a long term of years of certain property, including a shop and house on a corner site. He agreed to sell part of this tion or furtherance of a trade dispute for the Tramway Bill. The Bill was passed and the above premises were assigned to the tramway company. By one of the sections of the Act it

was provided, for the protection of the Urban District Council, and unless otherwise agreed in writing between the Council and the tramway company, that before the tramway was opened certain street widening operations should be carried out. The applicant had another triangular piece of land behind the premises he had disposed of, and had the street-widening scheme been carried out he would have had a corner building site. Whereas, on the abandonment of the scheme for the tramway, his site was left blocked by the buildings he had disposed of. The Court disallowed his claim against the deposit on the ground that any diminution of value was due not to the abandonment of the tramway scheme, but of the collateral street-widening scheme. The law on this subject was very clearly laid down by the Court of Appeal in the case, *Southport and Lytham Tramroad Act re Hesketh*, which will be found noted the *Builder*, January 20, 1911. The test to be applied is, does the breach of covenant complained of necessarily follow from the abandonment of the undertaking? Or is the case such that, although the undertaking is abandoned, the covenant could still be performed? In the case under discussion it was held that the tramway scheme and the street-widening scheme were not so connected as the abandonment of the tramways did not necessarily cause the street widening to be also abandoned.

LAW REPORTS.

KING'S BENCH DIVISIONAL COURT.
(On Friday, last week, before Mr. Justice CHANNELL and Mr. Justice AVORY.)

Metropolitan Water Board v. Johnson & Co. Defendants' Appeal.

A POINT of the utmost importance to builders, involving the legality of a duplicate charge for water used in building operations, was discussed in this appeal by the defendants (who are builders), from a decision of Judge Woodfall, in the Westminster County Court.

Mr. Danckwerts, K.C., and Mr. McKiehlwait were for the builders; Mr. Clavell Salter, K.C., and Mr. Goodland representing the Water Board.

Mr. Danckwerts said the money involved in the case was only 14s. to 15s., but the matter in dispute was constantly cropping up, and it was regarded as of the utmost importance that it should be decided by the High Court. The War Office who were interested in the case, considered it one of very great importance. Messrs. Johnson & Co. were really nominal parties—the real party being the Secretary of State for War. Messrs. Johnson & Co. had a triennial contract with the War Office in connexion with the barracks at Hounslow. It was entered into between the War Office and the builders, whereby the contractors agreed, for three years, to do any job required at the barracks, according to a schedule of prices and terms.

Among the things the War Office agreed to supply to the builders was any water which might be necessary to carry out the job, whether it was building or repairs that was being done. They agreed to supply this water free. In this particular case the job that came along was a sitting-room and bedroom for the nursing staff at the barracks, and the contractor started on the work. The War Office had a supply of water by meter from the Water Board for domestic and non-domestic purposes, and, in accordance with their contract, they supplied the builders with water which they had received by meter and paid for.

Mr. Justice Channell: Does this case depend on special rights of the Crown, or is it similar to the case of any ordinary person, taking water from the Metropolitan Water Board, who may allow a builder to use it when he wants to add another story to his premises?

Mr. Danckwerts said it was the same in either case, and what was complained of was that the Metropolitan Water Board took up this position; they said, in effect, "We are very superior people—we have a special privilege of insisting upon a builder taking water for any job he does, upon particular terms. We don't care whether we have been paid by the War Office or not; we insist upon second payment by the builder, on special terms."

In order to make that clear (proceeded Mr. Danckwerts) the Water Board wrote this:

"I am informed by the District Engineer that you are using the Board's water for building purposes at the above-named site, and I shall be obliged if you will fill in and return the enclosed form of application for a building supply in order that an account may be prepared and sent to you for payment."

A similar letter was sent the next day to the Officer Commanding at Hounslow Barracks, and he was called upon to compel the builders also to pay. The latter part of the communication was couched in these terms:

"I am acquainting you with the fact that, as the Water Board will not be prepared to make any allowance from your meter supply," and so on.

In other words, said Counsel, "We don't care whether you pay or not; the builder must pay." Later, the request was repeated with more solemnity, and so forth, by the Water Board's solicitor, and the County Court action was the ultimate sequel.

Counsel added that, in sects. 16 and 17 of the Water Board Charges Act, 1907, there was a provision inserted specially to meet this difficulty of the builder. It said that the builder who required a supply of water should be entitled to a supply by meter as though he were an occupier of the premises. He (Mr. Danckwerts) contended that the builders in this case were justified in refusing to pay for water which the War Office was already paying for and had contracted to supply to the builders free.

Mr. Clavell Salter, replying for the Metropolitan Water Board, said there was a provision in the Act, which they freely availed themselves of, enabling the Water Board to supply water by a contract made *ad hoc*, which was so in this case. This water was supplied by meter under contract with the War Office, who were to pay in practically the same way as an ordinary consumer. No particular consumer was dealt with specially; they were all classed together as "domestic" or "non-domestic," "by meter" or "without meter." The builder was an important consumer, but a very unprofitable one compared with other consumers. He did not, in connection with his jobs, take a permanent supply, which went on from year to year with a minimum of office expense and a maximum of profit. His supply gave the maximum of trouble in the office for the minimum of profit, and the Legislature had thought fit to deal especially favourably with the Water Board under sect. 17, and, he suggested, it was for the reason he had given. The Water Board could not compel the builder to take their supply. If he took and used and consumed water, of which the Water Board had a monopoly to supply in the metropolis, he must pay for it. There were two points involved in this case. There was the very important point which both parties were very desirous of having determined, viz., whether the supply was to be done—whether a meter consumer could lawfully allow his meter supply to be used by a builder upon his premises. That was the main point. Then there was the minor point of whether the absence of request by a builder—i.e., where the builder had refused to send in a request for a supply—enabled him to escape all liability to the Water Board for payment.

Mr. Justice Avory: Your first point is decided against you by this statute?

Mr. Clavell Salter: I don't think so.

Mr. Justice Channell: If your first point is good, the second does not apply. If the ordinary occupier cannot supply the builder, then the builder will have to "require it."

Mr. Clavell Salter said he would argue the first point, which was the main one in the case. "What I contend," he said, "in regard to sects. 16 and 17 of the Act is this—That what Parliament has said about builders is this: as soon as you get a builder, within the area of supply, who 'requires'—which, I submit, means 'needs to take'—"

Mr. Justice Avory: You say it does not mean "makes a requisition"?

Mr. Clavell Salter: I say that and the statute says:—Whenever you find a builder within the limits of supply who needs to have a supply on his building job, then he is to be dealt with in the manner prescribed in sect. 16, which gives rights and liabilities of the consumer in this way; it says, with reference to the duty of the Board to supply water: "The Board shall, at the request of any owner or occupier of any premises, who requires, for use on such premises, supply water by measure."

After further argument Mr. Justice Channell said, in view of the general importance of the question raised in the case, the Court would take time to consider its decision.

Judgment was accordingly reserved.

KING'S BENCH DIVISIONAL COURT.
(Thursday and Friday, last week, before Mr. Justice CHANNELL and Mr. Justice AVORY.)
Coststone Decoration Company v. Chessum & Sons: Defendants' Appeal.

In this case Messrs. Chessum & Sons, builders of Finsbury, successfully appealed

from a decision of Judge Rentoul in the City of London Court.

Mr. J. A. Scott appeared for the appellants, and Mr. J. B. Eames for the respondents.

Mr. Scott said Messrs. Chessum & Sons were well-known builders. The claim in the case arose in respect of work done by the Coststone Decoration Company to the boardroom of a cinematograph theatre in Oxford-street, W., belonging to the Cinematograph Theatre Company, Ltd. Messrs. Chessum & Sons were the general building contractors of the theatre, and the Coststone Decoration Company subcontractors. The amount in dispute was small—only 20*l.* in fact—but the case involved an important question as to whether a subcontractor was to be paid on an architect's certificate. The County Court Judge found in favour of the plaintiff company on the grounds (1) that, after the work in question was done, Messrs. Chessum & Sons accepted a certificate from the architect (Mr. Ward) to a certain amount, on the assumption that they would pay the subcontractors; and (2) that the Coststone Decoration Company were, in fact, subcontractors. Counsel said he would submit that the work in question, which related to a mantelpiece, was entirely outside the contract, because the architect said it was within the prime cost items, as there was a provision in the contract for 100*l.* for hearths and stoves, and he read that as including the mantelpiece.

Mr. Eames replied with arguments in support of Judge Rentoul's finding, and the hearing was adjourned.

The judgment of the Court was delivered on Friday.

The action (said Mr. Justice Channell) was brought in the City of London Court by a firm who made mantelpieces to recover the price of a mantelpiece which they supplied on the order of the architect, and which was put into a building which Messrs. Chessum were erecting under a contract with the cinematograph company. The plaintiffs said they had a contract in the nature of a subcontract with the defendants, and that question turned almost necessarily on the terms of the main contract, and the facts in a particular case. Consequently decisions in similar cases were not really of much value. At the time this case was coming before the County Court there was a case before the High Court, in which Messrs. Chessum & Sons were the defendants, and Mr. Justice Hamilton, as he then was, gave a decision which the Court of Appeal, by a majority in three Lords Justices, reversed. The one dissenting Lord Justice agreed with the decision given by the then Mr. Justice Hamilton. So there was a very fair division of opinion in the matter (continued Mr. Justice Channell), but the decision stood in favour of the plaintiffs in the other case (Messrs. Ramsden & Carr). So far as he could understand the facts in this case, they were no more favourable to the Coststone Decoration Company than they were to Messrs. Ramsden & Carr. Mr. Scott had called attention to some points of difference—not very considerably different—but the case that had come before the Court of Appeal seemed to be an authority upon which, possibly, they ought to decide the case now before the Divisional Court. But he thought one should give his reasons. Although there might be—and, personally, he thought there was—evidence of a contract between these parties that the defendants should pay the plaintiffs if and when they were paid by the company or its liquidators, there was no evidence of any contract on other terms than those. That was the conclusion to which he (Mr. Justice Channell) had come. It depended partly on the clause about subcontractors in the main contract, and he thought there was no doubt that a clause might be framed which would, in itself, give the architect authority to create privity of contract between the contractor and the so-called subcontractor. But one must look at this clause, and it was interpreted by Mr. Justice Hamilton (now Lord Justice Channell), who clearly did not think it could be considered that the act of the architect in giving the order then and there created privity of contract between the builders and the persons supplying the articles.

Either before or after the order of the architect there must be a "coming together" of the subcontractor and the contractor to create this privity of contract. That seemed to have been decided both by Mr. Justice Hamilton and by the Court of Appeal.

"I would only add," continued Mr. Justice Channell, "that, if there is any authority to the architect to create privity of contract, it must be upon terms and conditions consistent with those in this contract. I read the words 'consistent with this contract' to mean 'corresponding with this contract.' 'Consistent,' perhaps, is not the most appropriate word that could be used. I think you cannot carry

out the intention of the parties unless you take the meaning on the word 'consistent' to apply to 'corresponding.'"

His Lordship added that he saw nothing in this case but a contract for the builders to pay what the contractor was paid, with the suggestion that the builders had been paid a particular sum, or money that should be allocated to it, but he did not think that was before the Court. In the Court of Appeal he did not think the Judges found anything about payment, and, as he and Mr. Justice Avory understood the facts, there was no claim of money "had and received." Personally, his view was that, if the builders had been paid they would have to pay the plaintiffs, but it was not a judicial decision, because the point was not before the Court. He could do nothing in the evidence to bring these parties together and to make Messrs. Chessum & Sons liable to pay unless they had been paid. He thought the case was probably covered by authority of the Court of Appeal, and that Judge at the City of London Court probably thought his decision was governed by the decision of Mr. Justice Hamilton. As far as he could see, there was no evidence here of any liability on the part of Messrs. Chessum & Sons to pay unless they had been paid. Consequently the appeal must be allowed.

Mr. Justice Avory, agreeing, said the plaintiff company could only recover on one of three grounds:—(1) That the defendants had received the money in question, and plaintiffs were therefore entitled to recover it as money "had and received" for their use; (2) on the ground that the architect was the agent of the builders to make this contract and give the order for the mantelpieces; or (3) on the ground that there was an implied contract by the defendants to pay. On the first point he thought the County Court Judge was right in refusing to decide the case on that ground, and on the second and third points he agreed with everything that had fallen from Mr. Justice Channell. It appeared from him, from looking at the report of the case of Messrs. Ramsden & Carr v. the same defendants, in the Court of Appeal, that both these points were decided in favour of the plaintiffs in favour of the present defendants. Therefore he agreed that the appeal should be allowed and judgment entered for the defendants, with costs.

On the application of Mr. Eames (for plaintiffs), leave to appeal further was granted.

KING'S BENCH DIVISION.

(Before the LORD CHIEF JUSTICE and a Special Jury.)

A 40,000*l.* Theatre Site:

Wallrock & Co. v. Hoffman.

HIS LORDSHIP on Thursday, November 14th, heard an action brought by Messrs. Samuel Wallrock & Co., auctioneers and estate agents of Maddox-street, Regent-road, against Mr. Paul Hoffman, architect of Capel House, N. Bond-street. The plaintiffs claimed damages for alleged false representation and breach of warranty, which was denied by the defendants who pleaded that any representations he made were true at the time he made them.

Mr. Shearman, K.C., who appeared for the plaintiffs, said Mr. Samuel Wallrock was very familiar with an island site in St. Martin's lane, W.C., which was thought to be suitable for a theatre. He got into communication with Mr. Hoffman, who told him that the Irving Theatre Syndicate would purchase the site if it could be obtained for 40,000*l.*

The plaintiff asked Mr. Hoffman to negotiate with the owners of the property on the site to obtain their contracts of sale. He also went to the plaintiffs to the effect that previous to his going to the site and liked it, and that the purchase was arranged to be negotiated at 40,000*l.* could be paid over. Mr. Wallrock at once set to work and obtained all the contracts of sale, with the exception of one, but the purchase, for some reason or other, fell through and plaintiffs had lost 1,500*l.* commission.

Mr. Samuel Wallrock gave evidence and said he understood that the London Building Construction Company were interested in the matter. He had considerable difficulty getting the contracts of sale, and when they were obtained they were sent to the solicitors for the Irving Syndicate. He was paid given to understand that the negotiations would go through for 40,000*l.* if the freehold could be obtained for that price.

For the defence, Mr. Home Williams, K.C., said there was no case against defendant.

The Lord Chief Justice said there was evidence of warranty to go to the jury, but there was a charge of misrepresentation and case had better not be withdrawn.

Mr. Hume Williams characterised the charge of fraud as groundless, for, he said, the statements made by the defendant were true when he made them. He was given to understand that the Syndicate would purchase the site for £15,000, but for some reason, which had not been disclosed, the negotiations were not successful. That was not the defendant's fault; in fact, he lost money on the failure of the Syndicate to purchase as well as the site.

Mr. Hoffman, in his evidence, said he knew that £15,000 was in the hands of the Syndicate, and it was thought the other could be raised by a mortgage from a probable builder of the theatre or a bank.

But, asked Counsel, you seriously do not suggest that a firm of builders would finance the scheme before they were sure the promoters had the money to build the theatre?—and we had verbal options for the purchase of the site at the time. Witness added that a firm of builders had been negotiating with and were prepared to go on with the matter.

Sir William Dunn, surveyor, said he had great experience in valuing property, particularly in the central parts of London. Mr. Hoffman came to him and asked him if he thought the site was worth £40,000, and he replied in the affirmative, adding that it was a very valuable freehold. He was of the opinion that if the Syndicate had £15,000, the remainder of the money could be obtained by a mortgage.

Mr. Shearman: Did you say that anybody could lend a large sum of money for the purchase without a building being put on it?—yes, and I certainly think they would. I did not value the site as a theatre site, but regarded it as a valuable freehold.

Mr. E. G. Hemmender, K.C., M.P., the chairman of the Syndicate, said he saw no difficulty in raising the money required, and he had the Judge and Counsel the name of a firm of builders who were prepared to advance the money. There were many reasons why the purchase did not take place, but one was not the lack of money.

The jury negatived the allegation of fraud, and the Lord Chief Justice held that there was no contract on which the plaintiffs could sue. Judgment was consequently entered for defendant with costs.

LONDON COUNCILS.

Barnes.—Plans have been approved for taking-up Gilpin-avenue. The Surveyor has been directed to prepare plans, etc., for taking-up Cowley-road. Sanction has been received from the Local Government Board to the borrowing of £200 for paving various streets in the district. Plans have been passed by Mr. G. W. F. Bates, for four houses in Roger Richmond-road, and for Messrs. Atney, Combe, Reid, & Co., for additions and alterations to "The Two Brewers," High-road, Mortlake.

Clapham.—Plans have been passed for Messrs. Godfrey, Giles, & Co. for four houses in Woodville-road, also for Mr. Alfred Roberts for additions to Messrs. Harvey's premises in Woolwich-road.

Hackney.—A portion of the footway on the eastern side of Clapton-road is to be flagged. The following plans have been passed:—Messrs. R. Coles & Sons, conversion of building, adjoining Mallard-street, Hackney Wick, to warehouse; Mr. D. S. Barclay, forty houses, Lealdale-road, and twelve houses, Lingwood-road, Clapton Common; Mr. J. Hamilton, alterations at factory, Abbott-street, Kingsland; Messrs. J. Hamilton & Son, saw-mill, boiler-house, timber store, offices, two houses, etc., Lee Navigation Cut; Mr. E. Jones, factory, 67, Dalsion-lane; Mr. P. G. Shon, factory and workshop at London India Works, Felstead-street, Hackney Wick; Messrs. J. Garey & Son, alterations and additions at premises of Victoria Provision Company, Chelmer-road, Homerton.

Hampton.—The Middlesex County Council has been informed by the District Council that they are not satisfied with the method employed in carrying out the recent works of repair on the main road; and they are to lay request the County Council to lay wood-laying in that portion between Garrick Villa and the Grammar School.

Hem Hempstead.—Application is to be made to the Local Government Board for sanction to the borrowing of £600, for carrying out improvement works in High-street. The Highways Committee have been instructed to report as to the cost of making-up Cowper and Mill roads. It has been decided to purchase a portion of the Wood Farm Estate for the erection thereon of about fifty-eight cottages. **Holborn.**—The tender of the French Asphalt

Paving Company, Ltd., has been accepted for paving the carriageway of Fox-court at 3s. per yard super. for 6-in. concrete foundation, and 9s. 5d. per yard super. for 2-in. compressed brickwork.

Islington.—Electricity mains are to be extended at an estimated cost of 150l. **Kensington.**—Estimates of 1,432l., 1,482l., 546l., and 494l. have been approved for making up, as new streets, the extension of Kelfield-park, Wallingford-avenue, Kingsbridge-road, and Balliol-road, respectively. The London County Council are to be informed that, subject to certain stipulations, the Council have no objection to a proposal by Mr. H. W. Currey, 37, Norfolk-street, Strand, W.C., to form a new street from Barby-road to Del garno-gardens. Repairs are to be carried out to several footways in the borough at an estimated cost of 310l.

Marblebone.—The paving at the Council's Wharf is to be reinstated, a portion with redressed granite setts and another portion with concrete foundation, and floated, at an estimated cost of 150l. An application from Messrs. Selfridge & Co., Oxford-street, W., to widen and deepen the existing tunnel beneath the carriageway of Somerset-street, has been granted.

Shoreditch.—The Law Committee of the Borough Council report having considered a letter from the Local Government Board, enclosing a copy of a letter received by the Board from the London County Council with reference to the latter's application for the Board's decision under the schedule of the Working Classes Act, 1903, that a housing scheme is not necessary in respect of certain working-class dwellings which the County Council are authorised to acquire in Minter and Nicholas streets, under, and in connexion with, the Education Acts. The County Council's application, the Committee states, was originally before the Council in September last, when it was decided to oppose the application, as a rehousing scheme was necessary. The London County Council, in their letter to the Local Government Board, in reply to the Borough Council's opposition, stated that they had made special inquiries as to the amount of vacant working class accommodation of a somewhat similar character within reasonable distance to the houses in Minter-street, and they forwarded to the Board particulars of such accommodation. After considering these particulars, the Committee are of opinion that, whilst the first portion of the London County Council's schedule (referring to properties in Hoxton) tends to weaken the London County Council's case, inasmuch as only a small percentage of these properties are of the class occupied by one or two families, and which class the Councils are anxious to retain in the borough, the second suggestion, that accommodation can be found in the neighbouring boroughs for the persons to be displaced, renders the position of the County Council in the matter almost untenable inasmuch as by such suggestion they propose to drive out of the borough families for whose children the schools are to be enlarged. These expressions of opinion are to be conveyed to the Local Government Board in support of the Council's previous opposition.

Stoke Newington.—Electricity mains are to be extended at an estimated cost of 219l. **Tottenham.**—The District Council have passed plans for Mr. S. E. Child for eight houses, Elm Park-avenue, and for the North Metropolitan Electric Power Supply Company, Ltd., for a substitution in Cornwall-road.

Waltham Cross.—The tender of the Improved Wood Paving Company, Ltd., 46, Queen Victoria-street, E.C., has been accepted, at 469l. 18s. 5d., for carrying out 725 yds. super. of wood-block paving (soft wood) in Church-street, Waltham Abbeys.

Wandsworth.—A letter has been received from the London County Council, stating that the Council have decided to carry out the widening of a portion of Upper Tooting-road, Balham, at an estimated cost of 650l. The tender of Messrs. J. Morten & Co., Ltd., has been accepted at 759l. for paving a portion of Southcroft-road, Streatham. The footpaths are to be kerbed with Cornish granite, and paved with Aberdeen adamant. The following plans have been passed:—Mr. J. J. Naylor, laundry, Oaklawn, Atkins-road, Clapham South; Messrs. Dowsett & Jenkins, additions to St. Andrew's Church Hall, Guildersfield-road, Streatham; Mr. J. Parsons, erection of premises, 177, High-street, Wandsworth; Mr. J. Copp, twenty-four houses, Cricklade-avenue, Streatham; Mr. W. Simmonds, three houses with shops, Mitcham-road, Tooting.

Wansstead.—The following tenders have been received for making-up roads mentioned:—Mr. T. Adams, Wood Green, N. (a) Wood-

lands-avenue, 1,294l. 10s. 4d.; (b) Sultan-road, 181l. 10s. 8d.; (c) Mornington-terrace, 146l. 3s. 6d. Mr. G. J. Anderson, Poplar, E. (a) 1,190l. 16s. 2d.; (b) 149l. 13s. 5d.; (c) 129l. 15s. Mr. F. J. Coxhead, Leytonstone (a) 1,993l. 9s. 3d.; (b) 353l. 11s. 9d.; (c) 224l. 5s. Messrs. W. & C. French, Buckhurst Hill (a) 1,157l. 14s. 4d.; (b) 147l. 19s. 3d.; (c) 150l. 19s. Mr. D. T. Jackson, Barking (a) 1,251l. 3s. 2d.; (b) 190l. 4s. 3d.; (c) 140l. 3s. Mr. J. Jackson, Plaistow (a) 1,279l. 15s. 2d.; (b) 203l. 14s. 9d.; (c) 170l. 6s. 10d.

Westminster.—Repairs are to be carried out to the carriageways and footways of four roads at an approximate cost of 256l. In reply to a letter from the Engineer of the London, Brighton, and South Coast Railway Company, requesting that the road surface to be constructed in connexion with the reconstruction of Ebury Bridge, may be kept as shallow as possible, and suggesting that some depth could be saved if the Council were disposed to dispense with the use of wood-blocks and substitute either asphalt or roadmetal, the Works Committee have decided to state that they are unable to agree to any other carriageway pavement than wood-blocks 5 in. in depth, upon 4-in. concrete, laid upon a substantial and satisfactory subfoundation. The tender of the Improved Wood Paving Company, Ltd., has been accepted, at 301l. 14s. 2d., for paving the roadway between Poland-street and Noel-street, with combined strip paving. The Public Health Committee recommend the Council to establish, at an early date, a tuberculosis dispensary.

Woolwich.—Repair works are to be carried out to footpaths and passages in various parts of the Borough at a cost of 188l. Sanction has been received from the Local Government Board to the borrowing of 1,050l. and 560l. for the provision of an underground convenience in Beresford-square and a convenience at the Royal Victoria Gardens, North Woolwich, respectively. The Works Committee report having been approached by the Improved Wood Paving Company, Ltd., Queen Victoria-street, E.C., in regard to the laying of a small area of their wood-block paving in a portion of Footscray-road adjoining the Sidcup boundary, where it could be compared with the experimental lengths of various forms of paving which have been laid under the jurisdiction of the Road Board in that road just within the Sidcup district, and offering to provide and lay free of charge an area not exceeding 500 super. yds. of creosoted wood-block paving (3 in. by 7 in. by 4 in.) on a concrete foundation, to be provided by the Council, and to lay a further area of 600 super. yds. for the payment of 6s. per super. yard. The Borough Engineer has also been in communication with the Praed Road Construction Syndicate, Ltd., Victoria-street, Westminster, S.W., who also desire to lay a length of their paving in this road, with the result that the company offered to lay a minimum area of 1,000 sq. yds. complete of their patent asphalt macadam in two layers, 2½ in. and ¾ in. thick, respectively, when properly consolidated, providing all material and doing all work in connexion therewith, for the price of 5s. per yard super., which includes a free maintenance for a period of five years, this price to hold good for 6,000 yds. or more if hereafter required. After carefully considering the matter the Council have decided to accept the above offers. Plans have been passed for Mr. A. L. Edwards, 19, Raglan-road, Plumstead, for seven houses in Cleanthrus-road, Plumstead, as have also plans for Mr. A. H. Jennings, 7, Woolwich-road, Belvedere, for eleven houses in Cantwell-road, Plumstead.

OBITUARY.

Mr. R. Norman Shaw.

We greatly regret to announce the death on Sunday, 17th inst., at his residence, No. 6, Ellerdale-road, Hampstead, N.W., of Mr. Richard Norman Shaw, R.A. Mr. Norman Shaw was born in Edinburgh on May 7, 1831, and was educated in that city. In the Royal Academy Schools he won the Gold Medal for Architecture, with a travelling scholarship—in testimony whereof he dedicated to the Royal Academy in 1858 his "Architectural Sketches from the Continent," containing one hundred plates; in 1882 he contributed to "Architecture—A Profession or an Art?" He was an assistant of G. E. Street, R.A.; in December, 1877, he was elected a Royal Academician, and retired in December, 1909. He was a younger son of a family, being of opinion that membership should be regarded rather as a recognition of talent in the earlier stage of an artist's career.

In October, 1898, he served as British representative upon the jury who met at Antwerp

* All these applications are in the stage which opposition to the grant of Patents upon them can be made.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xix.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowances will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* * It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

NOVEMBER 25. — **Newcastle-on-Tyne.** — SCHOOLS. — Limited to local architects. Particulars from the Education Office, Northumberland-road, Newcastle-on-Tyne.

NOVEMBER 25. — **Langside, Glasgow.** — BRANCH LIBRARY. — Assessor, Mr. Alex. N. Paterson, R.S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

NOVEMBER 30. — **Balham.** — SWIMMING-BATH. — The Wandsworth B.C. invite designs. See advertisement in issue of August 16. Particulars from P. Dodd, 215, Balham High-road, S.W.

DECEMBER 2. — **Carlisle.** — SCHOOL BUILDINGS. — Particulars from the City Surveyor, 36, other-street, Carlisle.

DECEMBER 7. — **Rome.** — BRITISH SCHOOL AT ROME. SCHOLARSHIP IN ARCHITECTURE. — 200l. per annum for three years. Particulars from Mr. Evelyn Shaw, 64, Victoria-street, S.W.

DECEMBER 20. — **R.I.B.A. Competitions.** — All work for the Studentship and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913. — **Belfast.** DWELLING-HOUSES. — Premiums of 25l., 15l., and 10l. Particulars from the City Surveyor, Belfast (11. 16.).

JANUARY 1, 1913. — **Dublin.** — MUNICIPAL BUILDINGS. — Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin.

FEBRUARY 3, 1913. — **Harrogate.** — SCHOOL. — The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 22, 1913. — **Jordanhill, Glasgow.** — HORSE-TRAINING. — Limited to six names named in "Competition News," December 1, page 635.

MARCH 1, 1913. — **Rangoon.** — MUNICIPAL BUILDINGS. — The Committee of the Municipality of Rangoon invite designs for the new Municipal buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third prizes. Advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913. — **Sofia.** DESIGNS FOR A ROYAL PALACE AND LAW COURTS. — Particulars from the Commercial Intelligence Branch of the Board of Trade, Basin-hill-street, E.C. (see page 173, August 9, and page 350, September 27).

MARCH 1, 1913. — **Winnipeg.** — CITY HALL. — Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A. See advertisement in issue of November 1 for further particulars.

JULY 10, 1913. — **TOWN PLANNING SCHEME.** — Proposed by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas. See page 611.

NO DATE. — **Dursley.** — WORKMEN'S DWELLINGS. — The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in issue of October 25 for further particulars.

NO DATE. — **Folkestone.** — PROPOSED KURSAL. — Estimated not to exceed 20,000l. Premiums 100, 50, and 25 guineas. See "Competition News," page 10, November 2.

NO DATE. — **Motherwell.** — HIGH SCHOOL. — Dr. Burnett, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 22. — **Portsmouth.** — SHELTER. — For erection of a cabin's shelter and public convenience on the west side of Unicorn-road next the railway gates. Specification and plan seen, and form of tender from the Borough Engineer.

NOVEMBER 23. — **Brandon.** — COTTAGES. — For the erection of twelve cottages at Brandon Colliery for the Aged Workers Homes' Committee. Plans and specifications at Engineer's Office, Inceopeth Colliery, Widdington, Co. Durham.

NOVEMBER 25. — **Cork.** — VILLAS. — Erection of a semi-detached villas on the Douglas-road, Cork. Plans and specification with Mr. James McMillen, architect, 30, Southmead, Cork.

NOVEMBER 25. — **Harpenden.** — HOUSE. — Erection of a manager's house at the Sewage Disposal Works. Plans and specification prepared by Engineer, Mr. A. P. I. Cotterell, M.Inst.C.E., sent to the Clerk's Office, High-street, Harpenden. Deposit of 1l. 1s.

NOVEMBER 25. — **Harrogate.** — LODGE, ETC. — Erection of new entrance lodge and conveniences, Wetherby-lane Cemetery, and additions to Starbeck Baths. Plans seen, and particulars from Mr. C. Rivers, A.M.Inst.C.E., Borough Engineer and Surveyor.

NOVEMBER 26. — **Begmont.** — CONVERSION. — For conversion of existing buildings into a masonic hall, erecting ante-rooms, lavatories, and boundary wall. Plans and specifications seen, and particulars from Mr. J. Cowan, surveyor, etc., Begmont.

NOVEMBER 26. — **Senghenydd.** — CONVENIENCES. — For the erection of two public conveniences at Senghenydd. Plans and specifications seen, and forms of tender from Mr. Alfred O. Harpur, Surveyor, Council Offices, Caerphilly.

NOVEMBER 27. — **Manchester.** — ALTERATIONS, ETC. — Alterations to boiler-house No. 2 and reconstruction of main flue at Stuart-street Generating Station. Forms of tender and quantities from Mr. F. H. Brazier, Surveyor, Electricity Department, Town Hall, Manchester, on deposit of 1l. 1s. Drawings at the office of Messrs C. S. Alcott & Son, civil engineers, 46, Brown-street, Manchester.

NOVEMBER 28. — **Hale.** — OFFICES. — For the conversion of the Girls' Home, Ashley-road, Hale, into Public Offices. Plans seen, and information from the architect, Mr. F. H. Brazier, A.R.I.B.A., Bank-chambers, Ashley-road, Hale. Quantities and form of tender, on deposit of 1l. 1s., from Mr. G. Whyatt, Clerk to the Council, Council Offices, Ashley-road, Hale, Cheshire.

NOVEMBER 28. — **New Tredegar.** — COURT. — For erection of a police-court and alterations to the station. Plans and specification with Mr. W. Tanner, S.I.I., County Surveyor, and quantities on deposit of 1l. 1s.

NOVEMBER 28. — **Roche.** — HOUSES. — For erection of six houses at Treazle, Roche. Plans, etc., at Mr. C. Hawke's, Woon, Carbis, Roche, Cornwall.

NOVEMBER 29. — **Atherstone.** — POST-OFFICE. — For erection of Atherstone post-office. Drawings, specification, and conditions and form of contract at the Superintendent, Station Sorting-Office, Shrewsbury. Quantities and forms of tender at H.M. Office of Works, etc., Storey-gate, S.W. Deposit of 1l. 1s.

NOVEMBER 29. — **Shrewsbury.** — EXTENSION. — For extension of Shrewsbury station sorting-office. Drawings, specification, and conditions and form of contract with the Superintendent, Station Sorting-Office, Shrewsbury. Quantities and forms of tender at H.M. Office of Works, etc., Storey-gate, S.W. Deposit of 1l. 1s.

NOVEMBER 30. — **Glasgow.** — CONVENIENCE. — For proposed construction of a public convenience at Cathedral-street. Specifications and forms of tender at the office of Public Works, City-chambers, 64, Cochrane-street.

NOVEMBER 30. — **Houset Bay.** — RESIDENCE. — For erection of a residence at Houset Bay. Plans and specification with Mr. S. Hill, architect, Green-lane, Redruth.

DECEMBER 2. — **Bruton.** — LIBRARY, ETC. — Erection of a public library and caretaker's flat at Bruton, Somerset. Plans and specification, on deposit of 1l. 1s., from Mr. Arthur J. Pictor, A.R.I.B.A., architect, Bruton, Somerset.

DECEMBER 2. — **Plymouth.** — BARRACK BLOCKS, ETC. — The Secretary of State for War invites tenders for four barrack blocks, bath and cook house, etc., at Crownhill, Plymouth. See advertisement in this issue for further particulars.

DECEMBER 3. — **Bromley-by-Bow, E.** — NEW CEILING. — The Managers of the Poplar and Stepney Sick Asylum invite tenders for new ceiling in D ward of Asylum. See advertisement in this issue for further particulars.

DECEMBER 3. — **Hyde.** — BATHS, ETC. — For the extension to the Public Baths and other works in Union-street, Hyde. Plans and specifications seen, and quantities from Mr. J. H. Fletcher, architect and surveyor, 45, Clarendon-place, Hyde. Deposit of 2s. 2d.

DECEMBER 3. — **Leicester.** — EXTENSION OF LABOUR EXCHANGE. — The Commissioners of H.M. Works and Public Buildings invite tenders for alterations and extension to Labour Exchange. See advertisement in this issue for further particulars.

DECEMBER 3. — **Lostwithiel.** — HALL. — Erection of a drill-hall at Lostwithiel. Plans and specifications from the architect, Mr. O. Reginald Caldwell, Leamington.

DECEMBER 3. — **Maesteg.** — ADDITIONS, ETC. — Alterations and additions to the Maesteg Town Hall and Market-buildings. Plans seen, and forms of tender, general conditions of contract, specification, and quantities from the Architect and Surveyor to the Council, 32, Commercial-street, Maesteg, on deposit of 1l. 1s.

DECEMBER 3. — **Wolverhampton.** — REPOSITORY. — For erection of a horse repository at the Castle Market. Plans and specification with Mr. G. Green, M.Inst.C.E., Borough Engineer, Town Hall, Wolverhampton. Quantities from the Borough Engineer on deposit of 1l. 1s.

DECEMBER 4. — **Cardiff.** — VERANDAS. — The Metropolitan Asylums Board invite tenders for the erection of verandahs at the Queen Mary's Hospital, Cardiff, Surrey. Drawings and specifications, prepared by Mr. D. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, may be inspected at the office of the Board, Embankment, E.C. Deposit of 1l.

DECEMBER 5. — **Birmingham.** — OFFICES. — The Midland Railway Company invite tenders for the erection of offices and messroom at Central Station, Birmingham. Plans and specifications seen, quantities and particulars at the Engineer's Office, Derby Station.

DECEMBER 5. — **Frizinghall.** — OFFICES, ETC. — The Midland Railway invite tenders for the erection of (timber and corrugated iron) awning, offices, latrine, etc., at Frizinghall. Plans and specifications seen, quantities and particulars at the Engineer's Office, Derby Station.

DECEMBER 5. — **Upton Park, E.** — DILAPIDATION REPAIRS. — The St. George-in-the-East Guardians invite tenders for sundry dilapidation repairs to schools. See advertisement in this issue for further particulars.

DECEMBER 5. — **Wick.** — MART, ETC. — Erection of a feth mart and thirty offices on ground at Wick Harbour. Plans, specification, conditions of contract, form of tender, and form of contract, on deposit of 4l. 4s., from Mr. G. E. B. Cocher, Civil Engineer, Harbour Office, Wick.

DECEMBER 6. — **Luddendenfoot.** — ALTRATIONS. — For alterations to the Luddendenfoot Council School. Plans seen, and specifications with quantities from the Education Architect, County Hall, Wakefield.

DECEMBER 7. — **Blandford.** — HEADQUARTERS. — For erection of combined veterinary and infantry quarters with surgeon-instructor's house. Plans and specifications from Mr. F. T. Malby, A.M.Inst.C.E., architect and surveyor, Dorchester, on deposit of 1l. 1s.

DECEMBER 7. — **Portlanning.** — ADDITIONS, ETC. — Erection of the new sanctuary and other additions to the Church of Saint Michael, Portlanning. Plans and specifications with the architect, Mr. Thomas J. M'Namara, 192, Great Brunswick-street, Dublin.

DECEMBER 9. — **Tidworth.** — OFFICERS' QUARTERS. — The Secretary of State for War invites tenders for two detached officers' quarters (Group III) at Tidworth, Hants. See advertisement in this issue for further particulars.

DECEMBER 10. — **Silverwater.** — FIRE STATION AND DWELLINGS. — The West Ham B.C. invite tenders for erection of fire brigade station and firemen's dwellings. See advertisement in this issue for further particulars.

DECEMBER 11. — **Ramsgate.** — SCHOOL. — The Ramsgate Corporation invite tenders for new elementary school in Ellington-place. See advertisement in this issue for further particulars.

DECEMBER 13. — **Wimbleton.** — ADDITIONS, ETC., TO BATHS. — The Wimbleton Corporation invite tenders for alterations and additions to ladies' slipper baths at Public Baths, Latimer-road, Wimbleton. See advertisement in this issue for further particulars.

DECEMBER 19. — **Tonbridge.** — SCHOOL, ETC. — The Kent Education Committee invite tenders for new Council school at Sussex-road, and other buildings. See advertisement in this issue for further particulars.

NO DATE. — **Glyn Neath.** — THEATRE. — For erection of a cinematograph theatre. Names to Mr. M. H. Hunter, architect and surveyor, Neath.

NO DATE. — **Goolle.** — HOUSE. — For proposed house at Mount Pleasant. Particulars from Messrs. Chambers & Son, architects, Belgravia, Goolle.

NO DATE. — **Kendal.** — OFFICES. — For the alterations and repairs necessary to convert No. 17, Lowther-street, Kendal, into offices, for the South Westmorland R.D.C. Mr. Malcolm G. Shaw, Lic.R.I.B.A., architect, 45, Highgate, Kendal.

NO DATE. — **Marsden.** — ADDITIONS. Alterations and additions to the Old Red Lion Inn, Marsden, for Messrs. Bentley & Shaw, Ltd. Messrs. J. B. Abbey & Son, architects and surveyors, 34a, New-street, Huddersfield.

NO DATE. — **Rhubina.** — HOUSES. — For 100 houses to be erected on the Rhubina Estate, Suburb, near Whitechurch, Cardiff, for the Cardiff Workers' Co-operative Garden Village Society, Ltd. Drawings and specification at the offices of the Housing Reform Company, Ltd. Deposit of 2l. 2s.

BUILDING—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NO DATE. — **Rugby.**—GARAGE, ETC.—For small motor garage and shop. Plans and specifications with Messrs. Franklin & Newman, architects, Rugby.

ENGINEERING, IRON, AND STEEL.

NOVEMBER 23. — **Edinburgh.**—LIGHTING.—For the electric lighting installation at the store cattle byres, Cattle Market, Gorgie. Specification, plan, and form of tender at the Engineer's Office, Dewar-place, Edinburgh, on deposit of 11s.

NOVEMBER 29. — **Rhyl.**—PLANT.—For a self-propelling, light-draught suction dredger, capable of dredging 100 tons per hour of material consisting of sand and gravel, the extreme depth below high-water spring tides being about 24 ft., the channel at present being nearly dry at low water; two hopper barges of shallow draught, each capable of carrying a load of not less than 60 tons. Information from Mr. Baldwin Latham, M.Inst.C.E., Parliament-mansions, Orchard street, Westminster, London, S.W.

★ NOVEMBER 3. — **Chiswick.**—IRON FENCING.—The Chiswick U.D.C. invite tenders for supply and erection of 690 yds. of unclimbable wrought-iron fencing and gates at Stamford Brook Common. See advertisement in this issue for further particulars.

DECEMBER 14. — **Balderton.**—INSTALLATION.—Erection of an electrical installation for street lighting. Particulars from the Clerk, Balderton P.C., 7, Osborn-terrace, Balderton.

NO DATE. **Victoria.**—MACHINERY.—Alternative tenders are invited for complete pumping, propelling, and dredging machinery, with connections on the Frithling principle, the hull to be built by the Government of Victoria. Drawings to be submitted by the manufacturers of the machinery. Agent-General for Victoria, Melbourne-place, Strand, W.C.

FURNITURE, PAINTING, MATERIALS, etc.

NOVEMBER 23. — **Sheffield.**—PAINTING.—For the inside painting of block 8 and the receiving wards, mortuary, stores, etc., at the Union Hospital, Pirbright, Sheffield. Specification at the Workhouse.

NOVEMBER 25. — **Chelmsford.**—PAINTING.—For painting, etc., at the Union House, Wood-street, Chelmsford. Specification, Mr. Arthur S. Duffield, Clerk, 88, High-street, Chelmsford.

NOVEMBER 27. — **Torquay.**—DECORATING.—For the supply of a quantity of specially selected pitch-pine decking, etc. Particulars, quantities, and sample at the Borough Engineer's Office, Market-street, Torquay, on a deposit of 11s.

NOVEMBER 26. — **Ilford.**—FENCING.—For the supply and fixing of about 400 lin. yds. of iron fencing at Valentines Park, Ilford. Form of tender, with plans and specification, from Mr. H. Shaw, M.Inst.C.E., Engineer and Surveyor to the Council, Town Hall, Ilford, on deposit of 21s.

NOVEMBER 27. — **Ayr.**—PLATES, ETC.—For the supply of about 220 tons of steel grooved tramway rails and fishplates. Specifications and tender from Mr. John Young, M.Inst.C.E., Town-buildings, Ayr. Deposit of 10s.

NOVEMBER 27. — **Burnley.**—OFFICES.—For painting and decorating the Public Health Offices, St. James's-street, Burnley. Specifications, quantities, and form of tender at the office of the Borough Engineer, Town Hall, Burnley.

NOVEMBER 27. — **Manchester.**—FLOORING.—For laying a wood floor in the boys' dayroom at schools at Swinton, near Manchester. Plans seen, and quantities from Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester, on deposit of 10s. 6d.

NOVEMBER 27. — **Manchester.**—TILES.—For lining with glazed tiles the swimming bath and shower baths at schools at Swinton, near Manchester. Plans seen, and quantities from Mr. A. J. Murgatroyd, architect, 23, Strutt-street, Manchester. Deposit of 10s. 6d.

NOVEMBER 28. — **Westhoughton.**—PAINTING, ETC.—For the painting, decorating, etc., of the Westhoughton Town Hall. Specifications and particulars from Mr. G. Hayes, Surveyor, Town Hall, Deposit of 10s.

★ DECEMBER 2. — **Marleybone.**—CAST-IRON GUTTERS.—The Guardians of the Parish of St. Marleybone invite tenders for repairs and reinstatements to cast-iron gutters. See advertisement in this issue for further particulars.

DECEMBER 2. — **Point Grey (B.C.).**—PIPE.—For the supply of about 33 miles of steel pipe, varying in diameter from 4 in. to 12 in. Particulars at the office of the Water Superintendent, Municipal Hall, Kerrisdale, Vancouver (B.C.). Specifications, quantities, and forms of tender on deposit of \$10.

DECEMBER 3. — **Croydon.**—PAINTING.—For painting and cleaning at several schools and polytechnics. Contract, specifications, and forms of tender from Mr. J. Smyth, Clerk, Education Offices, Katharine-street, Croydon.

DECEMBER 6. — **Southend.**—RAILS, ETC.—For the supply of approximately 200 tons of "Sanaburg" steel rails and fishplates. Specification and form of tender from Mr. Ernest J. Elford, M.Inst.C.E., Borough Engineer, Clarence-road, Southend-on-Sea, on deposit of 21s.

ROADS, SANITARY AND WATER WORKS.

NOVEMBER 23. — **Horsham.**—SEWERAGE.—Extension of the main sewer, Snell Hatch corner to the field end; repairs and drainage at Pickford's Farmhouse, County Oak, field. Plans and specifications with Mr. C. C. Burrows, architect and surveyor, King's-road, Horsham.

NOVEMBER 23. — **Lurgan.**—SETTS.—For about 30 tons of setts. Specification and tender forms from Mr. F. W. Pollock, Clerk of Council.

NOVEMBER 25. — **Childerith.**—MAINS.—For laying about 1,533 yds. of 3-in. cast-iron water mains in Childerith. Plans, specifications, and quantities with the office of Messrs. Lewis & Quennell, New-road, Brentwood.

NOVEMBER 26. — **Gloucester.**—SEWERAGE.—For a main outfall sewer passing under Great Western Railway Dock Branch embankment, sinking and lining two cast-iron shafts, driving and lining a cast-iron tunnel. Drawings seen, and specification, form of tender, and quantities from Messrs. Wm. Fox, F. W. La Trobe-Bauman & J. R. Fox, 5, Victoria-street, Westminster, or the Surveyor, Mr. H. Head, Guildhall, Gloucester, on deposit of 51s.

NOVEMBER 27. — **Blackheath.**—PAVING.—For paving the roadway and footways of Vanbrugh Fields, Blackheath. Specification and plan at the Borough Engineer and Surveyor's Office, Town Hall, Greenwich-road, S.E.

NOVEMBER 27. — **Swansea.**—WORKS.—For the materials required for the paving and tramway works in Castle-street, High-street, Temple-street, Castle, Bailey-street, Oxford-street, Harbour-road, Mount-street, and Oystermouth-road, Swansea. Plans seen, and particulars from Mr. George Bell, Borough Surveyor, Swansea. Specification, general conditions, quantities, and form of tender on deposit of 51s.

NOVEMBER 27. — **Wood Green.**—CULVERTS.—For the construction of two ring brick culverts. Drawings seen, and general conditions, specification, and quantities from the Engineer and Surveyor to the Council.

NOVEMBER 27. — **Wood Green.**—SEWERAGE.—Construction of 467 yds. of 33-in. concrete tube sewer, 257 yds. of 30-in. concrete tube sewer, 44 yds. of 18-in. concrete tube sewer, and laying out of Tewkesbury-gardens. Drawings seen, and general conditions, specification, and quantities from the Engineer and Surveyor to the Council, Mr. C. H. Croxford, on deposit of 11s.

NOVEMBER 29. — **Bassaleg.**—ROAD.—For alterations to the main road at Pyle Corner, Bassaleg. Plans and specification with Mr. William Tanner, F.S.I., County Surveyor. Quantities on deposit of 11s.

NOVEMBER 29. — **Porthcawl.**—PAVING.—For extension of paving, kerbing, channelling, making, drainage, etc., of Caroline-street, Porthcawl. Plan, specification, quantities, and form of tender from Mr. Arthur S. Duffield, M.Inst.C.E., the Council's Surveyor, 9, Cradock-street, Porthcawl, on deposit of 21s.

DECEMBER 2. — **Auckland.**—DRAINAGE.—For laying about 200 yds. of 12-in. and glazed earthenware pipe drains, together with manholes, etc., at West Auckland. Plans, specifications seen, and particulars from Charles Heslop, Sanitary Surveyor, 9, Cradock-street, Bishop Auckland.

DECEMBER 3. — **Cambridge.**—GRAVITY.—For supply of broken granite, syenite, basalt, etc., for the construction of drains, manholes, etc., for the Borough Surveyor, Guildhall, Cambridge.

DECEMBER 2. — **Middleton.**—WORKS.—For private street works, Borthwell-lane, Lancashire, and Bradshaw-street. Plans seen, and particulars and form of tender from Mr. W. W. Willis, Borough Surveyor, Town Hall, Middleton, on deposit of 10s.

DECEMBER 3. — **Bromley.**—STREETS.—For works of sewerage, levelling, paving, metalling, etc., and making good Blackbrook-lane, and works of sewerage in a portion of Barkfield-lane, sections, and specifications seen, quantities at the office of the Borough Engineer, on deposit of 10s.

★ DECEMBER 3. — **Ealing.**—ROAD-PAVING.—Ealing T.C. invite tenders for road-paving. advertisement in this issue for further particulars.

DECEMBER 4. — **Carshalton.**—SEWERS.—For the construction of about 800 yds. of closeware sewers, with necessary manholes, and latrines, at Green Wythe-lane. Plan and specification seen, and quantities and form of tender from Mr. W. W. Willis, A.M.Inst.C.E., Borough Engineer, District Council Offices, The Square, Carshalton. Deposit of 21s.

DECEMBER 5. — **Leeds.**—SEWERAGE.—For the construction of sewers in Gathorne-terrace, Markham-avenue, Cross Flatts-grove, Nipp-lane. Drawings seen, and form of tender, deposit of 21s. from Mr. W. A. Last, City Engineer, Municipal-buildings, Leeds.

DECEMBER 5. — **Nottingham.**—MATERIALS.—For the supply of stores and materials. Form of tender from Mr. Arthur Brown, M.Inst.C.E., City Engineer, Guildhall, Nottingham, on deposit of 5s.

DECEMBER 6. — **Bridgwater.**—STONE.—For supply of stone for the roads. Forms of tender and conditions of contract from the Council Surveyor, Mr. W. A. Collins, 56a, Eastover, Bridgwater.

★ DECEMBER 9. — **Beckenham.**—STREET WORKS.—The Beckenham U.D.C. invite tenders for the construction of Overbury-avenue. See advertisement in this issue for further particulars.

DECEMBER 9. — **Southampton.**—STONE.—For supply of stone. Form of tender and quantities from the County Surveyor, The Castle, Winchester.

DECEMBER 10. — **Wilton.**—METAL.—For supply of road metal. Quantities and form of tender from the County Surveyor, Trowbridge.

DECEMBER 11. — **Kent.**—MATERIALS.—For supply of materials. Specification and form of tender from the County Surveyor, Maidstone.

DECEMBER 24. — **Southall.**—ROAD.—For channelling works at Sussex-road. Plans and specification seen, and quantities and form of tender from Mr. Reginald Brown, M.Inst.C.E., F.S.I., etc., Engineer and Surveyor to the Council, Town Hall, Southall.

DECEMBER 27. — **Reading.**—ROADS.—For making-up of Albert-road, Alfred-gardens, Boveney, Denmark-terrace (north), Denmark-terrace (south), and Hammonds-road (part of), Kingston-road, Lea-road (part of), Park-avenue (part of), Sussex-road (part of), Villiers-road (part of). Plans and specifications seen, and quantities and form of tender from Mr. Reginald Brown, M.Inst.C.E., F.S.I., etc., Engineer and Surveyor to the Council, Town Hall, Southall. No DATE. — **Petersfield.**—DRAINING, etc.—metalling, kerbing, channelling, draining, paving of Sandringham-road, Petersfield. H. T. Keates, Town Surveyor, High-street, Petersfield.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*TOWN PLANNING ASSISTANT (SURVEYOR'S DEPT.)	Doncaster R.D.C.	121. per calendar month	Nov. 21
*ARCHITECTURAL ASSISTANT	Nottingham Corporation	1700. per annum	Dec. 1
*CLERK OF WORKS	Ramsdale Corporation	11. 5s. per week	Dec. 1

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*WOOD-WORKING MCHRY, BLDG'S STK. & PLT., ETC., BATTERSEA—On the Premises.	J. T. Skelding & Holland	Nov. 21
*DEALS, BATTING, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C.	H. W. Smith	Nov. 21
*BUILDERS' MERCHANT'S STOCK, MANOR PARK—On the Premises.	U. W. Smith	Nov. 21
*NINE FREEHOLD DWELLING-HOUSES, FINSBURY-SQUARE, E.C.—At the Mart.	Debenham, Tewson, Richardson, & Co.	Nov. 21
*FREEHOLD SITE, NEWGATE-STREET, E.C.—At the Mart.	Debenham, Tewson, Richardson, & Co.	Dec. 3
*CONTRACTOR'S WGT. MONEY, STOCK, & EFFECTS, ROCHESTER—On the Premises.	J. D. Levy	Dec. 3
*BUILDERS AND JOINERS' PLANT, HAMPSHIRE—On the Premises.	Joseph Hubbard & Sons	Dec. 3
*SANITARY ENGINEER'S STOCK AND PLANT, WESTMINSTER—On the Premises.	Walter Mortlock	Dec. 3
*BUILDING MATERIALS, GRAY'S INN-ROAD, W.C.—On the Premises.	G. G. Brown	Dec. 3
*SHOP FRONT—On the Premises.	Vergard & Yates	Dec. 3
*FREEHOLD PROPERTY, CROYDON—At the Mart.	Joseph Stower	Dec. 10

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100l. unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

ABERTHIDWR (Glam.).—For heating installation at the Cwmaber Boys' New Council School, for the Glamorgan County Council. Mr. D. Pugh-Jones, County Architect, Cardiff.—

J. C. Hitt & Sons, Bridgend, Glam* £230 19

BRADWELL (Bucks.).—For the erection of a new Council school at Bradwell, Bucks, for the Education Committee of the Bucks County Council. Mr. C. H. Riley, Architect, Education Sub-Office, Aylesbury. Quantities by Messrs. W. T. Farthing & Son, 46, Strand, W.C.—

E. Green	£5,200 0 0	J. W. Acock	£4,372 0 0
E. Archer & Sons	5,172 0 0	J. S. Cowley & Sons	4,531 4 5
J. Honour & Sons	5,075 0 0	G. T. Farthing & Sons	4,502 0 0
H. Martin	5,067 0 0	High Wycombe*	4,502 0 0
E. C. Lea	4,656 0 0	W. Hesp	4,496 13 8
T. Yirell	4,646 0 0		
Webster & Cannon	4,640 0 0		

BRIDGEND (Glam.).—For heating installation at Old Castle New Council School. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff.—

J. C. Hitt & Sons, Bridgend* £324 15

EXETER.—For additions and alterations, Royal West of England Institution for the Deaf and Dumb, Exeter, according to plans and specifications prepared by Mr. James Jerman, F.R.I.B.A., 1, Bedford-circus, Exeter:—

Spiller & Son, £3,610 0 0	Woodman & Son, £2,339 0 0
M. Baker, 3,137 5 0	Setter & Son, 2,386 0 0
M. T. Sleeman, 3,073 19 0	T. Hooper, 2,385 0 0
E. C. Lea, 3,038 17 10	E. Mudge, 2,386 0 0
Stile & Son, 3,004 10 0	W. Brealy, 2,762 0 0
Smale & Son, 2,999 0 0	H. Herbert, 2,760 0 0
J. H. Lake, 2,950 0 0	24 Bartholomew-street, Exeter*
W. G. Coles, 2,946 0 0	
Ham & Pusemore	2,940 15 6

GILFACH FARGOED (Glam.).—For low-pressure heating installation at Gilfach Fargoged Boys' Council School, for the Glamorgan County Council. Mr. D. Pugh-Jones, F.S.I., County Architect, Cardiff:—

J. C. Hitt & Sons, Bridgend* £196 16

HARROGATE.—For alterations to the end of the Victoria Baths. Mr. C. E. Rivers, Borough Engineer, Harrogate:—

Mason and Bricklayer.	
T. Godfrey	£369 0 0
Kershaw & Hill	367 17 11
G. & C. Winterburn	363 10 4
Joiner.	
W. Watson	£189 0 0
T. Harvey	177 0 0
Allen & Son	159 13 1
G. Ledger	153 0 0
Plasterer.	
A. Calverley	£26 0 0
S. Johnson & Son	77 0 0
Painter.	
Broadbank & Son	£100 0 0
Noddings & Son	85 16 0
J. Brown	85 0 11
Furnisher.	
Morrison & Son, Harrogate*	£210

LLANHARRY.—For the erection of a temporary school building, etc., at Llanharry, for the Glamorgan County Council. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff:—

T. Davies, Pen-coed, Glam* £362 1 6

LINGFIELD.—For International Stores. Messrs. Geo. Baines & Son, architects, 5, Clement's Inn, Strand, London, W.C.—

Estimate A. £ s. d. Separate Estimate B for Shop Front. £ s. d. Separate Estimate C for Anaglypta Ceiling to Shop. £ s. d. Separate Estimate D for Gas Piping, etc., to First-Floor Room. £ s. d.

Smith & Sons, Ltd.	510 0 0	500 0 0	77 0 0	15 0 0
Jones & Andrews	500 0 0	77 0 0	15 0 0	23 0 0
Wilmet & Sons	498 0 0	77 0 0	15 0 0	4 16 0
Bainbridge & Son	490 0 0	163 0 0	13 10 0	4 0 0
Battley, Sons, & Hollies	483 0 0	13 10 0	12 12 0	8 0 0
Hutchinson & Co.	464 0 0	70 0 0	10 0 0	4 10 0
W. E. Blaka, Ltd.	490 2 2			
G. S. Lewis & Bro.	388 0 0			

† Accepted with modifications.

LINSLADE (Bucks.).—For the erection of a new Council school at Linslade, Bucks, for the Education Committee of the Bucks County Council. Mr. C. H. Riley, Architect, Education Sub-Office, Aylesbury. Quantities by Messrs. W. T. Farthing & Son, 46, Strand, W.C.—

H. Edwards & Son, £1,895	T. Yirell	£1,794
A. E. Dawson	J. W. Acock & Co.	1,680
J. Honour & Sons, Ltd.	Webster & Cannon, Aylesbury*	1,678
Adams, Whiting, & Co.		1,811

LONDON.—For centrifugal pumps for the Croydon pumping-station, for the London County Council:—

Thames Iron Works Shipbuilding & Engineering Co., Ltd.	£6,640 0
Rees Roturbo Manufacturing Co., Ltd.	5,820 0
Fullerton, Hodgart, & Barclay, Ltd.	5,700 0
Marshall, Osborne, & Co.	5,516 12
Boring & Co., Ltd.	5,250 0
J. Cochrans	5,050 6
Halthorn, Davis, & Co., Ltd.	4,770 0
Vauxhall and West Hydraulic Engineering Co., Ltd.	4,737 0

LONDON.—For supply of 130,000 creosoted deal paving blocks in connection with the repaving of Chapham-road and South Lambeth-road, for the London County Council:—

Improved Wood Pavement Co., By Van. Ltd.	£7 11 9
Acme Flooring and Paving Co.	7 9 0
1994, Ltd.	7 13 0
W. W. Howard Bros. & Co.	7 8 3
Burt, Boulton, & Haywood, Ltd.	7 9 2
T. Gabriel, Sons, & Burtons	7 7 0
J. B. Lee & Sons, Ltd., Gracechurch street, E.C.	7 6 0

LONDON.—For incorporating additional land in the Pooch-street School site, Southwark, and rearranging the playgrounds, for the London County Council:—

Holliday & Green, J. Garrett & Son	£1,866
Wood, Ltd.	£1,859
Rice & Son	1,707
E. A. Roome & Co.	1,611

LONDON.—For rebuilding Lewisham Bridge, for the London County Council:—

J. & C. Bowyer, Ltd.	£16,746 0 0
W. Akers & Co., Ltd.	16,637 0 0
H. Lovatt, Ltd.	16,560 13 7
F. & H. F. Higgs	16,380 0 0
H. L. Holloway	16,114 0 0
W. Johnson & Co., Ltd.	15,944 0 0
J. Appleby & Sons, Cornwall Works, Southwark-park*	14,802 0 0

MORLEY.—For alteration and addition to Victoria Mills, for Messrs. Benn & Webster. Mr. T. A. Buttery, Lic.R.I.B.A., Queen-street, Morley:—

Masons, Joiners and Plasterers: J. Clegg & Sons, Wesley-street, Morley	£880 0
Plumber: A. W. Clegg, Queen-street, Morley	84 15
Slater: J. Kellet, Fountain-street, Morley	55 0

NEWTOWN (Glam.).—For the erection of a temporary building for cookery at Newtown, near Rhymney, for the County Council. Mr. D. Pugh-Jones, M.S.A., F.S.I., County Architect, Cardiff:—

Hamilton & Millard, Caspally* £372

PORTLOTITYN (Glam.).—For installing low-pressure heating apparatus at the Portlittyn Infants' Council School, for the County Council. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff:—

J. E. Hiles, Abergavenny* £168

SENGHENYDD (Glam.).—For the erection of a new junior Council school, for the Glamorgan County Council. Mr. D. Pugh-Jones, M.S.A., County Architect, Cardiff:—

J. Williams, Aberthidwr, West Cardiff* £2,823 16 10

SWANLEY JUNCTION.—For the erection of a pair of houses, for Mr. Thomas E. Wood, at Swanley Junction, Kent. Mr. Gerald E. Burgess, architect, 1, Station-road, Swanley Junction:—

T. Newport
 £1,110 |

J. Howard
 1,085 |

J. W. Ellingham, Dartford, Kent*
 £1,070 |

SWINDON.—For business premises, for Mr. J. H. Pakeman, Messrs. Drew & Sons, architects, Swindon:—

A. J. Colborne, Swindon* £900

[Four tenders received.]

TORQUAY.—For alterations, additions, decorative and electric lighting at "Aspall," Teignmouth-road, Torquay, for Mrs. Barrett. Mr. P. G. Mod A.M. Inst. M.E., architect and surveyor, 9-10, Elm-street, Torquay:—

J. G. Parker & Sons	£277 19 3
R. F. Yeo & Sons	249
E. P. Bovey & Son*	245
R. E. Narraoott	239 0 0

WROUGHTON (near Swindon).—For rebuilding "Carters' Rest," for Messrs. R. E. Bowly & Co. Ltd. Messrs. Drew & Sons, architects and surveyors, 28, Regent-circus, Swindon. Quantities by architects:—

Tydemans Bros.	£960 0
A. J. Colborne	£93
H. & C. Spackman	867 5
Pope Bros*	79
J. G. Norman	850 0

[All of Swindon.]

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Doubling Stone.
Portland Stone.

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London Agent:—Mr. E. A. Williams, 16, Craven-street, Strand.

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3643.

NOVEMBER 29, 1912.

ILLUSTRATIONS.

THE WORK OF MR. A. WINTER ROSE:—
"MARROWELLS," WALTON-ON-THAMES.
GOODRICH HOUSE, HATFIELD.
HOUSE AT CHATTERIS, CAMBRIDGESHIRE.

THE WORK OF MR. A. WINTER ROSE (contd.):—
"MILLFIELD," NEAR BRENTWOOD, ESSEX.
"MILLFIELD," NEAR BRENTWOOD, ESSEX: TWO DOORWAYS.
"CLOISTER GARTH," PURLEY.

ILLUSTRATIONS IN TEXT.

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A "THOROUGHLY UP-TO-DATE SOCIETY."

FOLLOWING on the address of the President of the Royal Institute of British Architects we have had the address of the President of the Society of Architects, himself a Fellow of the Institute. We do not propose to make any comparison between the two addresses which are available for those who are interested, and, probably, Mr. Tubbs made out the best case possible for the existence of the Society of which he is the official head. Almost in every centre where a corporate body has attained the power and prestige of the Royal Institute a group of men have dissociated themselves from its tradition and formed an independent organisation for the expression of their views. The origin of the Society of Architects was probably due to the same cause. Its principal object, according to its Presidential addresses, for many years has been, and still is, the promotion of an Act of Registration. Broadly speaking, that policy has been its main *raison d'être*. It has not, however, made any appreciable progress in Parliament with the various Bills which it has promoted; but we do not doubt, and have never doubted, the good faith of the Society in its

Registration policy. We do not propose to touch upon principles involved in the question of Registration, which have been sufficiently discussed, beyond saying that, whether the policy be advisable in the higher interests of the profession or not, whether it is ever likely or not to succeed in Parliament in view of the vested interests of other professions which will be represented in opposition on the floor of the House of Commons, we may be certain that no Act of Registration will bring about the architectural millennium as predicted by its more ardent supporters. But our purpose in referring to the address of the President of the Society of Architects is not to raise the question of Registration, but to refer incidentally to one or two other points. Those who have either heard or read it will no doubt be a little surprised at the concluding remarks of Mr. Tubbs, in which, after pointing out that Licentiates of the Institute can only become Fellows after submitting themselves to the test of examination, he goes on to say: "How Licentiates feel about this I do not know; but possibly some, or even many, of them would rather be corporate members of a progressive and thoroughly up-to-date society, making for reform all the time,

than merely non-corporate members of the senior body."

We are at a loss to understand how Mr. Tubbs, either in his position as a Fellow of the Institute or as the mouth-piece of another society, could lend himself to that statement, the purpose of which is certainly obvious, and even susceptible of harsher criticism. We hold no brief for the Royal Institute of British Architects, but, so far as a forward policy is concerned, we doubt that in its history the members have often heard expounded a more progressive and authoritative programme from the Presidential Chair, touching so wide an area of architectural art, education, and practice, than that placed by Mr. Blomfield before its members at the opening meeting. The amusing part of the business is that, while Mr. Tubbs is offering a bait which would enable Licentiates to become corporate members of another society without subjecting them to the test which the Institute imposes, he is also promulgating a new system of architectural education; he is concerned with "eliminating those who do not show sufficient artistic ability to become successful practising architects of the high standard that the future

will demand!" It is generally recognised that architectural education has in the past suffered from lack of the co-ordination and system which have operated in other countries. The main tendency of architectural effort for the last fifty years has been directed towards the solution of this very difficult problem. Its solution in the end may be discovered, as Professor Lethaby has suggested in one of his inspired observations, in the recognition of architecture in a sort of morphological aspect in which we "will start from the simple cell and relate to it the most complex structures." A good deal might be said about that, but it has little to do with our present point. Any solution of the educational question is fraught with numerous difficulties, except that perhaps of Mr. Tubbs. "A Special Committee," he tells us, "are already actively at work on the details of a scheme for the establishment of architectural ateliers in the United Kingdom on the lines of those which are so successfully carried on in Paris." Nothing could be more simple—the importation of the latest confection from M. Worth or the Rue de la Paix is, as it were, on the counter; a *mannquin*, or a graduate of the Beaux-Arts, will show you how well it fits. That is all! But is it all? The Beaux-Arts system of training has answered very well in France; but it was of slow and perfectly natural growth, which followed on the foundation of l'Académie Royale by Louis XIV. or his Minister, Colbert. It is not in any sort a transplantation. Its growth is indigenous to the soil and the genius of the French nation, a logical, Latin race. In the Latin races there is also a certain quality of egotism, so far as artistic matters are concerned, which impresses the world, but to which men nourished on British soil are to a great extent strangers. Almost in every phase of creative expression—in architecture, in poetry, in drama, in painting, in romantic literature—the British race has, however, excelled. Is it even necessary to mention names—Shakespeare, Inigo Jones and Wren, Coleridge and Wordsworth, Reynolds, Turner and Constable, Charles Barry, Elmes and Cockerell, Fielding, Scott, Dickens and Thackeray, and so on? Through the force of native genius it has always come through, after its modest, instinctive fashion, to the finest and most individual interpretation of life, which is called art known to the world. In science it has given us a Darwin, a Lister, and many another. In the realm of archaeology and archaeological research it has contributed men of as eminent gifts as any other nation. Since the Renaissance, British architects have been among the first to extend our knowledge of the subtleties which existed in classical architecture: the pioneer spade-work of Stuart and Revett, Robert Adam, Inwood and Penrose was not second in importance to that of the men of any other country and of their time. Education in its highest sense is not, after all, altogether a matter of the schools: it is often a matter of personal idiosyncrasy. In architecture certainly many instances could be cited.

It may be argued that men of the type we have mentioned existed in spite of

our educational system. It could just as well be argued that they existed because of it. But we are free to acknowledge that what may answer in regard to the individual may not answer in regard to the system of training of a whole profession. No body of men has realised this more seriously than the Royal Institute of British Architects, or devoted more time and careful thought to its solution. So long ago as 1887 a Conference was held on the subject, the members of which had before them the programmes which then prevailed in other countries. For the last twenty-five years it has elaborated and conducted a system of examination in architecture. Within quite recent times it has formed the Board of Architectural Education, composed of representative men in architecture, with a view of further developing the educational system. The work of that Board is still in its initial stages, and, while the character of the men of which it is composed is a sufficient guarantee that no hasty and ill-digested scheme will be adopted, it also ensures that enlightened progress will follow in the footsteps of their labours. In any case, we are not inclined to take a pessimistic view of the result of the work which has been undertaken in this country on behalf of the education of architects. On the contrary, we consider that in capacity and enthusiasm, and to a large extent in scholarly equipment, we possess a fine body of students. The average quality may not be high—is it ever in any profession or art?—but the quality of individual students—the quality, that is, of the select few, on whom rest our hopes for the architecture of the future, does not occasion in us any fear that we shall be outpaced, even in monumental compositions, by our Continental brethren. The work of the Institute in the past is to-day bearing fruit. So far as the establishment of the atelier system all over the country is concerned (for Mr. Tubbs' scheme is apparently a wholesale affair), we wonder if his Committee realises the atmosphere which exists in a French atelier? How many fluent advocates of schemes of this kind have, we wonder, ever crossed the doors of a French atelier or sought counsel from English students who have been trained in Paris? Such inquiries might probably prove illuminating. It must not be thought, from what we have just said, that we have any objection to the atelier phase in an architectural curriculum as it exists in France. We only wish to point out that its adoption, unrelated to a general scheme and borrowed from another country, denotes a curious misapprehension of the French view. Instead of "making for reform," it is more calculated to make for reaction and a bizarre kind of dilettanteism.

We will only touch on one other point in the address of the President of the Society of Architects. We do not know what the members of the Council of the Institute think of the suggestion that they should be left to perform the "ornamental" work of the architectural profession and relegate to the Society matters which are called its "business side." But what other society could so well look

after the various material interests of architects as the chartered body Conduit-street, whose members, it may be safely said, are responsible for the most important architectural work carried out in the United Kingdom. We have on more than one occasion referred to the kind of criticism which regards with suspicion the business qualifications of anyone who does not first of all proclaim that he is a business man. The Institute has, in any case, Standing and other Committees established for the purpose of dealing with the business issues of the profession which from time to time arise. But not the higher aspects of architecture and its professional and material aspect integral parts of the same organism? You cannot separate the two without damaging the whole structure. And as a mere business proposition would perhaps be interesting, if it were worth while, to compare the position which make for real practical progress in the art and practice of architecture which have been raised in the recent addresses at the Royal Institute of British Architects and the "thoroughly up-to-date Society." we have said, the latter Society may have a useful purpose to fulfil but it is indiscreet for it to indulge in ill-digested programmes. It has to a certain extent influenced the Institute in regard to the policy of Registration. That body has, in any case, formed an influential Committee, committed to the consideration of the question and the promotion of a Bill likely to have some chance of conciliating the various interests involved in the matter before it has the remotest chance of succeeding in Parliament—a method of procedure which is surely eminently practical and "businesslike." But the Society is not content with this simple approach to a complicated measure; it must needs proceed, willy-nilly, with its own Bill, which has not the shade of shadow's possibility of getting further than the blocking stage in the face of the opposition that will certainly be brought against it. Child's play of the kind may be amusing, but it serves no useful purpose, either in the high interests or the merely practical politics of architecture.

NOTES.

Too Conscious Art.

IN these days we have as architects, become so sensitively self-conscious Art that it is expedient, for our very Art's sake, that we should occasionally have the truth brought home to us that beauty in architecture, as in all else, must draw sustenance from roots well grounded in the everyday matter of fact of practical life. In this consists the interest and value of such papers as the one read by Mr. Horace Cubitt at the Architectural Association last Monday evening. We are constantly being reminded of our high calling as artists. But in practical experience this is susceptible of two interpretations. Firstly, the architect as the arranger, the orderer, the constructive artist, who, out of many materials and sometimes conflicting factors and

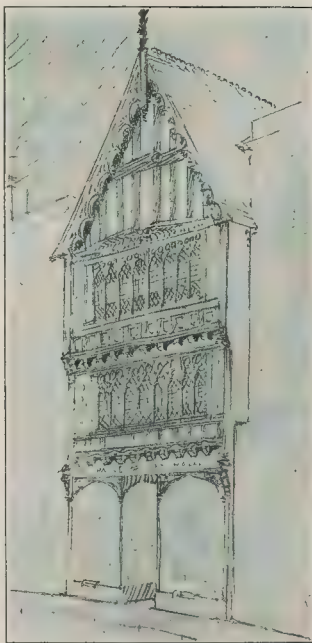
ditions, creates a unity that not only sets all practical requirements, but vivifies the intellect of efficiency, and induces upon the sensuous and deeperhetic faculties of the mind feelings of assurance and satisfaction in its perfect form and fitness. Secondly, architecture regarded as an art of free expression; beauty is directly aimed at otherwise than through the development of organic periods, the architect thereby tending to become a kind of glorified house-creator and art—in detachment from critical and utilitarian exigencies—rather more or less anemic conceit. In the first beauty is organic, in the second a decoration or clothing. Power of design that discriminates the architect from other constructors. But, as things are, is apt to limit design to a function which, however scholarly and cultured, is superficial—to what a well-known writer on economics called, somewhat too temptuously, "the otiose function of a designer." The power of design is structural as well as aesthetic. It does the fact that the architect is indeed be artist and designer a fuller sense preclude other essential functions. If he be versed in valuation and cost of buildings, in holding law and contracts, light and air, drainage, artificial lighting and heating, ventilation, etc.; if he survey buildings, and carry out other functions of the surveyor, he is still within his own proper field, for, being architect, he is *ipso facto* surveyor. He is not merely a draughtsman, designer of plans and façades, but also the supervisor, the surveyor of the construction of buildings. So far from such things being derogatory to his art, they are, where not essential, certainly accessory to it. The complete architect must be of necessity at least conversant with them all, though not a specialist in any one. He is the organiser of many specialists. Out of many prosaic and material elements his ideal is to produce unity, a building that "rhymes well": it gives to others some glimpse of beauty attendant upon perfect order and fitness.

THANKS to the influence and financial support of Lord Hythe, the School of Engineering at Oxford University has been in existence for five years, and has quite emerged from the experimental stage. It is now proposed to erect and equip a new engineering laboratory to meet the growing requirements of the School on its site near the north-west gate of the University Park and conveniently near existing buildings for both engineering and chemistry. Some question has recently been raised as to the propriety of adopting the site mentioned, on the ground that the new laboratory will encroach upon and mutilate the Park. This view is combated by Dr. Warren, President of Magdalen College, in a letter to the *Times*, where it is pointed out that the ground was originally required for the erection of additional buildings needed by the University, and that the proposed site for the engineering laboratory was actually selected by the governors of the Park themselves. While

opposed to the wanton disfigurement of any place, we cannot agree with the proposition that well-designed additions to the architectural beauties of Oxford should be regarded as an eyesore. Moreover, it does not seem unreasonable that Convocation should be asked to permit a comparatively small corner of the Park to be used for a portion of the purpose for which the entire area was originally purchased by the University.

Reinforced Concrete Calculations.

In his Presidential address to the Concrete Institute, reported in this issue (page 655), Mr. E. P. Wells devoted attention to several points of practical character, quite deserving the attention of architects. On the subject of mathematical computations Mr. Wells emphasised the undesirability of placing too much reliance on highly-refined calculations and the desirability of exercising common sense in connexion with simple formulae known to give absolutely safe results. There is a good deal to be said for this view, for while the tensile resistance of steel is constant the strength of concrete varies, not only with the human factor, but increases day by day after its deposition, and in some cases becomes very much greater than the value taken as the basis of calculations. Hence all formulae are rendered empirical, however scientific be their theoretical derivation, while, for the same reason, elaborate calculations afford results that represent nothing more than approximations.



"Halle of John Halle," Salisbury.
From a Sketch by Mr. Leslie Barefoot.

This building, in Canal-street, with its fine timber front, was originally erected as a dwelling by a rich wool merchant about 1470. It was restored in 1851, and is now used as a shop.

National Physical Laboratory.

So valuable is the work conducted at the National Physical Laboratory, from the scientific as well as the commercial point of view, that we sincerely trust a generous response will be made to the appeal issued by Sir William White and Dr. Glazebrook for additional funds. In order to provide for the adequate continuation of work new buildings and equipment are required at the estimated cost of 35,000*l.*, towards which the Treasury are willing to contribute 15,000*l.* Of the balance, 11,710*l.* has been secured mainly through the generosity of the late Sir Julius Wernher, leaving 3,290*l.* to be obtained for buildings in order to comply with the Treasury conditions and 5,000*l.* for scientific equipment. When one looks round the world and finds that in every other country of importance establishments of the same kind are liberally maintained by Government it is indeed humiliating that our National Laboratory should be compelled to make appeals to private generosity.

RICHARD NORMAN SHAW, R.A.

By PROFESSOR BERRESFORD PITTE.

To the student they were wonderful days in the early seventies, when Norman Shaw, like a magician, raised the spirit apparition of mediæval semblance in the midst of the most serious endeavours to secure recognition for Gothic architecture as the proper style for the expression of our most modern wants.

Savage had essayed at St. Luke's, Chelsea, to show that for ecclesiastical purposes, and at Westminster Hospital for civil, Gothic excelled Classic in its adaptability, and the incessant teaching of Pugin and Ruskin, as of the works of Scott and Street, argued that Gothic was a living architecture equally quick in a railway-station as in a church, or in a town hall as in a country house, asserting that the modern spirit found a truer note in Christian than in Pagan art.

It may be doubted if Norman Shaw realised more than an artist's irresponsible joy in re-creating the mediæval charm which he attached to each of the series of half-timbered granges and glorified farms that he erected and illustrated. The purpose of applying Gothic details to modern buildings to interpret the XIXth century in the terms of the XVth he frankly abandoned, and by him the charms of mediæval simplicity of aim were simulated in accidental glazing, by crude building materials, archaic glazing, and other accessories.

He spirited us away from the present, and we were conducted in an instant into the past. "Dear old England" could indeed be lived in again; "Merrist Wood," "Leyes Wood," and many other country houses up to "Cragside" and "Dawpool," were all realisations of an artist's ideal which the more serious-minded Revival architects had not attempted. The glamour also pervaded the delicious drawings which illustrated the exteriors, set in sweet foregrounds of shrub and rock; the wavy tiles, the plain lattices, and the spotted brickwork entirely harmonised with our patriotic enthusiasm and perfected hopes of domestic architectural happiness. But we knew all along that behind this artistry there had been solemn and steady progress. Shaw had early obtained the Royal Academy Travelling Studentship by a formal Classic design; had published a folio book of correct lithographs of Gothic Continental studies, and had, in a partnership with William Eden Nesfield, produced domestic Gothic designs which were second to none in freshness and

beauty. Was there not, too, during this partnership a perspective published of a competition design for Bradford Exchange in the glorious early Continental Gothic, with a great external frieze drawn by Albert Moore, and, by himself alone later on, a clever church at Lyons, correct and interesting, preceding the more remarkable one at Ilkley by a few years?

In all this he progresses onwards; to march with the rest seemed all that he desired before the veil fell and the phantasy was revealed to him that to be new and modern was behindhand, and to be ancient and mediæval was ideal. Hence the use of apparently decaying laths curving the lines of the tile-courses, the dotted brickwork, accidentally obscured windows, crooked passages, and sudden levels.

Still, the master was sanely up to date; the plans worked amazingly, the construction was alternately excessively ingenious and simply natural; an artistic craftiness of scheme was associated with the picturesque exterior that made both elevation and plan amazingly consequent and fascinating; and, though the whole was mediæval, it was alive.

Norman Shaw's work could well have concluded the History of the Gothic Revival and left his name among its great ones, but he was then only in his early prime, and the spirit that worked within him was quicker than the content of that movement. Whether New Zealand Chambers will remain for Macaulay's antipodean visitor's residence when his time comes we cannot say, as that depends upon the endurance of its concealed construction; but the triumphant bursting of the bonds of the old Metropolitan Building Act was achieved in that *tour de force*, not of Gothic art, but of modern antiquarian craftsmanship of design. That purity of style and avoidance of debasing Renaissance infection, which were the sheet-anchors of Revival virtue, were abandoned, and something that might, in the picturesque symbolism of the jargon of the school, have been called licentiousness was publicly invoked. The Gothic game was up with Norman Shaw, and he applied the freedom and adaptability of all the architectural experiments and ignorancies of the early undeveloped and unscientific English Renaissance to modern building. The saving element, as before, lies in the exquisite humour of the artistic appeal to picturesque sentiment alone. The "Swan House," the "Clock House," and others on the Chelsea Embankment violate many constructional proprieties, though they remain standing; but "Lowther Lodge," Barings' Bank, and other solemn examples in Queen's Gate, from north to south, gradually accept simpler forms of constructive appearance—that is to say, they avoid puzzles, and charm the world by their breadth and simplicity.

During this period Norman Shaw created a school of modern domestic building which became wide enough to be national. He led the way from the Middle Ages through the early to the later Renaissance, compelling modern requirements as he went along to conform to ancient appearances. Time loves change and movement, and he changed and moved, but always in front. No architect led him. He had affinities and sympathies with the leaders in every branch of decorative art, but none could equal his full stride, even when he seemed to slow down into beautifully commonplace building. The smaller houses at Bedford Park and Melbury-road, as well as the larger ones in Hampstead and on the Cadogan Estate, can all be discerned as his by the excellence of their simple qualities.

New Scotland Yard may well be said to stand by itself. Entirely fresh, and unjustified by precedent among official buildings, it is as rightly architectural in scheme as the Houses of Parliament or St. Thomas's Hospital, but is much more satisfactory upon its riparian site, and increasingly impressive as the fashion of its

style passes into the architectural history. One feels that it is independent in its solid qualities of the accident that it seemed artistic to the men who first liked it.

Then the latest phase of pompous Renaissance dignity and richness of line—"Bryanstone" in the country and the "Gaiety" group in town, followed by the great Quadrant scheme and the Piccadilly Hotel. In old age he was as great in surprises as in his youth. There seemed to be hardly any architectural sensations to which Norman Shaw could not give effect in plan, elevation, grouping, or detail. Each phase found its master in his hand and was brought into service.

It is yet soon to estimate the permanent value of Norman Shaw's work; it may be that the relation of his designs to the current from which they emerged may be forgotten, the charm of his published drawings may remain only with collectors, the fragrance of his genial humour, only partially embodied in much interesting and characteristically prolific correspondence, may evaporate with the passing of a generation, but New Scotland Yard, at least, must remain awhile, midway between Westminster and Somerset House, seated upon the Embankment in monumental dignity as a fair embodiment of a man and a movement which cannot be overlooked in any distant survey of English architecture of the latter half of the XIXth century.

THE PRIORY CHURCH, CHRISTCHURCH.

THE Secretary to the Society for the Protection of Ancient Buildings wrote to the *Times* of November 21 with reference to the restoration of this church. Mr. T. G. Jackson, R.A., has given us special permission, with the concurrence of the Bishop of Winchester, to publish his statement in reply to the charge of vandalism. The words of the original note are printed in parenthesis in small type, and Mr. Jackson's comments follow in each case.

(1) "The great mediæval church of Christchurch, Hampshire, is well known, and any damage done thereto must be considered little short of a national calamity. A faculty from the Bishop of Winchester, dated March 9, 1912, gave power to the Vicar and Churchwardens to carry out certain well-defined alterations to the internal fittings of the church. In his printed appeals the Vicar stated:—'There will be no destruction of ancient work,' and 'no ancient work will be interfered with.' In spite of such assurances, and under cover of the Bishop's faculty, which gave no consent for it, much ancient work has been interfered with in a disastrous and unnecessary manner. The north transept has been much pulled about, a great quantity of new stone has been inserted in the west wall, to the destruction of original Norman work."

The work in the north transept consists in removing a modern gallery which was never used and the stairs that led to it, also the removal of some pews with glass screens that blocked the beautiful arches of the two eastern chanceries, also the removal of the modern deal pews below the gallery and the repair of the floor which had been broken up for the flooring to these modern pews. New floors have been laid, and the transept is seated with oak. The effect of this has been to restore to the interior view of the church the north transept, which was completely blocked up with high pews and galleries, and to expose the two chanceries, which are now accessible from the transept.

(2) "Portions of arcading that remained in that wall have been 'restored,' and Norman shafts from elsewhere have been mutilated and inserted."

The arcade is not restored, but the missing colonettes have been replaced. The whole of this arcading was mutilated to make way for the modern deal pews. I directed the replacing of the colonettes with new stone.

But the foreman, without my knowledge, used some old shafts, once apparently of the church, which were found lying in crypt. This I should not have allowed. I suggested their removal, but he thought this unnecessary under the circumstances.

(3) "On the eastern side of the transept a stone wall has been built, blocking up stairway leading to the eastern chapel, the north channel aisle."

This wall formerly existed, and half is old work. It was continued on the lines in order to enclose the transept, the eastern part of the church and support the glass screen which the Vicar and Churchwardens consider necessary to exclude draughts.

(4) "New stairs have been inserted below the arch opening, from the said crypt to the transept."

The original levels of the transept and chanceries being preserved, steps were, of course, necessary. Before the present there were deal steps forming part of the paving that has been removed. The steps are of stone.

(5) "The Norman arch leading from the transept to the north channel aisle—one of the few vestiges left of the Norman choir—has been much tampered with, its northern half having been, without any necessity, practically refaced with new stone, and the plaster original stonework destroyed."

This was a more serious matter. The arch has been tampered with. It has not been touched at all. The pier next the chantry on the west was badly crushed and split and been cut into by the beams of the gallery. It was in a very dangerous state, and a great deal of work was done to save it. It has now been met with new bonding stones where the old was crushed, and has been grouted with cement and, I believe, made secure. It was a very difficult and delicate operation.

(6) "The opportunity of resetting the caustic tile pavement of the north transept (recently discovered) has been neglected, many of the fragments removed to the vicarage or left on rubbish heaps."

My instructions have been that every fragment of the old tiling which was discovered on the removal of the deal floor should be laid in the original place. The tiles were sadly broken and most of them imperfect, but enough remains to be of great interest. Mr. West, the Curate, is taking care of the drawings of them.

(7) "These are but a few examples of damage wrought in the last few months, many examples in the last few years may easily be cited. Work on the church is still proceeding. . . . These vandalism (quite apart from the damage done to a glorious national monument) call for the strongest public denunciation, and yet the Bishop of Winchester is proposing to visit Christchurch on the 1st inst. to give his official benediction to the work."

What the examples which are not cited may be we are left to imagine. All work I have done hitherto has been of nature of structural repair. The timber which exists above the plaster groining the nave—an interesting structure of the XIVth century—has been secured instead of being removed, as had formerly been proposed. The tower, of which the parapets were insecure, has been repaired and masonry cleaned from plants which had done serious damage, the facing stone being in some cases forced more than an inch out of the wall. The south wall of the nave which had given way has been underpinned, and a drain is formed. The slating of the roof has been put to rights. The groining of Lady Chapel had suffered by the expansion of the iron bars and cramps with which it had been put together and the spring stones of several of the bays, especially the

he west end, were split; and their condition was such that they might have slipped and brought the whole vault to ruin. They have been very carefully repaired by inserting new springs in the place of those that burst, and the ceiling has been roughly repaired where necessary elsewhere.

"Besides the foregoing, a scheme may soon be set on foot to restore the Lady Chapel by means of a large sum of money left for the purpose by one whose connexion with Christchurch was of the slightest. It is no exaggeration to say that in the case of a building like Christchurch its value decreases whenever money is spent upon it for purposes other than repair. Here, nevertheless, is a case involving the expenditure of thousands of pounds on restoration which will do little to depreciate its value as a national monument. Surely it is time that the nation should provide proper protection for its treasures and antiquities."

On this last matter I know nothing.

It seems to me that the objections made to the foregoing extracts are captious and reasonable. They are taken almost verbatim from a letter sent me some time ago by a gentleman who lives at Christchurch.

I am not aware that the Society for the Protection of Ancient Buildings has done the work or done more than adopt the letter. . . . The repair of the porch, which was in a dangerous state, has now been secured according to my plan, which was approved by the Society of Antiquaries.

(Signed) T. G. JACKSON.

THE ROYAL SOCIETY OF PAINTERS IN WATER-COLOURS.

At a winter exhibition of the Royal Society of Painters in Water-Colours provides a gay and fanciful array of pictures, a pleasant variety of patterns, if it contains little more than average interest and skill. Much of the work suggests the rapidity of execution which is more or less essential in material, and much of it also rapidity of observation, which is not perhaps the thing as depth of observation. In the sketches, for instance, of David Cox we find the first two qualities, but in them I do not find the third quality. When we begin to consider the work of particular artists, the general mass of painting on the wall we find that many of the artists—Mr. Lee Sims and Mr. Napier Hemy, for instance—are successful in obtaining precisely the same effect which their work in easel painting has. Mr. Sims's formula, which aims at the expression of light poetic ideas, would seem perhaps to lend itself particularly to the purposes of the water-colour medium. But, whatever the medium, we are grateful for the expression of the artist's decorative, imaginative outlook of the artist in modern painting. Mr. Napier Hemy's sea-pieces are faithful transcripts, in which are caught the spirit and swiftness of the current and the breeze. Mr. Robert W. Lee, on the other hand, readily adapts his point of view to the water-colour touch by numerous bright examples which he contributed to the exhibition. The art of Mr. Clausen stands a little apart. He is a subjective rather than the other painters. His transcripts or formulae in fantasy are in his way. He certainly does not take interest in the photographic resemblance of things. His drawing, for instance, of the East Door of the Parthenon from Within, "moonlight," may not be a good architectural drawing, but it is no clumsy or architectural form as are so many painters' drawings which attempt to depict architecture more precisely. The art of Mr. Lee Sims, in any case, that of temperament, not that of the camera. Take again the strong, rugged sketch of Ludlow Castle, which the aspect of the building and the aspect of Nature take on, a wind-swept

and weather-beaten garb—an obviously sentimental view, you may say; and so it is in a way, but the artist's feeling for style, his personal vocabulary in colour, are not those of the cheap sentimentalist. Mr. Walter Bayes is what one may call a quiet painter; he makes no charge on your emotions, you leave him with a certain impression of delicacy and charm but a little cold, with an impression of artistic theory rather than of artistic vision and impulse. He is a painter, as you might say So-and-so is a grammarian; that is, he understands the syntax of his art. But he is more than that, and in his two pictures at this exhibition, as in those which we have seen elsewhere, we feel that there is in his work a good deal of artistic vision, of an unaccommodating kind, as well as esoteric artistic theory. So far as architecture is concerned there is much of interest, including a large and outstanding view of the south-east angle of Ely Cathedral (painted for the Municipal Art Gallery at Birmingham), by Mr. Rooke, and numerous subjects by other artists from scenes in Italy. Mr. Reginald Barratt shows various pictures associated with the Piazza and St. Mark's at Venice; but in none is he so successful as in his delineation of the decorative detail of the base of the great flagstaffs which face the cathedral, the best drawings, from this point of view, at the exhibition. Mr. Walter Crane shows the spectacle of an aviation meeting drawn after the somewhat quaint precision of the earlier manner of Mr. Walter Greaves, while the strength and lucidity of Mrs. Laura Knight's art are well represented in "By the Sea," in which human sentiment and the sentiment of Nature are brought into some kind of relation.

THE KENSINGTON FIRE.

It would not be fair to those most concerned to say that the lessons of the Clapham Junction fire and other disastrous fires in drapery establishments have been neglected. Nevertheless, they have not been properly learnt—a point which is sufficiently illustrated by the facts brought out in evidence given at the Coroner's inquest on the recent fire in the premises of Messrs. John Barker & Co. at Kensington.

Like other large drapery establishments that have not yet been rebuilt in consequence of fire, the buildings occupied by the firm were not in conformity with the present state of the law as set forth in the London Building Acts, and were not suitable for the conduct of a business characterised as dangerous by the Coroner who inquired into the Clapham Junction fire. The proprietors had evidently recognised the necessity of providing safeguards, for they had installed four means of escape from the upper floors in the form of a staircase, two iron ladders, and a rope ladder; and, as one witness stated, the place was "overrun with fire appliances." We must point out, however, that even the most lavish expenditure in this direction is absolutely futile unless expert advice is obtained for guidance in the selection and installation of safety appliances.

It is satisfactory in a measure to learn from the evidence of at least three witnesses that loss of life might have been avoided if the girls who perished had retained their presence of mind. But this would have been due to the gallant efforts of the London Fire Brigade, and not to the means of escape provided by the firm. For instance, we learn from the evidence of the head fireman to Messrs. Barker & Co. that "the box containing the rope ladder was burned, and the ladder had dropped down, so that it was never used," and from the evidence of Mr. Chatfield Clarke, F.R.I.B.A., that the escape appliances were mostly on one side while the fire attacked the premises from the other side. Again, it is made clear by the evidence

that the numerous fire appliances did not include automatic alarms or automatic sprinklers, both of which are of inestimable value in the early stages of fire. We thoroughly endorse the recommendation of the Coroner's jury that buildings of the class in question should be fitted with automatic fire-alarms, and regret that automatic sprinklers were not included, for these begin to operate at once and long before aid summoned by alarms can arrive on the scene.

The fire appears to have started in the kitchen, where a boiler fire had been banked up for the night. In itself this should have occasioned no risk; but from the evidence of Mr. Dyer, London Fire Brigade, we find that the flue passing from the boiler up through the roof was lined with wood at the top—an arrangement once more demonstrating the point that the lavish provision of fire appliances is not sufficient, and that proper advice is necessary as to the safety of fittings and apparatus throughout the building to be protected. Compliance with the principles of fire-resisting construction as embodied in the London Building Acts is certainly not less important than the supply of fire appliances, but we may suppose that the directors of Messrs. Barker & Co. believed so strongly in the efficacy of the latter that they did not hesitate to continue the use of the upper story as sleeping quarters for some of their staff, and for the same reason delayed attention to the structural alterations proposed by the London County Council.

Events have proved that the firm were not justified in either course of action. Both Colonel Fox, London Salvage Corps, and Mr. Hanson, District Surveyor, expressed the opinion that it was unsafe for people to sleep in the building, and Mr. W. E. Riley, London County Council, said that if the suggested alterations had been made at the time of the fire, the inmates would have been able to escape. He also stated that an immense number of similarly dangerous buildings have to be dealt with in London, and we gather from his evidence and that of Mr. Milborne, a director of Messrs. Barker & Co., that the County Council are not taking very peremptory action to ensure prompt compliance with the law.

It is quite easy to realise that business firms may wish for time to consider extensive alterations involving heavy outlay, and to appreciate the considerate motives influencing the officials of the County Council. But it is equally manifest that persons engaged in dangerous trades must be awakened to a sense of their responsibilities, and, if necessary, compelled to give prompt attention to statutory obligations.

On this aspect of the question we may refer to the letter from Mr. E. O. Sachs, printed elsewhere in our present issue and also in the *Times* of Tuesday last. It will be seen that Mr. Sachs is strongly impressed with what he considers to be the apathy of the London County Council in enforcing the provision of the London Building Acts relative to fire protection.

We can quite understand the anxiety displayed by our correspondent, and agree with him that it is very desirable that the provisions of the Acts as amended in 1905 should be applied to all buildings coming within their purview, with a minimum amount of delay. At the same time, it must be admitted that the task placed on the shoulders of the County Council is one of enormous magnitude—a point made clear by the letter printed in the *Times* of Wednesday from Mr. A. T. Taylor, Chairman of the Building Acts Committee.

Although thousands of cases have been dealt with since the Act was passed in 1905, it is admittedly the fact that many thousands remain for attention, the policy of the County Council, as outlined by Mr. Taylor, being to deal with dangerous cases as they become known, and the remainder by a gradual process, so as to avoid a general

structural disturbance throughout the whole of the metropolis.

At the same time, it is manifest from Mr. Taylor's letter and the evidence of Mr. Riley that the County Council are unable to put administrative machinery into operation for the purpose of enforcing immediate compliance with the comprehensive requirements of the new Act all over London, and that the completion of the work, so far as concerns existing buildings, will probably occupy a long period of time. Therefore, without in the slightest degree implying any reflection upon the Building Acts Committee or the Architect's Department of the London County Council, we are unable to regard the situation with entire complacency, and trust that prompt measures will be taken to deal with dangerous cases, particularly where the premises are occupied in part for dwelling or sleeping purposes.



An ordinary general meeting of the Architectural Association was held on Monday at the Rooms of the Association, Tufton-street, under the Chairmanship of Mr. Gerald Horsley (President).

The Secretary announced that the Athletic Club dance would be held on December 2 from 9 till 2.30 at the Wharncliffe Rooms of the Hotel Great Central, and that tickets could be obtained at the office, price 8s. 6d. each.

The following new members were elected:—Mr. S. G. A. Cockle, Dovercourt; Mr. G. N. Mackenzie, Westminster; and Mr. R. M. H. Philp.

The President called attention to the very interesting exhibition of sketches, plans, etc., of London districts on the walls of the room which, he said, would repay study; and also to the exhibition of the works done in the Schools during the past term in the gallery, which, he said, gave an excellent idea of the work being done.

The Late Mr. Norman Shaw.

The President said it was his melancholy duty to refer to an event which was profoundly affecting them at the present time—he meant the great loss which all architects had sustained in the death of Mr. Norman Shaw. Mr. Norman Shaw was one of their Vice-Presidents about 1857. It was impossible for him to say how much they were indebted to Mr. Shaw, whose influence on architecture had been profound. Modern architecture, as they know it to-day, was really due to Mr. Norman Shaw's creative influence. Supported as he was by other men of his time, who recognised his great genius and ability, he had taken the lead in the direction in which their architecture had been progressing in the last few years. He moved that a vote of condolence be sent to the relatives of the deceased gentleman.

The motion was carried in silence.

The Late Mr. T'Anson.

The President said he had also to ask them to pass a vote of condolence to the relatives of the late Mr. E. B. T'Anson, who had been a

member of the Association for many years, and whose work in the City of London and other places was well known to most of them. He was a man who was universally respected by all who knew him.

THE PROSAIC IN AN ARCHITECT'S WORK.

Mr. Horace Cubitt then read the following paper:—

"It will, of course, be admitted that an architect should be competent in all branches of his work. To such end we have now a most elaborate system of architectural education; and, apart from this, we are all, in some measure, students to the close of our days. But there is a tendency for study to be very largely confined to subjects which readily appeal to the imagination, and in consequence other subjects of less interest, but of very great importance in the work of an architect, tend to be rather neglected.

The statement that an architect should know his work must not, however, be construed to mean that every architect must be competent in regard to all classes of work that architects undertake to do. There are many branches of work occasionally carried out by architects which are not, in the correct sense of the term, architectural work. There is, for example, the valuation of property. It will surely be admitted that, although a scale of fees for this work is quoted in the Institute's Schedule of Professional Charges, a member of our profession when engaged in valuing property is acting not as an architect, but as a surveyor. The same applies also to the work of preparing quantities. An architect when executing such work is surely, for the time being, a surveyor. Other important instances where work frequently undertaken by an architect is in reality that of a surveyor are the measurement of the area of a building site or building estate, and the settlement of dilapidations. No suggestion is made that an architect should not be conversant with many subjects which come within the term "surveying." It will often be very helpful to him in his practice if he is able to undertake work of this nature, although in the larger towns he will do well to leave such subjects as the valuation of property and the preparation of building quantities to surveyors who specialise in these subjects. But such knowledge is in no way essential, whereas it is obviously of primary importance that an architect should be thoroughly acquainted with the carrying out of all matters that correctly come within the scope of the term "an architect's work."

True Architectural Work.

It may be said that it is difficult to know where to draw the line between true architectural work and surveying work that is undertaken by architects. But there is really no difficulty at all. An architect, as the designer of building work, should obviously be acquainted with all branches of knowledge that affect the work of design—using the word design in the correct sense of the word, and not restricting it as is so often done to the conception and elaboration of ornamental features. Beyond this his knowledge need not extend. It will be seen that ignorance of the various branches of work already mentioned will not handicap in the slightest the designer of building work. With valuations and dilapidations he is clearly not concerned, and his design will probably gain rather than suffer in execution, if the survey of the site and the preparation of the quantities are undertaken by some other person.

But an analysis of the process by which a design is evolved will show that there are other branches of work of very great importance to the designer, which are frequently incorrectly classed as belonging not to architecture, but to surveying or engineering. These branches of work, which cannot usually be mastered without considerable application and study, do not appeal to the majority of architects and architectural students. Hence, the wish and the thought being in the proverbial relationship, there is a tendency to regard a knowledge of such subjects as not essential to the equipment of an architect. Why, it is in effect said, should we waste on these prosaic subjects valuable time which might be better spent in gaining a fuller

knowledge of art? But can this attitude be justified? A designer when called upon to deal with an architectural problem is required to have a knowledge not merely of proportion, architectural detail, and the customary methods of construction, but of the practical requirements, restrictions, and possibilities that affect the work on which he is engaged. The evolution of a design is such an intangible process of catching and weaving together, and elaborating ideas, as to arise in the brain that the designer works freely and satisfactorily only when he has a thorough grasp of everything which materially affects his work. But, it may be said, this is expecting too much of a designer; surely it will be permissible for him to get the opinions of specialists on certain points, and then, if necessary, modify his design accordingly. Imagine a composer of organ music being compelled towards the end of his composition to call in a specialist in organ construction with a view to modifying his score where, as with his advisers considered it unplayable, he imagines such a man producing a modification of a possible much finer work because of his lack of knowledge of the capabilities of his instrument. An architect who in matters vitally affecting his design relies on the advice of specialists instead of making himself conversant with all the subjects concerned is acting in a completely similar manner, and runs a similar risk.

The Building Law.

Let us consider the chief of these subjects that are thought by many to be too unimportant and too prosaic to be worth the close and thorough attention of the exponent of the students of architecture. Take, for example, the comprehensive requirements of the building law in our larger towns, and more particularly in London. Here we have an elaborate code which very materially affects the construction of every building. Consider an ordinary domestic building on an ordinary site, and it will be found that the position, height, construction of the building will be materially controlled by the requirements of the building law or by-laws. The building, for instance, must not extend beyond the frontage line; it must have the required amount of air space at the rear; it must, if situated in London, extend above the diagonal line; its walls must be of specified materials of specified thickness; its system of sanitation must be designed and constructed throughout in accordance with specified requirements. All these points are met with in the design and construction of a building of ordinary everyday class. In dealing with special buildings further requirements are entered. Large public buildings, for instance, are required to be planned so as to provide reasonable means of escape in case of fire, and to be of fire-resisting construction throughout. London the means of escape requirements apply to a very large class of buildings, and there are also special constructional requirements affecting warehouses, shops, dwelling-rooms above, tenement buildings, etc.

These numerous and far-reaching requirements have a very considerable influence on the buildings that we design. Possibly of such requirements are open to criticism. If so, by all means let us have ample opportunity to get the offending requirements rescinded or amended. But the bulk of requirements will doubtless withstand the force of criticism, and in any case we are bound to conform to all requirements existing at the moment, whether good or bad. Seeing this is so, surely it is not unreasonable to suggest that it is the business of every architect to have a good working knowledge of requirements in the district in which he practices. But what percentage of London architects are well acquainted with the London building law?

It is becoming to be a generally accepted axiom by modern writers on architecture that the study of any style is of value in proportion to the pains taken to understand the spirit of which the architectural form the outcome. A consideration of Greek architecture will show a thorough appreciation of just limitations to have been one of the predominant characteristics of Greek designers. It may seem rather venturesome to suggest that the modern exponents of

Geo-Grec should, as one of the principal axes of their work, take to a study of the building law. Yet I cannot imagine a Greek architect commencing to design a building while having but a hazy idea of the requirements governing his work. In fact, a Greek architect with hazy ideas on any branch of his work is almost inconceivable. The clearest intellectuality of his age could not brook a kind of half-knowledge which to-day is prevalent.

Result of Ignorance of Requirements.

But it will doubtless be said—remarks to this effect are of everyday occurrence—that it is impossible for the average architect to become familiar with requirements so comprehensive in character as those applying in London, and that, after all, there is no real need for the architect to bother his head so much about such matters; if he goes through the District Surveyor or the London County Council officials will soon put him right. In regard to the first of these two assertions, it must, of course, be admitted that detailed knowledge of every single requirement is out of the question. Neither is such knowledge necessary to any person; for the sake of any requirement every careful person will consult the exact text of the Act by-law in question. But a general knowledge of the requirements is a very desirable acquisition, and is not a matter of very great difficulty. But close attention and study is, of course, required; it is not possible to become well grounded in any subject without concentration, and the London Building Acts cannot be mastered in a spirit of absent-mindedness.

As regard the assertion that the administrative officials will prevent the architect from transgressing any requirements, this as a simple statement may be accepted at once, at least for the implied suggestion that their action will operate favourably rather than otherwise in regard to the building in question, such a desirable result will not occur in one case out of twenty. What most frequently happens is that the architect who is not well acquainted with the building requirements evolves his design without much regard to such requirements. When he has succeeded in obtaining a satisfactory design on his client's standpoint, and there are immediate prospects of the building work being commenced, he submits his plans to the local surveyor. If he is lucky perhaps only a few small modifications will be necessitated, but not infrequently he has the mortification to find that his building as planned contravenes a very important requirement—it extends in front of the general building line, it has not the requisite open space at the rear, or the means of escape in case of fire are inadequate, or in some other important respects it is contrary to the building requirements. What is to be done? The client is patient to get the building started. The architect has not the heart to spend a bad deal of time in reconsidering his plan in the light of his new and dearly-ought experience. The local surveyor is principally concerned in obtaining a compliance with the requirements. If this can be done without impairing the efficiency of the building he is admittedly pleased, but if it is not he philosophically and rightly reflects it is not his fault. All things tend to set in many cases is practically the inevitable. The pruning-knife is requisitioned, the design is ruthlessly lopped and carved, and there to make it conform to the requirements. The architect henceforth is convinced that all by-laws and building requirements are made solely for the exasperation of the profession. It never enters his mind that he is to blame for not having made himself acquainted with the requirements affecting his work.

Law as to Rights of Light.

The mention of the procedure of cutting back a building brings us rather naturally to the subject of the law regarding rights of light. This, like the building law, is often considered to belong rather to the domain of a surveyor than that of the architect. It is the great evil which this branch of the law has on the erection of buildings surely does it among the most important practical branches of an architect's study. The owners could not have erected every year of which heights, and thus to some extent the

character of the elevations, are governed by the rights of light of neighbouring buildings. Architects should surely know to what extent they are able to build when concerned with a site thus subject to serious restrictions. Although the cases decided by the Courts are legion, yet, thanks to the decision of the House of Lords in the often-quoted case of *Colls v. Home and Colonial Stores*, the law on the subject is not unduly complex, and is within the understanding of any person who cares to give a little time to the study of it. An architect ought to have a reasonable acquaintance with the law on this subject, so that he can tell whether he is keeping within safe limits or whether the building that he proposes to erect is one of those on the borderline between what is and is not permissible. In dealing with a site subjected to rights of light it will often be necessary to make the maximum permissible use of the site, a borderline case being in such instance the obvious primary objective of the architect. Then, in the subsequent negotiations with representatives of the dominant neighbouring owner or owners he can feel his way, and, if necessary, make some little concessions in order to dispose of any opposition that may be encountered. In matters of this kind an architect will surely produce a better building if he has a sufficient knowledge of the subject to enable him to act independently, and is not compelled at every stage to go to an expert for guidance.

Law of Contracts.

A great deal of attention has recently been given by the profession to the law of contracts as affecting architects. It is undoubtedly a very important subject, although from the standpoint of architecture it may be considered to be of less vital interest than the subjects of the building law and the law as to the rights of light. For it is quite conceivable that an architect might erect a succession of fine buildings under forms of contract of hopelessly unsuitable and inadequate character. Or an architect might possibly delegate the whole of his work of this nature to his solicitor, and his buildings might be none the worse. But it is obviously not to the interests of the profession, and thus indirectly not to the interests of architecture, for architects to gain a reputation for lack of business ability; neither is it desirable to allow any of our legitimate work to fall into the hands of lawyers. The law of contracts as affecting both the building owner and contractor, and the architect and client, is therefore a necessary subject of study for practising architects and for aspirants to the profession. There is also one special aspect of the study of various legal branches of our work which should not be overlooked. Familiarity with the interpretation of the law as expressed in the judgments of the Courts tends to produce an appreciation of the just value of words. In the majority of building cases, except to some extent those regarding rights of light, the decision depends almost entirely on the construction of a clause in a statutory requirement or contract, or in the interpretation of a judgment in a previous case. It is impossible for a person to give much attention to legal decisions without acquiring, unconsciously perhaps, a clearer form of literary expression. The value of this is, of course, considerable, having regard to the amount of correspondence which an architect's practice necessarily entails. Also it may be not unfairly contended that the habits of precision thus established are no inconsiderable asset in the practice of what has been termed the most sane of all the arts.

Construction.

We now come to the question of construction. As regards those branches of the subject which are embraced within the work of the main building trades, the modern architect has generally a very sound knowledge. Indeed, in the case of brickwork, carpentry, and joinery it is not too much to say that many architects know much more of the technique of these subjects than the average mechanic. And that this is so is one of the hopeful signs in modern architecture. But how about the important matters in the erection of a large building which it is the custom to include in the general term "engineering"? Here it is quite the exception to find that the architect is sufficiently familiar with the work

to be able to design and control it in all its details. He usually is compelled to place such work, and thus to some extent his own reputation, in the hands of specialists. To a certain degree this action is justifiable. So many special matters are encountered in the construction of most large modern buildings that it is quite impossible for an architect of other than most exceptional attainments to be thoroughly well acquainted with them all. There is, however, a distinct line beyond which an architect ought not to go in delegating his work to specialists. If the special work is such that it can have no material influence on the general design and construction of the building, the specialist may be employed. Such matters as the technical details of electric lighting and hot-water heating of ordinary buildings may not unreasonably be delegated to specialists, for if this is done the resulting work will often gain by the arrangement. But, on the other hand, if the work is such that it affects the design of the building, the architect cannot rightly delegate it to anyone.

Structural Design.

There is one subject of vital importance in architectural work which comes within the latter category. This is the subject of structural design, within which may be included at one extreme the formation of the simplest type of cottage roof, and at the other such undertakings as the conception and elaboration of a dome like that of St. Paul's or a bridge like Waterloo Bridge. Most modern architects are exceedingly inconsistent in their treatment of this subject. So long as the problems to be solved are of a similar character to those which have been dealt with by members of his profession for centuries past, the average architect has no hesitation in applying his mind to them; but, given problems of a new character, and the use of new materials, he at once says, "These questions are beyond my ability and experience; I must call in the engineer." As a result, the services of the architect are often dispensed with entirely, or, when he is employed, we obtain structures that are the design of two persons working from entirely different standpoints. If, as usually happens in the case of a bridge, the engineer is responsible for the initial scheme, the work of the architect, if he is not ignored altogether, is restricted to the application of ornamental features—or features that are intended to be so—to the engineer's design. The thought that the chief beauty of a bridge is in its general lines rarely appears to occur to either party. On the other hand, in the case of a large structural feature of a building, the architect first evolves the design, paying principal attention to the question of appearance. When complete, he turns it over to the engineer with a request that he shall settle, in all details, the form of the construction. Perhaps a few hours afterwards the same architect solemnly and—absurd as it may seem—in all honesty holds forth to students on the well-worn text that construction is the basis of all true design.

The reason for this failure on our part to place on a truer basis the more advanced branches of modern architectural design is undoubtedly a strongly-rooted dislike of the study of this to most architects—uncongenial subject of structural design.

Teaching in Architectural Schools.

It will be of interest to take note of the attention which is given in the several architectural colleges and schools to the subjects dealt with in this paper. The subjects of the building law, the law as to light and air, and the law of contracts are usually classed with a few other branches of work under the heading of professional practice. Outside London it appears, from such information as is available, that practically no instruction is given in these subjects in architectural schools. In most London schools a certain amount of attention is given to the building law, but apparently it is only in the Architectural Association schools that a general course of lectures on professional practice is given. Having regard to this, it may seem rather uncharitable to adopt a critical attitude, but criticism cannot be disarmed by the mere provision of a course of instruction without reference to the value of the course. A policy of declining to teach certain subjects is perhaps more capable of

defence than one of arranging a course, which, on the face of it, is too short to enable the subjects to be taught properly. The policy of reserving these lectures to the student's fourth year is also open to criticism. By the establishment of the course it is presumably conceded that the subjects included are ones of which an architect should have some knowledge. But under the present arrangement a student completes three years' training before he is officially informed that such subjects exist. Proper knowledge of any subject can only be obtained gradually; years rather than months are usually required. It therefore seems to be more than probable that the value of a course of lectures on professional practice, delivered to students towards the end of their training, would be greatly increased if students in their first year were brought in some way into touch with the elements of this important part of an architect's work. Doubtless this criticism can be met with the retort that during a period limited to four years it is impossible to teach everything. The problem of the training of the embryo architect is certainly a difficult one, and it must be admitted that A.A. Schools afford about the most level-headed architectural education that is given anywhere.

Unity in Architectural Studies.

In most architectural schools throughout the country the subject of structural design is in part taught under such titles as "mechanics of structures," "theoretical construction," "graphic statics," etc. But the teaching is usually confined to the dry-as-dust mathematical side of the subject. Other classes are held in which is taught the science of ordinary building construction, and there are, of course, yet other classes in what is termed "architectural design" where the treatment, however, is usually restricted to questions of planning and to the design of elevations on approved historic lines. One feels compelled to ask why it is not possible to teach the subject of architecture by dealing with a building from all standpoints—the planning, the construction as determined by mathematical calculations and ordinary practice, and the treatment of the constructional features in such a manner as to produce real and virile architecture. There are certain cases where we are instructed not to let the right hand know what the left hand does, but there is no authority for applying this precept to architectural education.

It is hoped that sufficient reasons have been produced to justify the statement that the various subjects in our work, which are usually stigmatised as dull and uninteresting, are nevertheless of very considerable importance. If this is so, it surely follows that they should be given a place in the forefront of an architect's studies. In no art, profession, or business is it contended that if certain studies are uninteresting they should therefore be neglected. In any case, if the established members of our profession demur at pursuing these studies themselves, they may not be unwilling to see them made compulsory in the case of students. This would afford still further grounds for the older men to expatiate on the increased educational advantages under which the present generation of students pursue their studies.

Reputation of Title of Paper.

The time has now come when the title of this paper may be thrown overboard. These subjects as a whole are not prosaic. Of course, a good deal depends on the general outlook of the individual. There are persons—you find them principally on the Practice Committee of the Institute—who look upon the law of contracts as a highly enthralling subject. Up to the present I have not been touched with this enthusiasm. The building law, however, exercises a certain attraction. In studying the details of this subject there is always the zest of exploration. New uncertainties are always inviting investigation. The modern geographical explorer is beginning to have rather a bad outlook. Before very long the world will be so well explored that there will be nothing fresh for him to discover. But the person who takes as a field of exploration such a subject as the London building law need have no fears in this direction. As soon as he becomes reasonably familiar with the various by-paths

he will find that the County Council have amended the law and there are fresh points for him to investigate. The subject of rights of light is by no means uninteresting, and should appeal to two distinct classes of architects. Those who like a battle of wits will find ample opportunities for a display of their abilities in the negotiations which are so often involved. Those who are interested in such subjects as geometry and optics may usefully devote time to the study of the effect of obstructions on the varying degrees of light received by ordinary buildings in thickly-populated districts.

That the subject of structural design can possibly be considered prosaic is a most serious reflection on our modern method of training. The Roman architects and engineers who erected the mighty *thermas*, aqueducts, bridges, and amphitheatres, which are still the wonder of the world, obviously did not consider the subject of structural design dull and uninteresting. The Gothic builders, it may be assumed, took as keen a delight in the logical scientific construction of their buildings as they did in the execution of the mouldings and carving with which such construction was embellished. Coming nearer to our own time, it is only reasonable to suppose that the "great mathematician" expended as much thought and labour on the fine structural scheme for the dome of St. Paul's as he did on the design of any other feature in the building. It is necessary for us to realise that structural design is not a mere matter of calculations and formulae. These things, however necessary they may be, are but means to an end, such end the achievement of a living architecture, founded, as was the case with all the historic styles, on the basis of logical construction."

Mr. Max Clarke,

in proposing a vote of thanks to the author, hoped that more opportunity would be given to the junior members to speak by allowing them to propose such resolutions, as it was well for them to make a commencement in a place where they were more or less at home. Mr. Cubitt had had the audacity to come and tell them they were not conducting their business in a proper manner, but whether he was right or not was a matter of opinion. When they had a paper of that kind the hall was not half filled, whereas on other occasions when the subject of discussion was supposed to be of more interest it was crowded. This was exactly what Mr. Cubitt had been telling them, viz., that these matters which he was pleased to call prosaic did not appeal to the younger generation, or perhaps also to the older. If he had his way he would never deal with a light and air case or make a survey of a property or a schedule of dilapidations, but he had to live by architecture, as he exposted others in the room would have to, and if a young man sat in his office and declined the chance of doing these things when a client came along he would lose that client for ever. He disagreed with the author in several details. He believed one of the first things a man should learn was how to measure a piece of ground and also how to be able to take the levels of the ground. The practice of architecture was very much in the clouds. They were all hoping for the chance of building a palace, but very likely it would result in their getting a cottage to build, and probably they would be faced with the difficulty of having to build it for 150l. If the architect was not able to survey the ground for the cottage he would never be able to build the palace. He also disagreed with the author about the quantities. It was becoming more or less the practice with busy architects never to write a specification themselves, but if the young man could not write a specification for a cottage, he would not know how to build the palace, and unless he learned something about it at the Architectural Association he did not know where he could acquire the knowledge. He must know how to write a decent specification which the contractor could understand or else he would not be competent to design a building. He believed in excellent draughtsmanship, which was the first thing to be learned, and in that he included design. Unless they could make a good design they could never get any prizes, and prizes were a sort of advertisement for architects. Architects were unable to advertise like some "dentists" in the newspapers, and so had to resort to some other method, and prizes were a sort of advertisement for them in the junior stages. In the next stage the architect got

a competition which he hoped to be able to carry out. If they were able to write a real specification there was no great difficulty in getting from that stage to the stage preparing quantities. They might never do it, but it was a good plan to know something about it, because then they would know better how construction was done than in any other way—they would get a better grip of the whole building if they knew what was provided to make it. One dreadful thing about architects was the "extras." There had been many cases in the papers lately in regard to these, and he understood they would see more shortly. They were unfortunate for the architect and the client, and he did think they would crop up if the architect knew exactly the amount of money being given and if they told the client honestly what thing would cost, and not go into a thing some did, with a light heart, hoping it would come out all right in the end. Some of them were becoming very litigious, and the Council seemed to uphold them more than in the past. When they got a good practice they would be able to pay people to do the things which were distasteful to them, but until then they would have to do them themselves. This raised an awkward question of whether they could the client to pay for this expert assistance and if the architect was responsible for payment of the electric lighting and sanitary experts, and so on, he would find little for himself. He disagreed with the author about the District Surveyor. Those officials had no right to express opinions about practice and only gave advice by courtesy and on the goodness of their hearts. Mr. Max Clarke proceeded to refer to the contract form of the Royal Institute of British Architects which said, the Practice Committee was seeking to revise. The present form did not safeguard the architect and client in regard to the architect's Liability, and it was better at present time not to use that form, and he amended in this particular. Probably of the students realised the advantage of being enjoying as compared with the available when he was a young man, but the pursuit of architecture required a great amount of energy, and he wondered why they did not devote too much time to football clubs, and dances. The older men did not think about these things, but it was with the younger generation then it was nice. He did not agree that the younger were all hopelessly lacking, because he had what went on in the Institute examination from time to time, but what did surprise him was to see how they dealt with so many subjects. Many of those who went in for the examination were very clever, but there were others who were stupidly was hopeless. In regard to majority, however, he considered they reflected credit on the teaching of the Architectural Association.

Mr. A. G. Horsnell

seconded the motion, and said he really did not think the subjects touched upon were prosaic. In the grasping nature of subjects in light and air cases, ancient lights and things of that sort, there was fine material for a study of human character apart from law, but really he did not think it anything to do with architecture. Architecture was quite a different matter, but, of course, such things came their way and they could them, they did so. No doubt some architects were slacker on certain subjects than on others but one could always get advice on matters they did not know thoroughly themselves.

Mr. Louis Jacob, F.S.I.,

considered that whether the matter dealt with by the author were prosaic or not, they were most important to an architect starting practice. These were things which the client himself knew something about, and which was able to appreciate far more, unfortunately than a beautiful design. That was particularly unfortunate from the architectural point of view, but important from the view of practice. He disagreed with Mr. Max Clarke that the District Surveyor only gave an opinion on a matter of courtesy, because a clause in the Building Act said that drawings were to be used as evidence against a person, and therefore he took it that if an architect submitted plans which were wrong in some respects those facts ought to be pointed out to him. Apart from that, he thought the architect would always find it desirable when his scheme was

liminary stage to talk over the matter with various officials concerned in a friendly way, and he would get more information as to the law and the regulations than if he spent many hours studying the law and the by-laws himself. The law on all these matters wanted codifying. He himself started to do this, but he found it was a gigantic task that he had to drop it. The inference had been made to the Councils case, but he believed that decision had been considerably modified by the case of "Kine v. Jolly." He strongly advised them never to send their conditions of contract to a solicitor, and if it came to an arbitration let it be before surveyors. Of course, with regard to the Royal Institute of British Architects' form of contract, the awkward thing was that directly they began to alter it the builders said it was a form agreed on by the Institute and the master builders, and it ought not to be altered. With regard to structural design, if they were constantly engaged in building houses, and then perhaps in ten years they had to build a factory, they found the engineers' formulae rather a nuisance. He could not help wondering when Mr. Cubitt introduced the Gothic builders if they used this formulae. He did not think he showed that they did.

A. O. Collard

He thought the paper might have been better titled "The Mosaic in the Architect's Work," after all, the word prosaic did not apply to architecture. In the dictionary it meant something dull or uninteresting. He was afraid that many papers on architectural subjects were dull and uninteresting, but the work itself was interesting in every branch of it. He thought the author was absolutely right in insisting architects not to undertake the disposition of property or the preparation of conditions, for they were a distinctly different kind of work, involving many differences of opinion and taking up so much time that the architect could not be supposed to have time for it. They had often heard discussions about many papers on architectural subjects, but he implied, and Mr. Cubitt seemed to concur, that there was a difference between the architect and the surveyor. Most of them to-day were quite ready to drop the word surveyor altogether, and merely call themselves architects, proving that the greater included the less. He did not think the author's illustration of a composer was quite a happy one, because that case disaster could occur only to the composer, but in the architectural profession many people were involved, and the result might be disastrous. He did not think any architect's present need go through the process of being described by Mr. Cubitt. If he was important he had only to prepare a scheme and pencil and take it to the local Council or District Surveyor, and it could be amended before the architect got himself into a tangle and his client into expense. He thought Mr. Cubitt was a little severe on those who might be associated with engineers, for the architect welcomed being associated with the engineer. He did not think any architect was not aware before that to most architects the question of structural design was unimportant, for he had found it the most interesting part of their work. It had sometimes occurred to him that the question of professional practice ought to be dealt with in an earlier stage of the curriculum at the Association, but he was not at all sure about it. By the time they reached the fourth year their minds were more open to the serious subjects which had to be dealt with under the head of professional practice, and he found that students took in a kindly manner to subjects which probably they had not told were uninteresting. He could assure Mr. Cubitt that under the curriculum running at present there was scarcely a moment to spare for any work outside what was being actually done, whilst if any of the present work were done away with he did not think the curriculum would be as beneficial as it was.

The President

He seconded Mr. Collard's remarks as to the curriculum of the Association. When the President came in the fourth year he was generally the daytime in an architect's office, and he brought into touch with those points of professional practice which came more or less to all architect's work. Consequently he was rested in knowing more about these matters, in the excellent course of lectures they had been able to gain knowledge. Such questions and quantities were special subjects which

could engage the whole lifetime of a man, and it was much better for architects not to deal with them. He also supported the suggestion as to consultation with the District Surveyors, who were most courteous, and would spend much time in trying to help their professional brethren. If there was one subject which interested the student it was structural design, and he was taught from the first that structural design was at the root of his design. That was dealt with extremely thoroughly within those walls.

The motion having been carried,

Mr. H. Cubitt

said the argument of Mr. Max Clarke was that the architectural schools should teach in such a way as to produce not an architect necessarily, but an architectural practitioner. He did not agree, and he purposely separated the items of work so as to rule out those which in his opinion could not be called part of an architect's training. They were part of a practitioner's training, but they did not necessarily come into that of an architect. He thought they ought to know enough about quantities to prevent them from undertaking them, although he agreed that the knowledge one gained in learning quantities was most instructive. The real point, however, which he wanted to emphasise was that of structural design. They were told that students were trained in and took delight in structural design, but that was so why did an architect when called on to design a steel-frame building call in an engineer to do the steelwork for him? Surely steelwork was structural design, and if they designed a building in such a manner as was suitable for stonework, and then made it a steel building designed by someone else, he did not see how they were producing proper architecture. When dealing with the construction of a building, whether of ordinary character or of steel or reinforced concrete, they ought to be able to design that construction, and not merely make elevations and plans and let the construction get muddled through afterwards, which was what happened nowadays. He thought the training of students should be such that they did not relegate to the engineer matters which were for the architect. He did not see why an architect should not design a bridge. An architect was usually thought competent to design such a structure as a grain silo, so why not a bridge? It was not until the beginning of the XIXth century that architects were deprived of this branch of their work, and they now seemed willing to accept the position of not being able to design in the higher branches of structural design. To his mind this was deplorable. He thought they could get to a certain degree of knowledge so that they would understand construction not in a limited number of materials, but in all materials.

The President announced that the next meeting would be held on December 9, when papers entitled "The Practice of the Crafts in Modern Building" would be read by various members (combined meeting with the Art Workers' Guild). There would be also, if it could be arranged, a meeting on December 14 to deal with the question of the Territorial Army.

THE ARCHITECTURAL ASSOCIATION CONVERSATION.

The writer of a recent article in the *Spectator*, entitled "New Country for a Hunt," in which the dinginess and remoteness from the rest of civilised London of the Architectural Museum were somewhat unkindly used as a text, would have been astonished at the appearance of the Museum on Thursday, the 21st, on the occasion of the Architectural Association's Annual Conversation. He would also have come away with the impression that the present tenant of the Museum is an unusually active and enterprising Society.

The premises are as good as any in London for an occasion of this kind. The central hall, with the walls of its galleries lined with casts, formed a pleasantly mysterious meeting-place for some 400 guests. The decorations, the music, and the casts were an excellent contrast to the more serious enjoyments provided in the rooms adjoining the galleries on each floor.

On the top floor was an exhibition of this year's School work, and was notable for the work done during the first few months of the new third year course in the Day School under

Mr. Robert Atkinson. This course is a necessary development of the Association's educational policy, which should give the student a better grasp of the principles underlying architectural design than has hitherto been possible in the short space of two years, during which a great part of his time must be given up to acquiring a knowledge of drawing, history, and construction.

On the first floor gallery was an interesting collection of photographs by the members of the Sketching and Debating Society and some tapestries kindly lent by Messrs. Morris & Co.; but the principal attraction of the evening was an exhibition of prints, plans, and drawings of London in the large room of the first floor—London as it was, as it is, and glimpses of the future. This collection was limited wisely, and divided into three sections—"The River from Greenwich to Chelsea," "St. James's Park," and "Regent-street from Waterloo-place to Primrose-hill," or, as someone aptly put it, "Nash, from the Athenaeum to the Zoo." The last of these sections was by far the most comprehensive, and was largely obtained from the collection of Mr. Arthur Ashbridge, who hung them himself in an easily-understood sequence. Nash's design for the lay-out of Regent's Park was shown in a note worthy original water-colour drawing which we do not remember seeing before.

The prints of Regent-street and the Quadrant, with Nash's complete elevation and plans, are at the present time especially interesting. These were amplified by photographs of various portions of the street as altered to meet the present-day needs of the shopkeepers, with the designs for the new street by the late Mr. Norman Shaw, and with Mr. Henry Tanner's design for Oxford-circus. We could not help being struck afresh by the apparently irreconcilable views of the architects and shopkeepers, and perhaps still more by the fact that Nash's street, though altered and mutilated in its lower portions still maintained until the last a uniformity of design which preserved the main effect he was aiming at almost if not quite unspoiled.

At the Regent's Park end of the scheme it would have been interesting to see some photographs of the new Bedford College, and at the other end some of the new Waterloo-place. The various schemes for the rearrangement of Piccadilly-circus, though generally known, might with advantage have been added to the series for the sake of completeness.

The River is so large a subject that it would have been impossible to have illustrated it at all completely in the space available, but enough was given to lead us to hope that the London Society will deal with it more exhaustively on some future occasion. Most of the exhibits had been seen before at different times, but it was particularly interesting to see them grouped together in this way.

Amongst the drawings not shown before was an excellent view by Mr. Raffles Davison of the south side of the river from the Savoy Hotel. The first of these drawings is called "Derelict London," and it shows accurately and without a trace of exaggeration the wasted opportunities of the finest site in Europe. It also shows very clearly the possibilities of a short cut from Westminster to the City to relieve the traffic on the north side. Drawings by Mr. Brower, lent by the *Builder*, and Mr. Berrington, emphasising the derelict condition of southern London, were also included.

The proposals embodied on plans and views by Messrs. Barclay Niven and Raffles Davison for removing Charing Cross and building an Imperial Senate House on this side of the river were interesting attempts to tackle the problem, though hardly within the realms of practical politics at present; but everyone will agree that some definite schemes should be laid down soon for the treatment of the whole area before isolated properties are acquired and built upon without any thought for the whole.

Mr. Colcutt and Mr. Berrington lent some suggestive drawings of various schemes of a similar nature which will repay study. An interesting set of plans in this section by Mr. Arthur Crow deals with the problem to be created at the Post Office end of Newgate-street by the influx of traffic from the new St. Paul's Bridge. St. Vedast's Church, as our readers know, is threatened with demolition in the future if the Post Office is rebuilt as at present proposed, and a new road to the east is found necessary later on. The London Society have done well in bringing this matter



Shop Front, Scarborough.

Messrs. F. C. Moscrop-Young and E. B. Glanfield, Architects.

before the public, and we understand the whole question is now being considered in responsible quarters.

A well-known plan of the Palace of Whitehall, in 1670, giving the allocation of the buildings, should be mentioned, and also an unpublished plan of the same subject about 100 years later, lent by Mr. Brooke Kitchen.

The St. James's Park section consisted of plans and views of the Park lent by Sir Aston Webb, R.A., the Institute, and the proprietors of the *Graphic*. It was mainly historical with the exception of some suggestions for dealing with the eyesore at present existing at the opening between Trafalgar-square and the new Admiralty Arch. Part of the Coronation hoarding still remains to cover the raw edges of the partly-demolished buildings. An interesting photograph of the Mall, taken from a balloon shortly after the present alterations, led one to think that much valuable information might be obtained by a survey of the whole of London by similar means.

In the limits of a short notice it is impossible to mention more than a very few of the exhibits, and we have confined our attention largely to those which deal more expressly with the possibilities rather than the actualities of London, with the object of emphasising the value of the work which the London Society can do. It was a happy thought of the Council of the Architectural Association to place their rooms at the disposal of the Society for their first exhibition.

SHOP FRONT AT SCARBOROUGH.

The design of this front was influenced by the clients, Messrs. Archibald Ramsden, Ltd., who desired a large window space for the display of pianos. An attempt has been made to accomplish this without impairing the structural appearance in any way. The front is in American pine finished with "Satinette." The carved trusses were executed by Messrs. Martyn & Co., of Cheltenham. The architects were Messrs. Moscrop-Young & Glanfield, Licentiate and A.R.I.B.A., of Brook-street, W.

IMPROVEMENT SCHEMES, READING.

Reading Corporation have decided to promote a Parliamentary Bill empowering them to reconstruct Caversham Bridge, to erect a new vehicular bridge near Caversham Lock, and to effect other works of improvement to the enlarged borough at a total cost of \$3,000.

ARCHITECTURAL SOCIETIES.

Nottingham Architectural Society: Jubilee of the Society.

The members of the Nottingham Architectural Society celebrated the jubilee of the Society on the 12th inst., when a Conversazione was held at the Exchange Hall by permission of the Mayor of Nottingham. Drawings were shown of architectural works lent by the members. The members and friends were received by the President and Miss Sutton. The special designs on the souvenir programme were the work of Mr. F. W. C. Gregory, a member of the Society.

The Presidential address by Mr. Ernest R. Sutton, F.R.I.B.A., was a review of Nottingham's architectural history during the last half-century. In the course of his remarks the President said fifty years ago that night a few Nottingham architects met at the Public Offices by the kind permission of the Mayor, Richard Birkin, when it was decided to create the Nottingham Architectural Society. From its very inception it was a fine healthy child, and found many admirers; it began at once to make its presence felt in the world of art and science. It was most gratifying to know that they still had with them three of the original members—Mr. Robert Booker, Mr. W. A. Heazell, and the President's father. Proceeding, the President said: "I should like to take this opportunity of expressing on behalf of the profession our appreciation and gratitude to those who were the original founders of the Society. The work was done in an admirable manner and the foundations they constructed have proved worthy on which to build the prosperity of the Society. The Society was formed for the promotion of uniformity of practice and for the advancement of the profession of architecture and the various arts and sciences in connexion therewith. I should like to point out that our Society also takes a leading part in all questions of social reform. Take, for instance, the Early Closing Bill, 1912. This matter was receiving the attention of our members as early as 1871, for I find on looking through the 'Minute Book' that at a meeting held in April of that year the architects of Nottingham, on the request of the assistants and pupils, very generously agreed to grant a half-holiday one afternoon in each week, but they made this stipulation, that one clerk must remain in the office so that it shall not be considered closed. Now let us take a hurried survey of our own city. It is a city we all

love, and I may be allowed to quote the Bis of Birmingham: 'We all long for Nottingham to be in every sense an example to others, it certainly is in many respects.' I regret to architecture can hardly be said to be one of strong features, though we must not forget have one grand masterpiece just outside city boundary. I, of course, refer to Woll Hall, built in 1580.

And what of the progress and development of our city during the period under review? It seems difficult to realise that we had electric installation for light and power in 1878. In November of that year it was used for street illumination in the town on occasion of an entertainment at the Mecham Hall, five lamps being utilised outside building. . . . It was not until 1881 the University College came into existence, was opened by the late Duke of Albany. School of Art was erected in 1883; and Castle Museum was opened in 1878. As indicating the steady growth and usefulness of our Society, just permit me to remind that since 1862 the membership has increased from twenty-two to over ninety. The first Conversazione was held in 1864. During the past half-century the Society has tributed 116l. to the Benevolent Society, to the Nottingham Art Society for promotion of lecture courses, and 44l. 3s. 4d. has been for the Victoria Hospital Fund, whilst many small sums have been subscribed from it to time to various charitable undertakings.

Changes in the Style of Architecture.

In the last fifty years we have witnessed many changes in the style of our architecture. In 1862 the Gothic revival was at the zenith of its popularity, and it received its death-blow as a style suitable for public buildings, on completion of the Law Courts. At this time the pioneers of the profession turned their attention to our English Renaissance, reviving the details of the architecture from Elizabeth and King James I. and all their varieties to time of Queen Anne. Still later a mysterious style evolved which gained for itself the coquettish title of 'the New Art.' Coming to the present time we are now revelling in the Gothic in all its severity. Yes, during these years we have been educating our taste in historical styles, trying first one and then another, mixing them sometimes, and giving a Jacobean lining to a Georgian gown. What revival or new style shall we find we turn over the next page of our history? Who can tell? We must wait and see. In the sphere of design—and I take it is the proper sphere of architecture—there is a very marked change in the spirit that abroad to-day compared with that which inspired or depressed the builder in the middle of the XIXth century. We all know to our depths architecture had fallen; we cannot know, for these buildings of the fifties exist, and will not die, and until a Society founded with the express object of preserving them they assuredly will not be destroyed. But the very thoroughness with which average Englishmen turned his back on anything rational or graceful in design for a few who retained some remnants of sense, feeling into a camp of their own. The Gothic revivalists, these pioneers did great things. Barry and Pugin raised the Houses of Parliament above the level of the Thames. Sir Charles Barry essayed a bold composition at the Law Courts, and Gilbert Scott—though his low medieval design was often more destructive than protective of the work itself—churches of not ignoble proportions or character. The effort of these men must be judged with due regard to the temper of the public and the opportunities of their time. The revivalists taught us that it was necessary to study proved masterpieces before we could form any artistic aspirations or seek to express them. Their gospel had to be preached by us, we could have Pearson's work at Truro, Scott's Cathedral at Liverpool, or the fine concept of Bentley's Byzantine pile at Westminster.

Men of the Period.

But what of the men who have graced the ranks of the profession during the past years? It would take long to recount you all the deeds by which they have attained to uphold the architectural standard ever we confined ourselves to those who fought and fallen in the first line. Many names will live and many more have entered for us in the fact that their personal efforts

laid the foundation for much that comes easily to us to-day. One man was in 1862 whose influence is still very much felt in the building world.

His name was Alfred Stevens, and, though by profession a sculptor, he had a wonderful power in the design of architectural work. In 1864 J. L. Pearson built the Church of St. Peter, Vauxhall, the first modern church designed throughout in brick and stone. Pearson was a great artist. Truro was fortunate in him the designer of its cathedral, and many of his churches such as Daybrook are known for their fine proportions and accuracy of detail. It is strange to think that Gilbert Scott was Pearson's senior only six years, for he seems to have been content more closely with an earlier period.

He had done a large proportion of his work before the date of our foundation, and we must remember that Pearson outlived him by nineteen years. At this time Butterfield was still alive, Ewan Christian, both builders of churches. George Edmund Street, the author of the old Law Courts, Sir Arthur Blomfield, and Edward Waterhouse—the latter had a wide practice and left his mark in almost every large building, including our own city—these were all eminent architects who worked strenuously for a fine ideal. They were quickly followed by men of equal sincerity, though working in a different style—Nesfield, Mountford, Norman Shaw, and others.

We come to men who are still practising, such as Sir Aston Webb, Sir Ernest George, Sir Burnet, Mr. John Belcher, Mr. Reginald Ashfield, and their many colleagues. We feel the delicacy of touch and loftiness of conception has been attained which were perhaps denied to the hard-worked business men of earlier date.

Past and Present.

There is, I think, little doubt that to-day can build better than fifty years ago; our materials are better, our cement clings more tenaciously, our bricks and tiles are better, and our whole system of steel construction has made the dream of 1862 a practicality in 1912. Timber is harder to get in rounded form, but the world's markets have turned up to us an extraordinary variety and quantity of materials, and for the best work the finest stuff is forthcoming. But are we making better use of our wider opportunities than our predecessors who worked without the aid of the rolled steel joist, and who had not the joy of the telephone and the typewriter in their office? If there has been any gain on our part, I shall hasten to say that the last two instruments of torture are wholly accountable for it. Both ancient and modern times have agreed to glory in architecture, for its effects chiefly and for its methods construction only in a lesser degree. And is not a principle which has held good for thousands of years appeal to so mature a delicacy as our own, which already boasts a belief? There is scarcely a modern movement that does not require our help to solve practical difficulties or to invest it with portance and becoming dignity. And now when the Government is becoming interested in cognisance of the value of our profession, are we schemes innumerable to replan our towns and villages, to plant garden cities, all our centres of industry, and to teach men and women that their homes can be beautiful, their surroundings healthful. Mr. Burns, with his Town Planning Act, has the official seal on a wide movement, and will not be the fault of the architect if it is not lead to great results. The increased activities of public bodies and the awakened interest in worthy buildings combine to give wider opportunity than architects of the last few years have ever known. And I sincerely hope that the Nottingham Architectural Society may witness a great revival in art which will eclipse its past history, and may Nottingham get a lion's share in the honour and the prizes.

Just one word to our junior members and to those who are about to join our ranks—see that you rally round the Society, keep your standard efficiency high, and place your ideals on a steady plane; see that the Society is never engaged in a selfish, mean, or ignoble battle. And when you unfurl the banner for inspection on the centenary celebration of the Society may it bear scars only obtained in fighting for that which is worthy of a noble profession."

Mr. A. N. Bromley conveyed the thanks of those present to Mr. Sutton for his interesting address and to those ladies and gentlemen who had so ably entertained them.

Manchester Society of Architects.

The third meeting of the students of this Society was held on November 19, with Mr. T. H. Hill in the chair. Mr. C. B. Howcroft read a paper on "Medieval Construction." Mr. Howcroft traced the various elements of medieval construction from its earliest phases in Roman work to its fullest development in the XIVth century. The lecturer noted that, whilst the development up to the XIVth century was purely on constructional lines, from that date until the end of the XVth century the mediaeval builders devoted themselves to the cultivation of the "purely æsthetic."—This gave rise to a somewhat animated discussion, in which the æsthetic value of the dying buttress was severely criticised. The opinion of the meeting was that the excessive height of the interiors was detrimental to the dignity of the exteriors.

THE SURVEYORS' INSTITUTION: LAND VALUES TAXATION.

The paper read by Mr. E. M. Konstam before the Surveyors' Institution on the 25th inst., in which he criticises the evidence offered by the "Land Values Group" before the Departmental Committee on Imperial and Local Taxation, is one of considerable interest. In this paper Mr. Konstam did not discuss the probable incidence or the financial effect of the proposals of the Land Values Group, nor the results to be attained by a system of land values taxation—"single tax" or otherwise; but he confined himself to considering, on the evidence submitted before the Departmental Committee, whether any practical suggestions had been put forward. "The question this evening, then, is whether land values taxation, strictly so called, is practical politics or is practical in any sense." It certainly is very unfortunate that the subject of taxation, and especially taxation of land values, one of national importance, should be made the object upon which a series of quack nostrums should be tried. An experimental Budget involving new principles of taxation, which, as we showed in our article on the Inland Revenue Report (the Builder, October 11), has already proved an entire failure, seems to have opened out a field for discussion, and every quack in the land at the expense of the national credit is anxious to prescribe his Utopian

remedy. Mr. Konstam describes the position well when at the close of his paper he says: "It would be a mere waste of time to examine proposals so crude, so ill-digested, and so shadowy as these, were it not that they claim to embody the only scientific system of taxation, that they pretend to be a cure for all our social ills, and that they are supported by an energetic and expensive propaganda. But the chief excuse for this examination lies in the danger—of which indications have not been wanting—that the Government may fall back upon the vague but enormous promises of the Land Values Group for their next election cry."

Mr. Konstam, in the course of his paper, shows the justice of the above criticisms on the proposals put forward by the Land Values Group before the Departmental Committee, but reasoned arguments seem of little avail if the object of proposed methods of valuation and taxation is solely to raise political capital.

The Government at the moment accept responsibility for the appointment of a secret commission to inquire into the question of land reform and kindred problems, but profess to have no powers to control its methods or prescribe its procedure. What can be more destructive to credit than semi-official "fishing" inquiries of this subterranean character?

From the observations contained in Mr. Konstam's paper on the proposed amendments of the Budget called for by the Land Values Group it only becomes more and more apparent how ill-advised that speculative measure was and how unlimited may be the price to be paid for it.

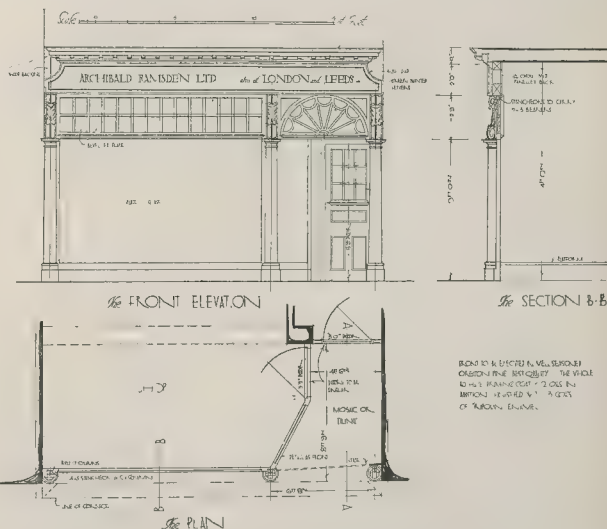
GENERAL NEWS.

Professional Announcement.

Mr. Frank L. Pearson has changed his address from No. 12, Mansfield-street, W., to 22, Ashley-place, Westminster, and his new telephone number is Victoria 2998.

The Late Mr. R. Norman Shaw, R.A.

At the funeral at Hampstead Parish Church, on Thursday last week, were present, amongst others:—Mrs. Norman Shaw and her sons; Sir Edward Poynter, F.R.A.; Sir Aston Webb, R.A.; Mr. T. G. Jackson, R.A.; Sir W. Goscombe John, R.A.; Mr. W. Hamo Thornycroft, R.A.; Mr. A. Hacker, A.R.A.; Mr. Frank Dicksee, R.A.; and Mr. Briton Rivière, R.A.; Sir Ernest George, A.R.A., and Mr. Ernest Newton, A.R.A.; Mr. Leonard Stokes; Mr. W. A. Pitt; and Mr. J. J. Joass; Mr. E. T. Tanner for Sir Henry Tanner; Alderman William Woodward, Deputy-Mayor of Hamp-



Detail of Shop Front, Scarborough.

Messrs. F. C. Moscrop-Young and E. B. Glanfield, Architects.

stead; and Mr. R. F. Norton, K.C. The vault is near to the grave of Constable in the old churchyard.

The Royal Sanitary Institute.

The Right Hon. Earl Fortescue (Lord Lieutenant of the County of Devonshire) has consented to accept the office of President of the Twenty-eighth Congress of the Royal Sanitary Institute to be held at Exeter from July 7 to 12, 1913.

London University: Studentship in Archaeology.

At a meeting of the Senate last week was gratefully accepted an offer made by the Society of Antiquaries, London, to found and maintain a studentship in archaeology in memory of Sir A. Wollaston Franks, K.C.B., F.S.A., etc. The studentship, to the value of £50. per annum, and tenable, in special circumstances, by the same person for two years, will be awarded annually in pursuance of an adopted scheme, to enable a student to conduct research work in the archaeology of the United Kingdom.

Stafford House.

In the House of Commons Mr. King asked the representative of the First Commissioner of Works whether he had information that Stafford House had been purchased by a gentleman who intended to offer it to the nation; whether a definite offer had been made; and whether any information could be given on this matter. Mr. Wedgwood Benn replied that the First Commissioner regretted that he could not make any statement on the matter at present.

Planning of Delhi.

In the House of Commons Mr. King asked the Under-Secretary of State for India whether it had been decided to adopt the Italian Renaissance style of architecture for the official buildings at Delhi; and whether the adoption of an Indian style of architecture, as more consonant with the traditions, craftsmanship, and climate of India, had been or would be considered. Mr. H. Baker said the answer to the first question was in the negative. No decision would be taken without giving full weight to the considerations mentioned.

Mr. King also asked if the Under-Secretary of State could state when he expects the report of the Town-Planning Committee which is considering the building of the new Delhi; and whether this Committee will report on the style of architecture to be adopted. Mr. Baker replied that the Committee will reassemble next month, and will report after the inquiry, which is expected to take about two months, has been completed. The question of the style of architecture is outside the scope of the Committee's inquiry.

Widening of St. Martin's-le-Grand.

The City Corporation, at a recent meeting, had before them a report from the Improvements and Finance Committee submitting a plan for widening St. Martin's-le-Grand to 80 ft. and Gresham-street between Aldersgate-street and Foster-lane to 50 ft., on the rebuilding of the old General Post Office. They recommended that, subject to the London County Council's agreeing to contribute one-half the net cost, the two thoroughfares should be widened accordingly. The value of the land to be acquired for the improvement would be settled by arbitration. As the matter was pressing, the Post Office authorities requested the Corporation to come to an immediate decision.—Mr. Sewill moved that the matter be remitted to the committee to complete without delay.—Mr. Douglass Mathews as an amendment suggested that the consideration of the report should be deferred until a printed statement embodying plans and cost of the proposed improvements and the expected relief of traffic from west to east was in the hands of the members.—The amendment was rejected and the committee's report was adopted.

Irish Garden City Scheme.

In the House of Commons recently Sir Thomas Esmonde asked the Chief Secretary to the Lord Lieutenant of Ireland if he would use his influence with the Irish Local Government Board to have the inquiry into the proposed garden city scheme for Gorey, county Wexford, held as speedily as possible; if, on reconsideration of the fact that there is no opposition to the scheme, the Local Government

Board was still of the opinion that an inquiry was necessary; and if, pending the inquiry, the Local Government Board would authorise the payment by overdraft with the district councils' treasurers for the site of the proposed scheme.

Mr. Birrell replied that an inquiry could not be dispensed with as the scheme of the district council involved the provision of house accommodation (seventy-six cottages) as well as the purchase of land in respect of which a provisional agreement had been already entered into with the owner. The Local Government Board were not empowered to authorise payment for the land by an overdraft from the councils' treasurer or otherwise in anticipation of the scheme being sanctioned. As to the inquiry, the Board could not give precedence to this case over others.

Old Dee Bridge, Chester.

During the course of excavations connected with the execution of the new hydro-electric works on the River Dee it was discovered that two foundations piers of the Old Dee Bridge were in an unsatisfactory state. This picturesque structure, which crosses the river from Bridge Cote at the end of the street of the same name, dates from the XIIIth century, and the Corporation wisely decided to adopt measures for its preservation. On the recommendation of Sir Francis Fox, all loose material will be removed, and interstices between the stones filled up with cement grout. An invert 9 in. thick in blue brick laid in cement mortar will also be constructed with an apron as a protection against scour.

Defective Roofing Tiles.

The Science Standing Committee of the Royal Institute of British Architects invite members of the Institute and others interested to forward particulars of instances of defective roofing tiles which have come to their notice. It is desirable where possible that such particulars should be accompanied with samples of such defective tiles, with any remarks upon the nature of the defects and their cause, also giving information as to the make of the tile, i.e., hand-made or otherwise, with its place of origin, and any remarks upon the nature of the material from which the tiles were made.

Celluloid Dangers.

Our readers will remember that after the fatal fire in Moor-lane we made some suggestions (see the *Builder*, August 9 last) as to desirable precautions in stores and workshops for celluloid. The Departmental Committee appointed by the Home Secretary to inquire into the precautions necessary in the use of celluloid have now commenced their inquiry and will be glad to receive evidence. It is intimated that persons desirous of giving evidence or of submitting information to the Committee are requested to communicate with the Secretary, Mr. C. G. Markbreiter, of the Home Office.

Translation of an English Book.

The "History of Architecture on the Comparative Method," by Mr. Banister Fletcher, published by B. T. Batsford, has been translated into the Russian language. This undertaking has been accomplished by M. Robert Boker, of St. Petersburg, who is a member of the Imperial Society of Russian Architects.

The Pierpont-Morgan Collection of Ivories at Victoria and Albert Museum.

The Board of Education announce that the collection of ivories exhibited on loan at the Victoria and Albert Museum by Mr. Pierpont Morgan will be withdrawn at the end of the first week in December.

CORRESPONDENCE.

Teachers as Adjudicators.

SIR,—May I be permitted to again trespass on your space in order to clear up a misunderstanding which apparently has arisen from my former letter on this subject?

Professor Adhead, in his reply, refers to my "presupposed assumption that everyone is agreed as to the importance of individual expression," etc. After carefully re-reading Adhead's can't I fail to see how Professor's such views as he attributes to me.

The demolition of arguments set up by an individual for the exercise of his own powers

of debate is never a very difficult accomplishment, and a criticism of "those who to express their uncultured individualizing this before all else," can have no bearing on the point I raised. Professor Adhead agrees with my views that the Testimonies Study should be the unaided work of candidate, and he points out that "one evidence of those who submitted the design referred to" could satisfy my suspicion. Quite so; but may I also point out that statement does not in itself constitute evidence? And I venture to think that, in absence of such evidence, Professor Adhead would experience much difficulty in convincing most people that the same simile could have resulted had these designs been prepared *en loge* instead of "under supervision."

As to the fresh point regarding the view of "uncultured individuality," there can be no two opinions. There is, however, something as "cultured individuality," and the pure scholarship of a Bramante or Donaldson cannot be said to have been of a comparable value to the cultured individual of a Petrucci or a Norman Shaw? By the way, it is not a peculiar coincidence that Professor Adhead's somewhat slashing criticism of exercise of individuality in architectural design should appear in the same issue as your obituary notice so appreciative of the individuality and its influence—of the late Mr. Shaw?

With Registration, the accepted policy of Royal Institute of British Architects; it is not then ever incumbent upon the examination to make these examinations a test of individual's ability rather than a portion of educational exercises. Were the examination a real test of individual ability they would incidentally serve to demonstrate the value of any system of education whether based on a creed which "demands the suppression of individuality" or not.

Should it come to pass that several candidates educated on the system referred to, and working *en loge*, actually should produce designs similar as the ones in question, then I would most emphatically assert that the "suppression of individuality" had been carried to such an extreme as to render real progress impossible, however much it might assist in the "dying" of students up to a certain degree of scholarship.

ALREADY AN ASSOCIATE

SIR,—Your correspondent "Already Associate" implies that the designs published recently for a ballroom, and accepted by the Testimonies of Study by the Royal Institute of British Architects, were done under "supervision" of the Professors of the Liverpool University. He even suggests that "supervision" amounted to "material assistance."

As regards my own design, I may say that it is over two years since I was a student of the University.

My design was purely my own, and whatever similarity there might have been must be attributed to the influence of my training in school of which I was a student.

ERNEST PRESTWICH

["*We have received a letter from Mr. H. Bradshaw, of Liverpool, making a similar disclaimer.—Ed.]

The Presidential Invitation to Associates.

SIR,—The Presidential invitation to Associates qualified to become Fellows has become quite a homely feature in recent Presidential addresses. This invitation persistently implies a far more optimistic outlook than the really warrant. Apart from the question as whether the Fellowship is invested with honour it deserves, are we sure that the necessary qualifications are so closely within reach as our Presidents believe?

The recently proposed inquiry into the Associate membership of the Royal Institute to discover the relative proportion of those qualified for the Fellowship has not, apparently, been proceeded with by the present Council. Estimate of the probable percentage of the possible candidates for higher honours has been stated. When that estimate has been made, and the figures found to correspond with the official view, will any further inquiry be proposed to assess the utter impossibility of the hypothetical minority ever attaining the qualification necessary for the Fellowship? Doubtless many Associates would not be

declare their lack of qualification, and are naturally repugnant of a clear statement of their position, knowing the prospects of the future and ceaselessly endeavouring to find a mental compromise which will afford them some place.

It is an easy matter to conclude that the whole of the membership of the Royal Institute is on an equally favourable professional footing with those we are brought into daily contact with. The conditions necessary for successful practice, or possibilities of practice, are evidently those of business opportunity, social position, and recognised ability. How often are these conditions completely divorced! We know that at least 30 per cent. of the students at a well-known architectural school are only heard of in after life as assistants, whilst some of the happy majority are practising before they leave. Those of us who have wandered from office to office during a long range of professional experience are aware of the large number whose opportunities are confined to competition work, in which, even if successful, the final line is unsecured.

The enormous number of assistants (among whom the Royal Institute is well represented) who are employed in municipal offices and by large corporate bodies, should invite some consideration as to the possibilities of future candidature for the Fellowship. How many of us are glad to find a final refuge in offices whose architectural reputation is only in the level of average private practice, and rarely, if ever, take a flight beyond? These few reflections may, perhaps, modify the very generous views of the potentialities of professional success so often held by our residents in their efforts to encourage the younger members of the Royal Institute.

ERNEST J. DIXON, A.R.I.B.A.

Fire Protection in London and the London County Council.

SIR.—The Coroner in summing up at the inquesting fire inquest on Thursday, 21st inst., reported to have spoken as follows:—
“The calamity made one wonder how many our buildings in London were in the same condition as they were told Messrs. Barkers’ premises were; how the many negotiations are going on, and how many buildings were sitting before the necessary alterations were to be made?”

I wish to take the earliest opportunity of publicly replying to these questions. There are upwards of 50,000 buildings in the metropolis at the present moment to which the London Building Act Amendment Act of 1905 has not yet been applied.

Although this Amendment Act has been in force now for upwards of seven years, the Superintending Architect of the London County Council, giving evidence before the House of Commons Committee on the London County Council General Powers Bill (1912) in June last, stated that only 2,330 buildings had been scheduled for action at that date, and that the Building Act Committee of the London County Council had only considered 1,203 of those cases. Of these 1,203 cases only 527 had at that date been satisfactorily equipped by the provision of suitable means of escape, and the balance were in what might be termed a state of negotiation.

That so few buildings (527) should have been put in order out of approximately 50,000 cases in the long period of seven years is a matter of grave import, but the balance should not in any way be attributed to the Superintending Architect nor his officers, but specifically to the London County Council in its corporate capacity, which does not give its Building Act department either the necessary means, the necessary staff, or the necessary encouragement to carry out the requirements of the Building Act Amendment Act energetically and promptly. It is not for me to go into the reason why the County Council should apparently have been adverse to allowing its officers to carry out their obvious duties, but the fact remains that directly the responsibility for lives lost in such buildings as the Barker establishment must fall on the shoulders of the authorities rather than on building owners, who, owing to the Council’s own apathy, practically consider the Amendment Act of 1905 a dead-letter.

Thus the short reply to the Coroner’s question that quite an enormous number of buildings in the metropolis are in the same condition as

the one which was under review at the inquest—that but very few negotiations are going on as to remedying this state of affairs, and that quite 50,000 buildings are waiting for the necessary alterations to be made.

It is to be hoped that the Barker fire will awaken the London County Council to its duties in this particular matter. With the necessary staff and facilities, and with the diligence which the County Council occasionally applies to other departments of its work, the outstanding 50,000 buildings should be put in proper order within the next five years.

EDWIN O. SACHS.

Should the Names of Assessors be Known to Competitors?

We have received the following “Open Letter” addressed to the Royal Institute of British Architects:—

GENTLEMEN,—I earnestly appeal to you to use your influence to bring to an end the evil custom of publishing the names of assessors in architectural competitions before the designs are sent in to be judged. The practical outcome of publishing the names beforehand has been to prevent many from competing who have felt unable to sympathise with the taste and ideals of the assessor. But the greatest evil of all is that men are induced to design up or down to the assessor’s level; not setting out to do what they honestly feel to be the very best they are capable of, but for the sake of the reward to prostitute their powers by endeavouring to appeal to the taste of the assessor. Let no competitor know who is to be his judge, and you at once remove a powerful inducement to unfaithfulness. It is a fearful tyranny that imposes any style on a designer.

Conditions and requirements and moral law are enough data from which to produce the noblest architecture if properly attended to, assuming, of course, some degree of native refined sensibility. But when any style is imposed upon the designer the conditions and requirements that ought to control him are made subservient to the style. The poor plan has to be squeezed like a Chinese foot, and the honest expression of needs is sacrificed to the conventional commonplace of symmetry. The supposed leaders in the profession by this system can impose upon the British public the deadly dull imitations of the style they affect, hence we have seen public buildings arise one after the other with the same trail of the serpent over them all. No healthy national style can be artificially grown in this way.

C. F. A. VOYSEY.

Competition Results.

SIR,—I should be much obliged if someone would be kind enough to state what is the customary method regarding competition results.

I submitted drawings in a recent competition, but up to the present time I have had no notification of any sort as to the result, although (by chance) I have seen the awards published in a weekly paper.

I should have thought that the competitors, after spending much time and thought on the work, ought to be the first to receive individual notification of the assessor’s selections.

A RECENT COMPETITOR.

INTERCOMMUNICATION COLUMN.

Effect of Great Heat on Stone.

SIR,—Replying to your correspondent’s query re above in your issue for November 15, p. 576, we beg to state that great heat on sandstone would produce lime, which the first shower of rain would cause to fall in powder. On the other hand, great heat on sandstones would cause little effect, provided the sandstones were dry, whereas if it is moist it is likely to burst to pieces. When the Safe Deposit Company building was about to be erected we had several kinds of sandstone tested by placing them on the bridge of a furnace; the heat being applied too suddenly caused most of the stones to explode, the coarse grained standing the best. However fine grained, sandstone will stand great heat if thoroughly dry, as may be seen from the fact that it is sometimes used for lining furnaces.

SAUEL TRICKETT & SONS.

BOOKS.

Building Construction (Advanced and Honours Course). By C. F. MITCHELL and G. A. MITCHELL. Seventh edition, revised and enlarged. Illustrated. (London: B. T. Batsford. Price 5s.)

THE rapid evolution of materials and methods of construction alike that have taken place since the issue of the sixth edition of this well-known text-book has necessitated the revision of the whole, and the rewriting of parts in order to bring it once more into line with the best of current practice, and upon the result the authors are to be congratulated, for the book now under our notice forms a complete epitome of all that is most up to date in the building world of to-day. A feature of the work is the full text, which the authors have wisely added, of such matters as the R.I.B.A. revised Report on Reinforced Concrete, the L.C.C. proposed regulations on the same subject, the recent work of the Engineering Standards Committee and similar bodies, all of which adds to the value of the book as a work of reference as well as a text-book. The illustrations, numbering over 800 are clear and thoroughly explanatory, while the calculated examples, which are numerous and complete, are specially selected for their bearing upon current practice. The issue, in short, attains the high standard of its predecessors and of the firm which publishes it.

Practical Mathematics. By EDWARD L. BATES and FREDERICK CHARLESWORTH, Wh. Ex. (London: B. T. Batsford. 1912. Pp. 513. 3s. net.)

COMPRISING a complete course of instruction for technical students, and adapted to the requirements of the Syllabus of the Board of Education Lower Stage Examinations, this text-book will enable anyone who has mastered its contents to follow intelligently any simple technical or scientific subjects he may require to study. The work is one of comprehensive character. No previous knowledge of the subject on the part of the student is assumed by the authors, and, in consequence, the book may be taken up by the mere beginner. At the same time a prominent feature is the thorough manner in which it explains the practical application of mathematical principles to the problems daily encountered by architects, surveyors, builders, and others.

The sections relating to rates of increase, differentiation, and integration will be found of service as an introduction to more advanced text-books on branches of science allied with professional work, and to the use of the calculus for the solution of practical problems.

Like other works by the same authors, this book is very clearly written and well illustrated by diagrams.

Practical Geometry and Graphics. By EDWARD L. BATES and FREDERICK CHARLESWORTH, Wh. Ex. (London: B. T. Batsford. 1912. Pp. 621. 4s. net.)

INTENDED for students in technical and trade schools, and specially arranged to meet the revised requirements of the Board of Education, this book presents in convenient form the fundamental principles of practical geometry and graphics, and shows how these are applicable to some of the problems occurring in practical work.

The book is arranged in three parts, devoted to plane geometry, graphics, and descriptive geometry respectively. In the first part will be found a very adequate treatment of mensuration and calculations relating thereto, an important chapter on loci and loci methods of solving problems, and a somewhat extended chapter on conics. In the second part the general subject of graphics has been developed at greater length than is usual in text-books of the same class, the treatment being such as to enable students to realise the practical utility of graphical methods of solving problems. The use of squared paper, velocity, and acceleration diagrams, simple and harmonic motion, and valve diagrams, are among other subjects thoroughly discussed in the same part.

The work contains a large number of practical exercises with answers, and the numerous diagrams are very clearly drawn and printed. The book is one we have every confidence in recommending to our readers.

ILLUSTRATIONS.

The Work of Mr. Winter Rose.



LL our Plates this week are in illustration of the work of Mr. A. Winter Rose, to whose career reference is made in the article beginning on page 647.

MEETINGS.

FRIDAY, NOVEMBER 29.
Edinburgh Architectural Association.—Associates' annual smoking concert.
University Extension.—Visit to the Tower of London, St. John's Chapel, etc. 2.15 p.m.

MONDAY, DECEMBER 2.
Royal Institute of British Architects.—Business meeting. (1) Election of candidates for membership. (2) Mr. G. A. T. Middleton has given notice of his intention to inquire—(i.) Whether it is true that, while Testimonies of Study for the Intermediate Examination had to be submitted by September 23, those candidates who were relegated were only informed by letter dated November 8 and posted so as to reach even London residents late on November 9, when they were required to furnish alternative drawings by the morning of November 15; and, if so, whether in the opinion of the Examiners this is reasonable. (ii.) Whether the Board of Architectural Education is aware that there are rumours of laxity in permitting candidates to leave the room temporarily during the progress of the examinations, and in allowing communications to pass between the candidates. (iii.) Whether, at the Final Examination, the fact that a candidate is young is of itself prejudicial to his chance of success. Mr. Robert J. Angel has given notice that he will bring before the meeting the question of architects tendering for the preparation of designs, etc., of buildings, and in particular in instance of certain architects who submitted tenders to the Wigan Education Authority for designs, etc., and quantities for the erection of a High School for Girls. 5 p.m.

Royal Society of Arts (Cantor Lecture). Mr. C. E. Darling on "Methods of Economising Heat"—I. 8 p.m.

The Society of Engineers.—Mr. Percy J. Waldram, F.S.I., on "The Deflection of Reinforced Concrete Beams." 7.30 p.m.

London University (Victoria and Albert Museum). Mr. Banister Fletcher on "Gothic Cathedrals of France." 5 p.m.

TUESDAY, DECEMBER 3.
Society for the Promotion of Roman Studies. Professor Havard on "The Coast Defences of Britain about A.D. 400." With lantern illustrations. 4.30 p.m.

The London University (British Museum). Mr. Kaines Smith on "Sources of Art. The City State."

The Institution of Civil Engineers.—Mr. C. J. Bowen Cooke on "Mechanical Handling of Coal for British Locomotives," and Mr. Francis Carnegie on "The Vibration of Rifle Barrels." 8 p.m.

The Illuminating Engineering Society.—Messrs. F. W. Wilcox and H. C. Wheat on "Modern Methods of Indirect Lighting—Their Advantages and Merits" (to be held at the Royal Society of Arts). 8 p.m.

WEDNESDAY, DECEMBER 4.
The Royal Archaeological Institute.—Mr. R. H. Forster, L.B.S., F.S.A., on "The Corbridge Excavations, 1912." 4.30 p.m.

Edinburgh Architectural Association.—Mr. Percy H. FitzGerald, M.A., F.S.A., on "Robert Adam, Artist and Architect." Lantern slides. 8 p.m.

Institute of Sanitary Engineers.—8 p.m.
Society of Antiquaries.—8.30 p.m.
University of London (British Museum). Mr. Banister Fletcher on "Greek Ionic Temples." 4.30 p.m.

University of London (Victoria and Albert Museum). Mr. Kaines Smith, M.A., on "Decoration of Buildings—Glass." 5.30 p.m.

FRIDAY, DECEMBER 6.
Glasgow Technical College (Architectural Craftsmen's Society)—Professor C. Gourlay, B.Sc., on "A Review of Byzantine and Italian Architecture."

SATURDAY, DECEMBER 7.
Aberdeen Architectural Association.—Mr. Thomas Beattie on "Decorative Plasterwork, and the Adaptation of Old Methods to Modern Requirements." Illustrated. 7.30 p.m.

BOOKS RECEIVED.

SEWAGE DISPOSAL IN THE UNITED KINGDOM. By Lemmon Cannon. (London: St. Bride's Press. 7s. 6d.)

THE ENGLISH FIREPLACE. By L. A. Shuffrey. (London: B. T. Batsford. 2l. 2s. net.)

COMPETITION NEWS.

A list of current Competitions is printed on page 662.

Municipal Buildings, Kingston, Jamaica.

The Mayor and Council of Kingston, Jamaica, offer a premium of 100l. for a design or Municipal Buildings in Kingston, Jamaica (B.W.I.), to cost not exceeding 9,000l., to be approved and accepted by them. The buildings must provide all necessary municipal offices and appurtenances and a town hall in accordance with the plan showing the site and indicating the accommodation required, copies of which may be obtained on application to Messrs. Alexander Young (London), Ltd., of 60, Fenchurch-street, London, E.C., on payment of 2s. each copy. The design must be suitable for construction in reinforced concrete. Designs must be sent in not later than January 31, 1913, addressed to the Mayor and Council, Kingston, Jamaica (B.W.I.).

ENGINEERING SOCIETIES.

The Institution of Civil Engineers.

At the ordinary meeting of the Institution on the 26th inst. a paper on "Mechanical Handling of Coal for British Locomotives" was read by Mr. C. J. Bowen Cooke, M.Inst.C.E. Owing to the growth of traffic and the heavier loads which have to be hauled at the present time, it has been found expedient to adopt, at the extensive running-shed of the London and North-Western Railway Company at Crewe some more expeditious method than "man-handling" for loading engines with coal, and after much deliberation the mechanical coal-handling plant described in the paper has been installed. The plant was made by Messrs. Babcock & Wilcox, and is the joint design of the author and that firm. The points to which careful consideration had to be given were numerous, particular attention being paid amongst other points to the impracticability of an appliance capable of dealing with coal between wagon and tender, wagon and stack, or stack and wagon. With regard to this point, the various known types of apparatus limited the choice to one or two types, namely (a) that built by certain railway companies abroad, in which the handling of stock and current coal by gravity-bucket, or belt-conveyer, is combined; (b) some form of power-driven crane and grab-bucket.

The stock in plants of type (a) rarely exceed 3,000 tons and is situated in bunkers, either underground and immediately under the coaling-stage, or above ground and forming part of the coaling-stage. In the latter case coal placed in stock would be handled no less than six times between the colliery and the locomotive-tender, with consequent breakage of coal at each stage. It is found that at nearly all depots in this country where the annual consumption is sufficient to warrant the installation of mechanical handling the stock coal greatly exceeds 3,000 tons, so that this type of plant appears undesirable.

Regarding type (b), a grab-bucket is limited in size by the receptacle from which it picks its load, and when working from an ordinary type of English railway-wagon such an appliance becomes anything but economical in its operation. The maximum size which can be usefully worked is about 44 cubic ft. or 1 ton, little margin being then left for steering between the sides of the wagon. Again, a good deal of the efficiency of a grab-bucket depends on the drop it gets into the material, but when such material consists of large lumps of coal carried in a wooden truck which is liable to damage the efficiency of the grab is reduced in an excessive degree.

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W. Lord Chylesmore, Chairman, presiding.

The Finance Committee recommended that loans be made as follows:—Lambeth Guardians, 5,889l. for poor law purposes; and Woolwich Borough Council, 1,400l. for sanitary conveniences.

The Kensington Fire.—A report was submitted by the Building Acts Committee on the celluloid

fire which occurred last July in Moor-lau and details were given of the requirements, which notice was served upon the owners, the property some years before by the Council and of litigation which had ensued. The Chairman of the Committee, in referring to the recent fire at Messrs. Barker's, Kensington, said that the building was one of twelve special cases which the Committee had decided to deal with in February last. The firm, however, was not prepared to accept the Council's suggestion and after negotiations the Committee was informed that Messrs. Barker's architects were preparing plans to be submitted to the meeting of the Board, but before that meeting the fire occurred.

In replying to complaints that the Council had not applied the provisions of the Act of 1905 to all the large buildings of London, the Chairman of the Committee went on to say that if it were possible to attempt to put the Act into operation at once all over London there would be such an outcry and stoppage of business that it could not be carried out. The Committee, however, was doing a enormous amount of work, and up to the present they had considered some 1,889 cases out of which over 1,000 certificates had been issued, 619 buildings had been put into satisfactory condition, and in 23,500 cases owners had been warned of their responsibility. The report of the Committee was adopted.

Cinematograph Theatres.—Drawings have been submitted by Mr. C. A. Aish for proposed alteration and extension of the Empire Electric Theatre, Mare-street, Hackney; and by Messrs. Seville & Martin for a new cinema proposed to be erected at Nos. 593-59 Old Kent-road.

FIFTY YEARS AGO.

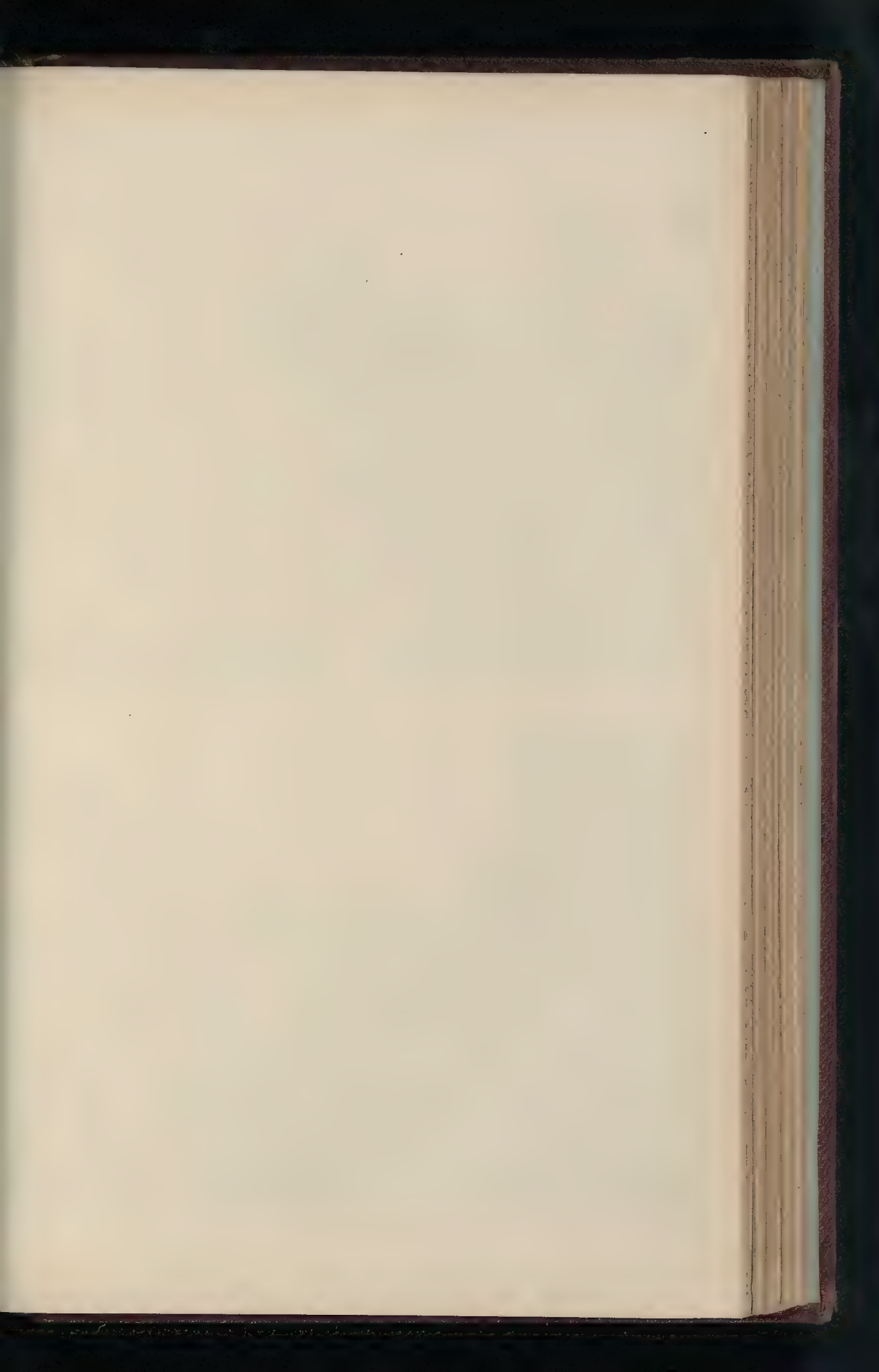
From the Builder of November 29, 1862.

Voluntary Architectural Examinations.

The announcement which our advertising columns contained some short time since that the first of the voluntary examination in architecture is to take place in January next, will not have passed unnoticed by many readers. This scheme of examinations is an effort for the advancement of the profession made in good faith, and at no small trouble, and possibly pregnant with results of the greatest value.

For many years past the desirability of establishing some test of attainments through which a professional man should pass ere he enters upon the responsible exercise of his duty has been appreciated more and more widely; and in those professions where a large proportion of the objects of preliminary study are entirely matters of fact examinations have been readily established.

* * In 1882 it was determined that an examination upon the lines of the voluntary examination should be made compulsory upon all who sought to become Associates of the Institute. The proposal aroused fierce opposition among many of the most prominent men in the profession, upon grounds that appear very insufficient as one re-reads the long letters to the Times which from day to day filled its columns. The adequacy of "tests" in a general sense was legitimately controversial, and is so still. Competence can be reached only by the path of experience, and this cannot precede an "entrance" examination. But the responsibilities of the architect are many, and an examination as a means of calling attention to these, acts as a safeguard lest an should be, as they have been and still may be overlooked. Medieval conceptions of the architect's functions are no longer tenable while since Rennie, with the scientific training of the engineer, built Waterloo Bridge and Capt. Fowke, similarly trained, designed the additions to South Kensington Museum, a liberal view of constructive possibilities, and an acquaintance with business procedure, cannot be considered as hostile forces in the training of the architect.—Ed.



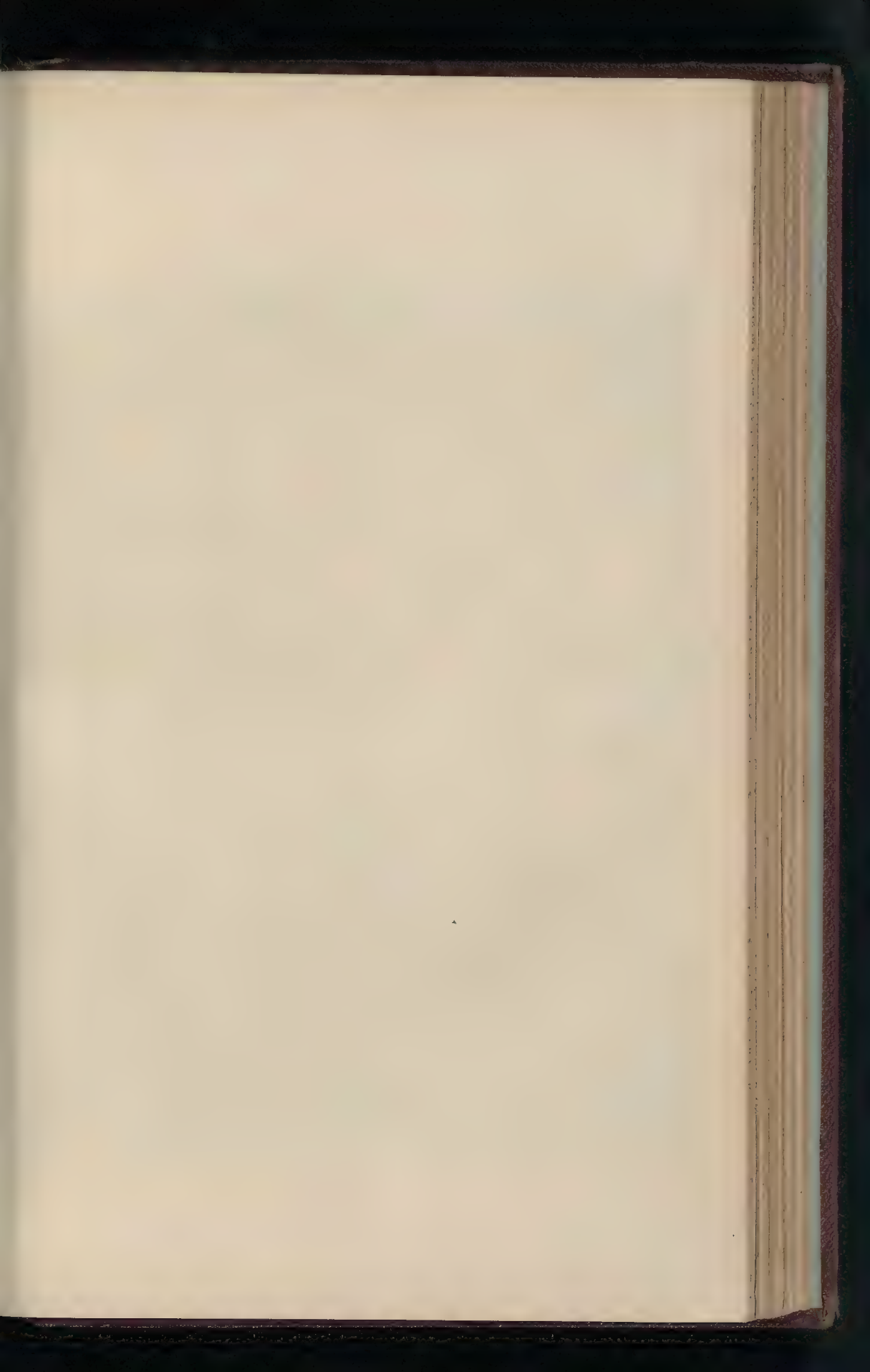


THE WEST ELEVATION.

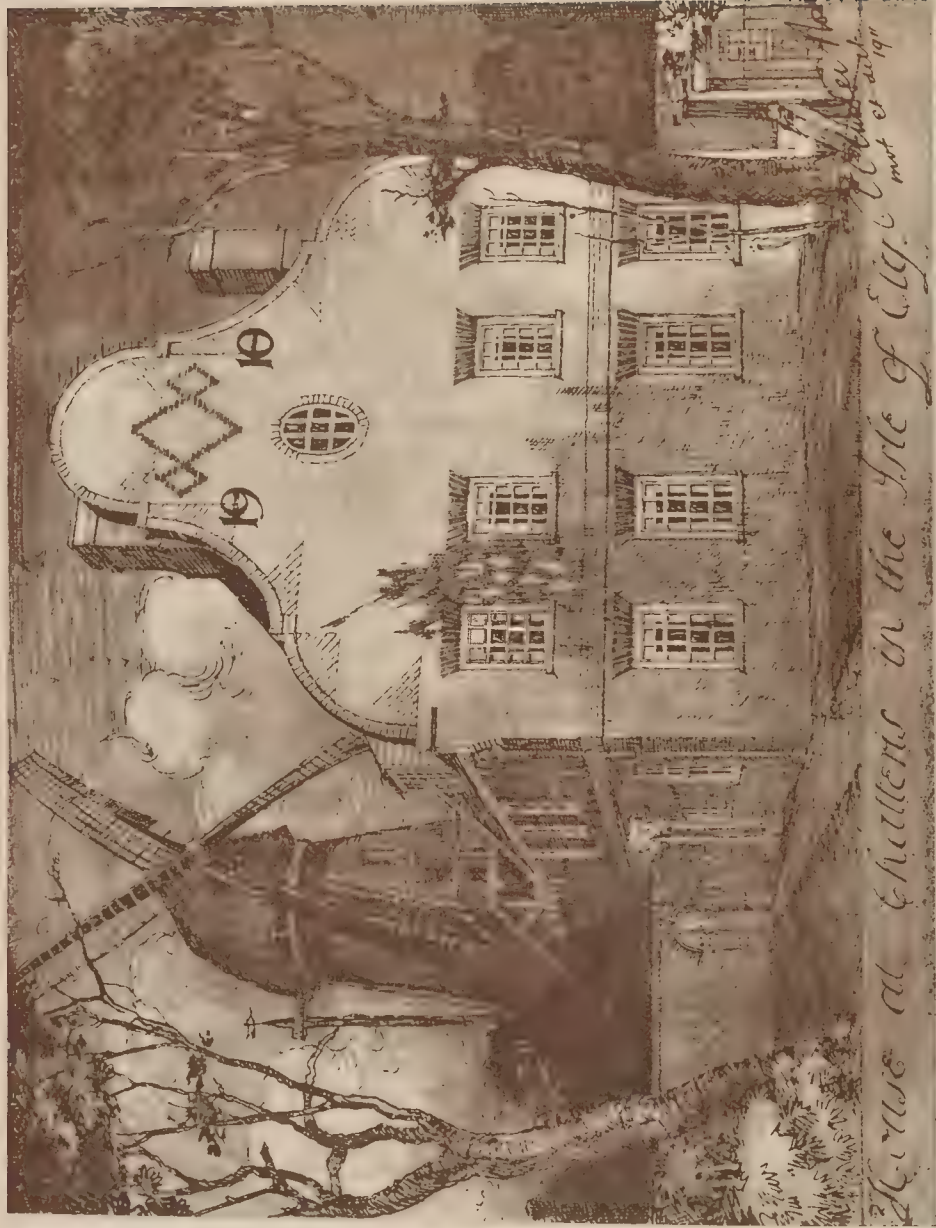


VIEW OF ROSE GARDEN LOOKING WEST.

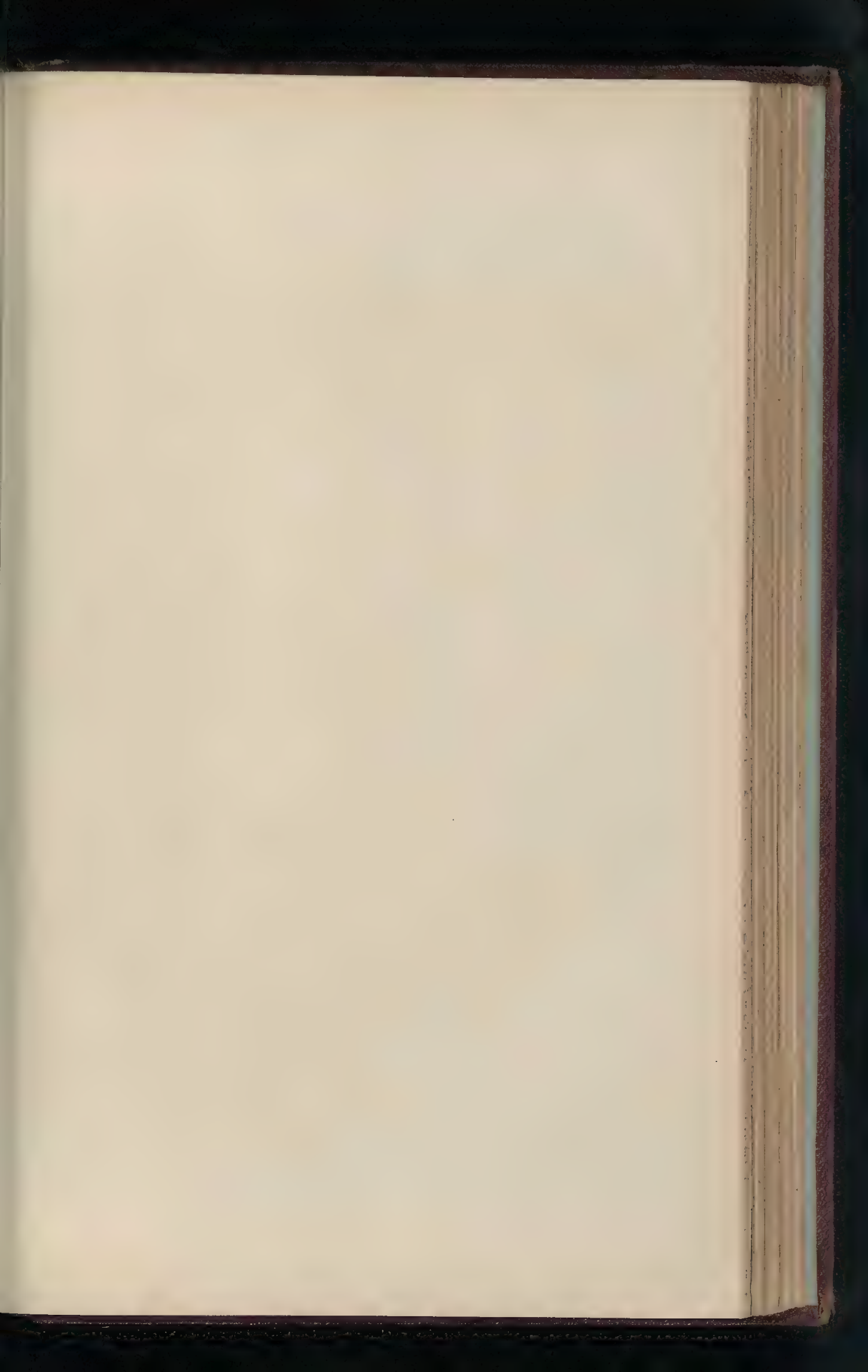
"MARROWELLS," WALTON-ON-THAMES.—MR. A. WINTER ROSE, ARCHITECT



THE BUILDER, NOVEMBER 29, 1916.



House at Chelms in the Isle of Ely. E. J. M. 1916

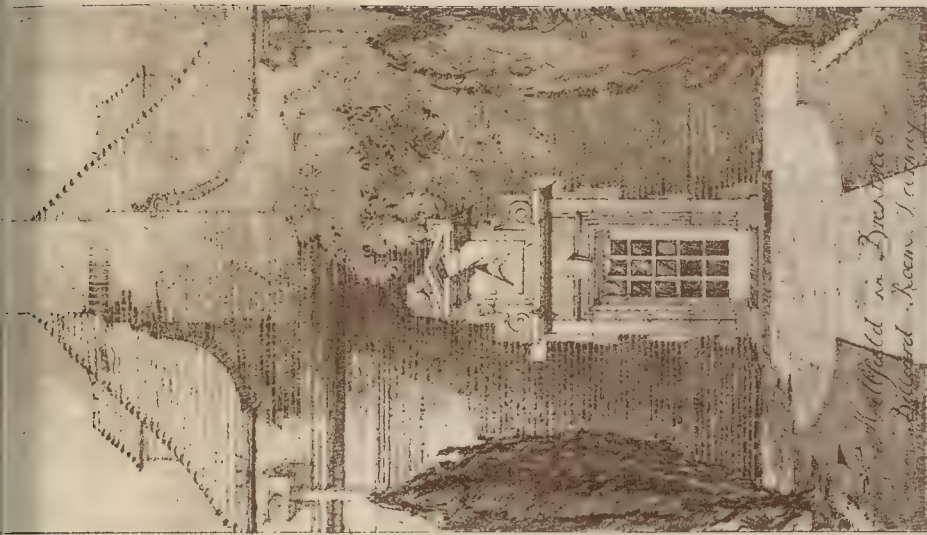
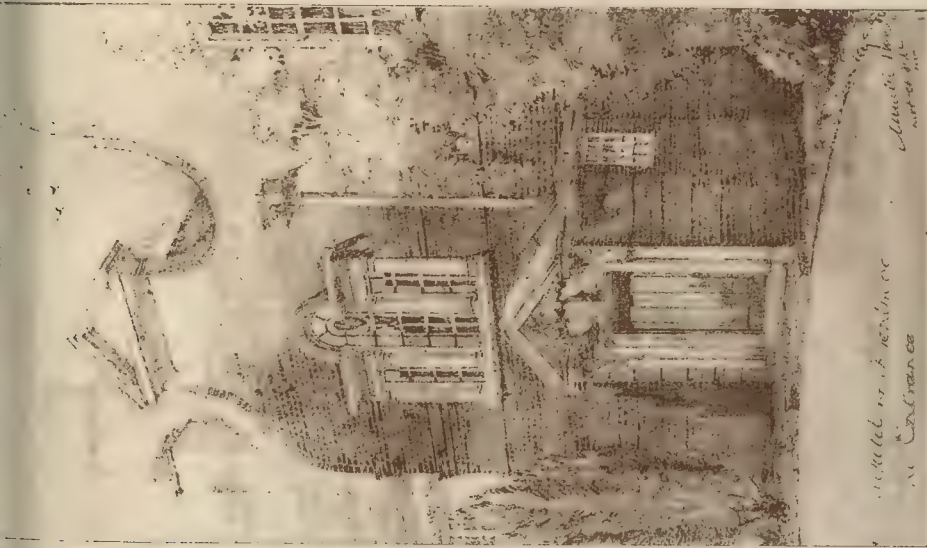




"MARROWELLS," WALTON-ON-THAMES.—MR. A. WINTER ROSE, ARCHITECT.



GOODRICH HOUSE, HATFIELD.—MR. A. WINTER ROSE, ARCHITECT.



TWO DOORWAYS AT "MILLFIELD," NEAR BRENTWOOD, ESSEX.—MR. A. WINTER ROSE, ARCHITECT



"CLOISTER GARTH," PURLEY.—MR. A. WINTER ROSE, ARCHITECT



PHOTO SPRADLE & CO. LTD. 68 & 70 DEAN STREET, N.W.

"MILLFIELD," NEAR BRENTWOOD, ESSEX.—MR. A. WINTER ROSE, ARCHITECT.



Proposed House at Purley, Surrey.

THE WORK OF MR. WINTER ROSE.

It is always interesting to trace the gradual emergence of one of the younger generation from the comparative obscurity of obscurity to the luminous path of success. Men never secure recognition, and progress, though marked by some shining incidents, stops short of real achievement. In the artistic world this is specially true, and it needs but a glance through a list of winning students to see that the work of the world has not been done inevitably by those who have shown marks of genius in early days. The causes of failure or of creative failure are discovered with difficulty in many cases, but the elements which contribute to fulfilment are seldom unknown. Among the younger architects of the present day is Mr. A. Winter Rose, whose work is a paradox, but whose work is far from so. It is but six years since Mr. Rose won the Travelling Studentship of the Architectural Association, and he is now in the midst of considerable practice. His work, as represented by our illustrations, will be studied, and, with interest, not only in a vein of prophecy, but in prophetic expectancy.

Mr. Rose was born at Cambridge just short of thirty years ago, and educated chiefly at Bedford School. Mr. Winter Rose early felt the call of architecture. In his aspirations he was encouraged by his cousin, Mr. George Shackleton, who had been in the office of the late Mr. J. L. Pearson. Mr. Rose was articled to Messrs. Usher & Sons, of Bedford, and spent much of his time unofficially, with the pupils of Mr. C. E. Mackintosh, who at that time was practising in London. To this source possibly may be traced Mr. Rose's interest in garden design and his powers as a draughtsman. In one of his articles about 1905, Mr. Winter Rose became managing assistant to Mr. W. B. Rice, A.R.C.B.A., of Cardiff. The Cardiff City scheme was then in preparation, but was not in progress, and Mr. Rose engaged in designing chapels built in various parts of Wales: as assistant architect he was concerned with those at Cardiff, Llanthony, Nant-y-fyllon (Maesteg), Pontypool, Llanidloes, and Briton Ferry. After a few years at Birmingham he took a position in the Office of Works in London, and was responsible for the Twickenham Post Office, alterations to the Guildford Post Office, and other work.

Mr. Rose worked with Mr. W. D. Caroe, F.R.S.A., in connexion with the South Wales University College, Cardiff. He was also to a great extent in practice on his own account. He became a student at the Architectural Association, and the year following won the A. Travelling Studentship, his original design being an entrance lodge and gates to a

public park, a wayside inn, and a specimen house at Kew; he sent in also some sketches and measured drawings of Queens' College and of the Senate House, Cambridge. In 1908 Mr. Rose was awarded by the Council of the Royal Institute of British Architects a prize of ten guineas for his competitive drawings for the Pugin Studentship, won that year by Mr. Sidney C. Fellett.

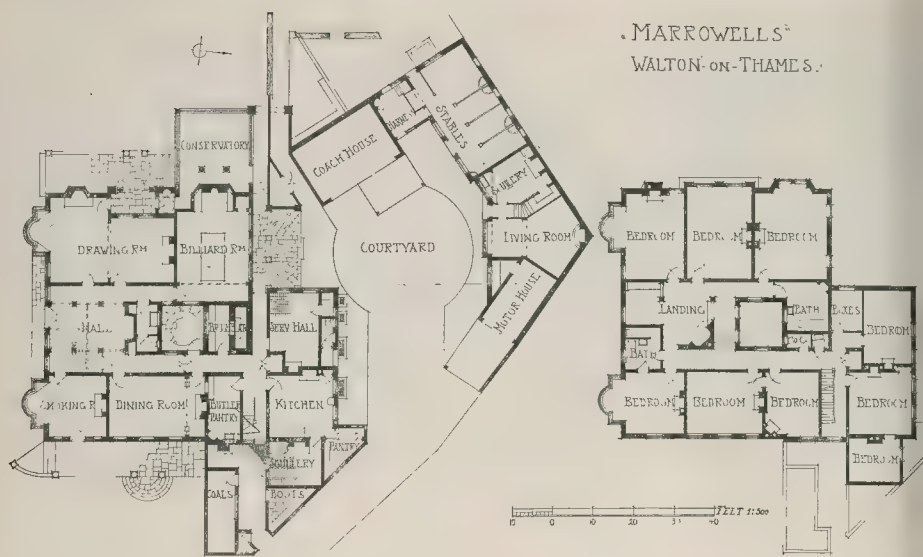
Mr. Rose elected to travel in England to acquaint himself of the A.A. Studentship, and it was during his tour that he became convinced of the possibilities of domestic architecture.

He travelled specially in Norfolk and Cambridgeshire and saw for himself, as a critical student, the memorable work of other days as well as modern products with which he could be little in sympathy. To restore to domestic architecture the dignity and charm of the past, while introducing such modifications of plan and design as were necessary to meet the needs of the present day, became his ambition. He felt strongly, as others have felt, that, in spite of Bacon, houses should be built to look on as well as to live in. His bias was towards the early XVIIIth century, the pro-



Mr. A. Winter Rose.

[Portrait by Reginald Haines.]



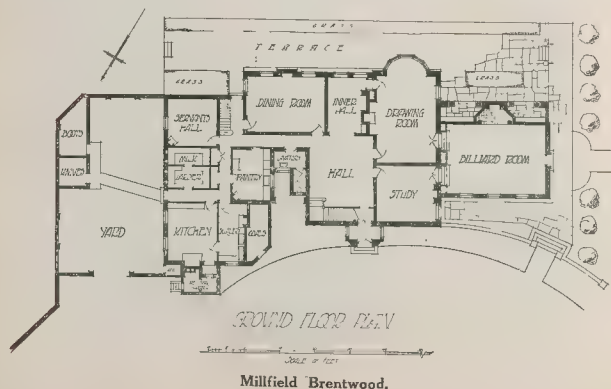
stucco era, and for working purposes his thoughts may be said to have been cast back to the "glorious reign of the most serene our gracious sovereigns lady, Queen Anne," to quote part of the ancient inscription on Petyt House, Chelsea.

Fairly launched in practice by 1908, Mr. Rose in that year exhibited at the R.A. Exhibition his "Design for Church and Manse, Welholme-road, Grimsby," which was one of his few competition designs; it was placed, but never carried out. Two years afterwards he sent a drawing of "Marrowells," Walton-on-Thames. This house, then just completed, stands on a site which was originally part of the far-reaching Windsor Forest. Designed in a manner reminiscent of the many early Georgian mansions to be found on the banks of the Thames between Chelsea and Windsor, its appearance is attractive, not only on account of its general features, but because of its details, such as the hooded doorway, the brick-work quoins, and the conspicuous cornice. The colour scheme was carefully considered. Old tiles of a deep red hue were used for the roof and Surrey bricks of a brighter tint for the walls. The exterior woodwork was painted white, with the exception of the Venetian shutters, which were painted sage-green. The plan above shows the accommodation secured, and the interior work is in harmony with the rest of the building. The garden formed an important attribute to the house, and the illustrations show how successfully architectural character was imparted.

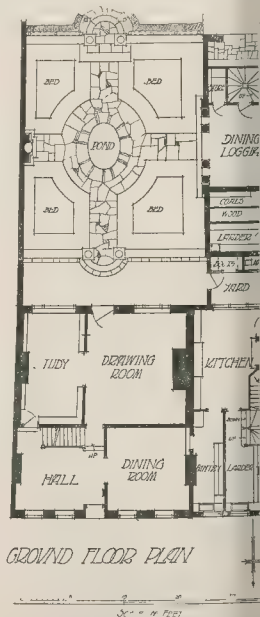
The House at Chatteris in the Isle of Ely (R.A. 1911) looks romantic, judging from the drawing reproduced on one of our Plates. It is in a composite style, and derives some of its character from its Flemish origin. But, in spite of its somewhat alien appearance, local confirmation was found for the design, no doubt, for Mr. Winter Rose is nothing if not an Englishman, and would not care to import any direct suggestion from abroad. Additions to "Millfield," Brentwood, were in progress at about the same time, as the drawings shown at the Royal Academy in 1911 testify; these are also reproduced on one of our Plates. The billiard-room in this house was one of Mr. Rose's experiments in interior design and decoration, the whole, with the exception of the table itself, being his work. The general colour scheme was grey, against which the furniture and crimson curtains set off agreeably; while the permanent features, such as the fireplace recess, with its fluted columns, and the exit to the garden, give dignity to the room. The garden at "Millfield" was laid out also by the architect.

The reconstruction of "Morton House," Hatfield, exercised Mr. Rose's ingenuity to the utmost, but the result is entirely satisfactory. The original house consisted of four rooms on the ground floor, divided by a narrow hall and a staircase immediately in front. The plan on this page shows the new arrangement. The left-hand wall of the passage was taken away and what had been a room became a useful lounge hall, with the new staircase at the end

of it and with exits to the rooms at the end. The space hitherto occupied by the staircase was added to the drawing-room, which communicates with the study in such a way that the two rooms may be converted if when desired by the occupier. The room opens to the right of the hall. Almost the whole of the interior was as part of the scheme for interior decoration. The garden at "Morton House" was in a deplorable state as the house, but transformed into a most agreeable. With a central fountain and brook paths, it is a retreat to be envied, and comparatively small it is a good example of modern walled garden. The plan below that it is bounded on one side part dining loggia, facing which, on the other



Millfield, Brentwood.



Morton House, Hatfield.



Morton House, Hatfield: Part of Hall and Dining-Room.

Mr. Winter Rose, Architect.

fountain, is a niche containing a statue of Etheldreda. Another house in Hatfield, near "Morton House," is "Goodrich House." On one of Mr. Rose's plates is reproduced Mr. Rose's original design, and the block on p. 650 gives a photographic view of the work as carried out. The spire of Hatfield Church is in the background, a street intervening; and Hatfield adjoins the property. The work of Mr. Rose in "Goodrich House" was done in connection with the owner of the property, Mr. W. Speaight, who proved a sympathetic patron. As it stands the house reveals, nevertheless, Mr. Winter Rose's own individuality and his artistry will be recognised throughout. "Cloister Garth" (see Plate), as its name implies, is distinguished by a covered approach, which gives picturesque interest to the house, as it takes the place of the indispensable porch, a useful adjunct to the home. This house was largely influenced by the design, and the architect arranged it cleverly so that it does not interfere with the lighting or the airiness of the rooms. The building is situated at Hatfield in Surrey, and, high up on one of the hills, it is a welcome note of restrained workmanship among much that is "ideal." It is seen that "Cloister Garth" shows a tile-hung and partly brick exterior, a combination which, though sometimes unsatisfactory, does not strike a false note if well handled, as in the present case. This house is on an estate now being developed, and lies under the jurisdiction of the late Mr. William Wood, and Mr. Winter Rose had the advantage of a congenial site to place his building. Among other examples of Mr. Rose's work may be mentioned a farm house at Turvey, near Bedford; a house at Little Court, Buntingford; and a house at Kensale Manor, Saxmundham, and in connexion with a house at Walbersham, Suffolk. In a house built recently at

Marlow for Mr. A. Lys Baldry he departed to some extent from his brick and timber convention and made use of steel and concrete in the construction and details. To Marsh Court, Stockbridge, he added outbuildings

consisting of chauffeur's house, garage, etc., in collaboration with Mr. E. L. Lutyens, F.R.I.B.A., whose lead in the original building was followed as a matter of course.

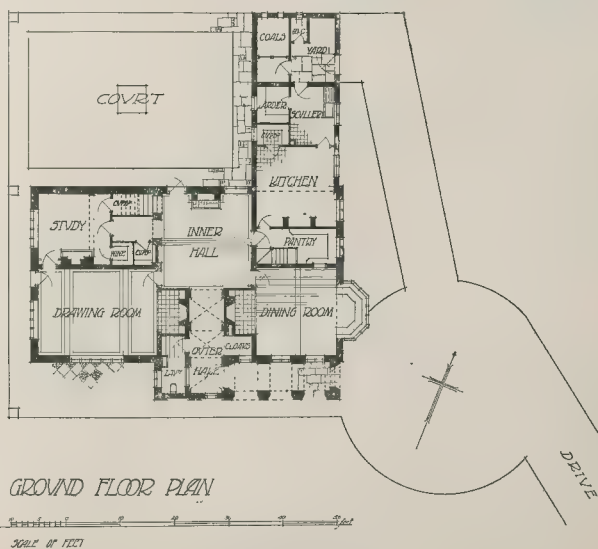
Lately Mr. Winter Rose has been at work on a monumental design for a University, a competition work which for the moment is *sub judice*, but to which we shall refer in due course.

The mention of this and the numerous houses which we have touched upon and in part illustrated are sufficient to show that Mr. Rose is a worker, and, although his piquant fancy and delicate touch have found most opportunity so far for expression in domestic work, his versatility has enabled him to handle ecclesiastical work with marked success.

At the instigation of Miss Tatlock, of Bramfield House, Suffolk, he erected a reredos and altar-table in the Church of St. Andrew, Bramfield, in memory of the donor's grandfather, Peter de Wint. The reredos forms a background to a beautiful rood-screen, and care had to be taken that the new work should combine with the old. Stone of a fine texture, French grey in colour, was chosen for the general architectural work, while for the figures of the four saints included in the design coarser ("Doulton") stone was selected. This was a Gothic excursion, but Mr. Rose carried through the work with taste and judgment, and the result perhaps is more interesting than if the work had been placed in the hands of an architect bound down in temperament and practice to Gothic design.

Enough has been written to show that Mr. Winter Rose in the short time he has been in practice has made his mark and is able to carry out his ideas with common sense and enterprise. His originality has been founded on good English traditions and nothing more praiseworthy could be said. His work so far can only be considered as an introduction to a career of interest to himself and to those who follow the trend of modern architecture. The lessons of book illustration in the "Sixties" seem to have been forgotten, but the impetus given to domestic architecture during the same period has not died out. Mr. Winter Rose is one of the successors of Bodley, Nesfield, Norman Shaw, and Mr. Philip Webb, and with his true instinct for architectural fitness his future seems assured.

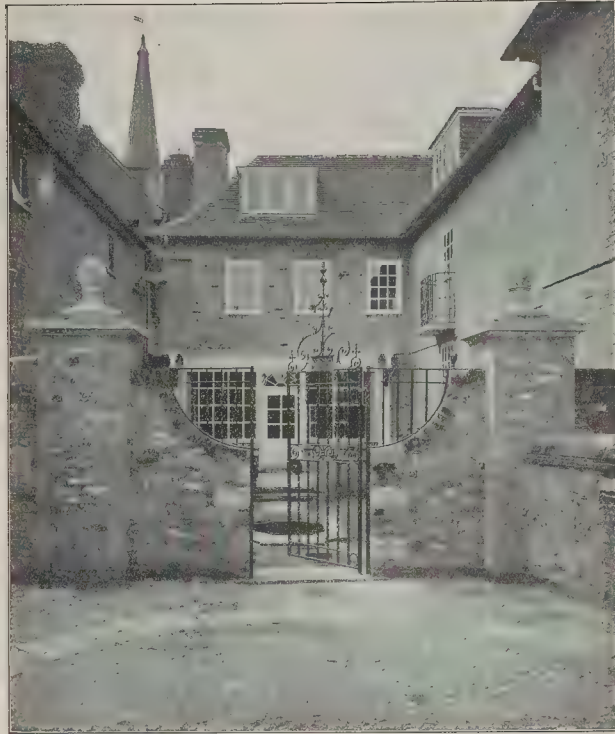
It is perhaps no part of our duty to examine the equipment of an architect apart from his office credentials. But F. C. Penrose was no less a personality in our world because he was a rowing Blue, and only a few weeks ago Sir Aston Webb, in welcoming the new President of the Royal Institute of British Architects, referred to Mr. Blomfield's prowess at the wicket and elsewhere. With that official recognition



GROUND FLOOR PLAN

SCALE 1/4" = 1' 0"

Cloister Garth, Purley.



Goodrich House, Hatfield.

Mr. Winter Rose, Architect.

of "sporting proclivities we have no hesitation in referring to Mr. Winter Rose's devotion to football. For seven years he has been captain of the Ealing Rugby Football Club, and, playing as he has sometimes done for the Eastern Counties, he has won his County Cup. In the field Mr. Rose's place is among the forwards; and it may be fairly anticipated that the lessons of the scrumage will not be forgotten when professional problems call for the exercise of qualities of endurance and of self-sacrifice.

CITY OF LONDON FIRE INQUESTS: THEIR HISTORY, WORKING, AND RESULTS.

On Tuesday last week Dr. F. J. Waldo addressed by invitation the members of the Insurance Institute of London in the Great Hall,

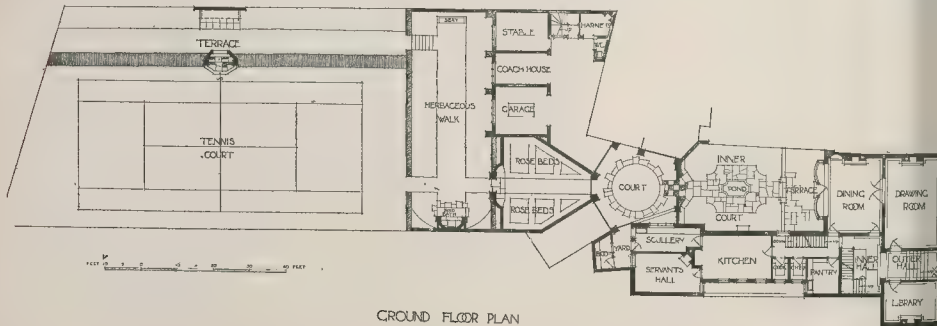
Winchester House, Old Broad-street, E.C. Mr. George E. Mead (of the Sun Insurance Office), President of the Institute, was in the chair. His subject was the History, Working, and Results of the City of London Fire Inquests Act. The office of Coroner, he said, dated from the Norman Conquest, and for a century or so he sat with the Sheriffs and tried all kinds of felonies, but his powers of trial were abolished by Magna Charta in 1215. Amongst his earlier multifarious duties was that of inquiry into non-fatal fires, and this fell into abeyance, according to most authorities, in the fifty-second year of the reign of King Henry III. until the year 1845, when it was revived by the then City Coroner, Mr. Serjeant Payne. During the next six years, without receiving any fees, he held seventy-one fire inquests, of which nine were found to be wilful, thirty-four accidental, and twenty-eight cause unknown. In one case of arson in Southwark

conviction was followed by transport for life. The last of his inquests was held in 1853.

Prior to 1860 Sir John Humphreys, Clerk for Middlesex, held a number of inquiries into non-fatal fires. In 1851, at the instance of the Coroners' Society, similar inquiries were held in various parts of the United Kingdom. Amongst them one conducted by Mr. C. Herford, at Manchester, in 1860, was taken out by the High Court on the score of illegality. After the Herford judgment no more inquiries were held until the City of London Fire Inquests Act, passed in 1888, conferred on the Coroner wide powers of inquiry into cases of fire reported to him by the police or the Fire Brigade service. The method of procedure is for the Coroner and his jury to visit the burnt premises, together with any other persons who may wish to consult. The results of the investigations are laid before the Secretary and Court of Common Council, and the Lord Mayor. Dr. Waldo stated that his predecessor, the late Mr. Langham, held eighty-five fire inquests, while he himself held fifty-three between 1901 and 1912. In the past five years there has been an annual decrease of thirty-six fires as against that of the five years immediately preceding the passing of the Act in 1888. Against the year 1902 47 per cent. of fires were reported as of unknown origin as against 100 per cent. in 1905. Further, in 1911, out of 100 fires reported, in only twenty-two cases the cause of the fire finally remains uncovered. Not only that, but the proportion of big and serious fires has also considerably decreased in the City. The power to hold inquiries acted as a deterrent against arson, and on the insurance companies, was a great boon in its effect, and caused people to be careful with respect to fire in both business and private premises. Altogether the facts of the case favour an extension of the principle of fire inquests to the whole of the United Kingdom, and thereby of restoring to the office of Coroner one of his most valuable and important public functions.

One instance of the value of systematic fire inquests is the attention that has been called to the special dangers attending the storage of celluloid and other inflammable materials in towns, and the defects of various Acts of Parliament which deal with the construction and safety of buildings in relation to fire.

It is interesting to note that the extension of fire inquests is strongly supported by the Association of Professional Fire Brigade Officers, while Lord Gladstone's Departmental Committee reported in 1909: "We have come to the conclusion that the system of fire inquests established by the Act of 1888 has worked well in the City of London, and the benefit of this system ought to be extended to the country at large." On the other hand the London County Council are for an unaccountable reason averse to the proposal of the Departmental Committee, and they or the Home Office should decide which particular cases inquiries are to be placed, and that a special department should be created and charged with the duty of holding fire inquests in place of the independent Coroner, an officer of trust, and with full powers, unfettered, and ready to do his duty solely in the public interest as he enters into office.



GROUND FLOOR PLAN

Goodrich House Hatfield.

THE BUILDING TRADE.

THE INCORPORATED INSTITUTE OF DECORATORS: THE DECORATION OF SMALL HOUSES.*

The small house has from a decorative point of view been neglected, and this is but the result of the condition things as they exist to-day. Consider the case of a man who occupies a small house in the suburbs which he has perhaps purchased through a building society, and the value of which is from 30% to 40% a year, and his wife are anxious to have their house decorated in good taste, but they have no actual knowledge whatever of the subject. . . . What happens in ninety-nine out of a hundred cases is this. They obtain an estimate from a "builder, plumber, and decorator," who supplies the estimate accompanied with a few pattern-books of wallpaper upon which they spend hours of anxious thought, though, if they but knew it, there are not in the cases a couple of dozen papers in it which worthy of being hung in any home occupied by anyone having the slightest pretensions to good taste. Perhaps they decide to use shabby water-paints, but in any case their selection is almost certain to be bad. In both cases they are groping in the dark, and, having chosen the poorest patterns, must come to a decision practically without taking into consideration the all-important questions of colour and of pictures, to say nothing of the dimensions of the room, its shape, its light, its windows, and the many other conditions which ought to be taken into account for such circumstances. Is it any great wonder, then, that so many small houses are so badly decorated? Now there are in London alone many hundreds of thousands of such houses, including the country, a vast number in aggregate, so that it will be acknowledged that there is plenty of work for the Institute, and if means can be found to carry it out on a practical basis. . . .

Proposed Advisory Committee.

My first suggestion relates to wallpapers, and these decorations, if properly designed and selected, possess so many advantages that they will very probably continue to be popular for centuries to come. They are simple, convenient, and on the whole sanitary, and influence can be brought to bear with the view of improving the design of all classes of paperhangings, especially those which from their price are certain to be used in our "small houses." What practical means can be taken to select the bad designs, or rather to put a stop to their production? My answer is that it can be done by submitting the designs before they are put to a competent authority, which will only give their approval to those designs which in their opinion possessed the necessary artistic merit or came up to a sufficiently high standard, and I need not remind you that this standard by no means necessarily imply an ornate oration or marked novelty. If an authority could, I suggest, be set up by the Institute by appointing from among its members an Advisory Committee to pass designs which should from time to time be submitted to it. As well known, public taste in decoration, and other things, varies considerably in different parts of the country, so that it would probably be found desirable to appoint three such committees; one in London, another say in the north, and a third in Scotland. . . . It is well known that out of every 100 new houses which are brought out year by year less than twenty, and often more, may be regarded as absolute failures. The cost of building the blocks and printing is precisely the same as though the paper had succeeded, but it is clear that the cost of these failures must be distributed over the cost of those which succeed, hence if the element of risk is lessened a considerable saving would be effected. I take it that at least a number of members of the Committee would be actual

buyers of paperhangings, and if they had passed designs they would, when these designs came on the market, no doubt stock them, hence their success would be assured. Then, again, those designs which were approved will be "hall-marked," so to speak, for the general trade, while many of those rejected would probably never be put out at all.

I am well aware that this scheme would take some years before it had a very marked influence on the wallpaper trade as a whole, but if it were started experimentally with, say, 100 designs to commence with, or even less, I believe it would become a permanent feature. The danger at first would be that only designs of expensive papers might be submitted and efforts should be made to include particularly cheaper varieties. It is, as is well known, the custom to print successful designs of an expensive character in future years on cheaper papers, and this course would doubtless continue to be followed.

I claim with all respect that the builders' merchant is not a competent authority to select wallpaper hangings, which requires the services of a trained decorator. The merchant probably deals in ranges, baths, ironwork, bricks, lime, and timber—in fact, everything which goes to make up a building. How, then, can he be expected to be a judge of wall decorations? It may be said that it is evident that his selection of papers sells or he wouldn't continue to select, and this suggests a point which is often overlooked. A large majority of small houses (in London, for instance) are not owned by those who occupy them, but are rented from the owner often on a three-yearly agreement. The landlord, as he is usually termed, in only too many cases, gets his decorative repairs done as cheaply as possible, and the practice is to have a wallpaper pattern-book sent to the tenant from which to make a selection. Hence this tenant, if even he be capable of choosing well, is greatly hampered in getting a good result by the paucity of even moderately good designs. But he is forced to make his selection from that particular book, and the builders' merchant gets his order and imagines that the designs are quite as they should be. In making this sweeping condemnation of pattern-books I by no means include all merchants. There are in London alone a dozen or more whose business is to select designs of merit, but, as things exist, they sell mostly to the better class of customers. If the tenant were a free agent and could choose his paperhangings where he wished it would certainly lead to a great improvement generally. Even at the best, I believe the merchants would be glad to have the advice and assistance of a jury of practical and trained men such as would be provided by the formation of an Advisory Committee such as I have counselled.

Professional Advice.

I come now to my second suggestion, which, briefly stated, is that the Institute should offer to give through its Fellows, for a suitable fee, professional advice on all matters connected with decoration. Architects and other professional men who accept commissions, including details of special work with which they are not very familiar, seek as a matter of course the assistance of brother professionals who have given it a close study. Thus the architect on occasion consults the engineer, and the general practitioner among medical men the specialist.

But what I have at present in mind is the occupier of the small house who has refined tastes, and who recognises the fact that he needs expert advice if he is to overcome the many difficulties which surround the subject and obtain that which he and his good wife so ardently desire—as artistic a home as his means and circumstances permit. Such a man would be very willing to pay a modest fee of a couple of guineas or so to a competent gentleman, who would come down, see the house, the pictures, carpets, and furniture, and on the spot make a selection of wall hangings or choose the colours for the painted work, or for the walls of those rooms which were to be distempered, and leave the whole "cut and dried," to be carried out by the local house painter who, having a safe guide all mapped out, could proceed without difficulty.

A half a day or a little more would be amply sufficient time in which to do such work, and at least some of the selections would answer in other places. A class of clients who would be very likely indeed to avail themselves of such assistance would be the speculative builder, who puts up houses in rows from an architect's designs, but who is often foolish enough to attend to the decoration himself, probably with the aid of some "job lots" of wallpaper he has purchased at a bargain. If he realised how very greatly a good scheme of decoration assists in attracting a tenant or customer—and many builders do realise this to an extent—he would be far from begrudging the few guineas it would cost him to obtain sound advice when he wanted it. . . .

Art Schools.

I approach the third and concluding part of my subject with some diffidence because I realise that there are many difficulties to overcome, not, however, that I believe them to be insurmountable. My suggestion here is that the Institute should endeavour to identify itself more closely with the art schools of the country so far as decorative art is concerned with the view of raising the standard of public taste, including that of the occupiers of small houses, and of producing more practical utility than is the case to-day.

It will, I trust, be fully understood that I have no desire to make an attack on art schools generally, but I venture to assert that the actual practical results fall lamentably short of that which might be expected and are far from being commensurate with the expenditure. Leaving out of the question the work done at South Kensington and at some of the art schools in the principal great cities, the instruction frequently given is, in my experience, only very partially directed toward practical ends, and the students are mostly young ladies who wish to fill in their time with a little fancy designing, a little dabbling in oil and water-colour painting. The men and women who wish to acquire knowledge by which they will earn their livelihood have but little to encourage them. I am well aware that in small art schools the funds available will not permit of the employment of a sufficiently large staff of instructors. I need hardly remind you that it is absolutely essential in teaching all branches of applied art that the instructor be practically acquainted with the industry in which the art is to be employed. Thus the teacher of design for metal-work must be acquainted with the characteristics of the metals in which the designs are to be carried out. Indeed it is not too much to say that he should have actually worked at the trade to some extent. In designing wallpapers it is clearly very necessary to take into consideration the question of repeat and many other practical matters relating to the printing of the papers. Many designs produced by art school students are useless because of this want of knowledge. . . .

A serious and common defect in such designs arises from the fact that the instructor is not a practical man, in this instance is not a practical decorator. This defect is that the designer is far too apt to make the pattern pretty in itself, apparently forgetting that the small piece forms but a very little part of the surface of the wall on which it is to be used; in other words, that the piece will look vastly different when it is repeated many times on a wall expanse measuring at least several yards in width and two in height. The only way, to my mind, to design a paperhanging is to draw the ornamentation for the whole wall of average size and then to cut out a portion of it which may be used as the pattern. Details which may appear coarse in the piece will often look commendably bold in the mass; and details that are delicate and refined in the piece are not infrequently either lost altogether in the mass or have only the appearance of being weak and finicky.

To introduce into art schools a more practical plan of operations would be work well done. And I suggest that this Institute could do it through Committees and on a similar plan to that followed by many of the Master Painters' Association in connexion with the teaching of painters' work. . . .

*Part of a paper read before the Incorporated Institute of Decorators, the Painter, Painters, Builders, etc., on November 25, by Mr. Arthur Seymour Youngs, F.I.B.D.

ane's-gate, S.W.; London-Uxbridge-Slough—Messrs. J. Mowlem & Co., Ltd., Grosvenor-harf, Westminster, S.W.; London-Weybridge-Guildford, sect. 1—Messrs. Clough, Smith, & Co., Ltd., Spencer House, South-ease, E.C.; Romford-Chelmsford—Messrs. W. Griffiths & Co., Ltd., 35 39, Hamilton House, Chesham, Bucks.; laying lines of pipes and gas ducts, Balham—Mr. J. A. Ewart, 21, d Queen-street, S.W.; laying lines of pipes, morden—Messrs. Etheridge & Leach, Moss ng, Chesham Hill, Manchester. *Metropo-*

Police: Erection of Arlington-road ction House—Messrs. J. Jarvis & Sons, 253 d 255, Hackney-road, N.E.; erection of ction house at Ealing—Mr. W. J. Dickens, Broadway, Ealing, W.; erection of tem- rary police-court at Francis-street, Tottem Court-road—Mr. W. Harbrow, South ymondsey Station, S.E.; reconstruction of g's Cross-road Police-station—Messrs. ggs & Hill, Crown Works, South Lambeth- ad, S.E. *Commissioners of Public Works, land:* Building works and supplies, Dublin rick—Messrs. J. & P. Good, Ltd., Great runwick-street, Dublin; erection of Metro- litan Police Barracks, Great Brunswick- eek, Dublin—Messrs. J. & R. Thompson, d, Phillipsburgh-avenue, Fairview, Dublin; ction of Laurence Cove Coastguard-Station, Cork—Messrs. A. Hull & Co., Ringsend- ad, Dublin; erection of coastguard-station, outh-of-the-Boyne, Co. Louth—Messrs. S. nly & Sons, Fair-street, Drogheda; econ- n of Tuam Post Office, Co. Galway—Messrs. Ryan & Son, 34, Thomas-street, Limerick; iding and glazing works and supplies, ublin District—Messrs. P. Dochrell, Sons, & o., Ltd., South Great George-street, Dublin; iding works: alterations to National Health urance Commission, 44 and 45, Merri- on-square, Dublin—Mr. T. Faruachman, 69, n. John-street, Dublin; erection, Pollalomas ational School, Co. Mayo—Mr. J. Dempsey, mulmet; engineering works: dock exten- ion and quay improvements, Portstewart arbour—Messrs. Martin & Co., Charlestown ouse, Drogheda.

GENERAL BUILDING NEWS.

DRILL HALL, EDINBURGH.
New premises have been erected in Donald-road for the Lowland City of Edin- burgh Royal Garrison Artillery, from the designs of Mr. T. Duncan Rhind, A.R.I.B.A. The drill hall is 115 ft. by 38 ft., and the roof is carried on steel principals. The build- ing also contains rooms for the officers, orderly- room, recreation-rooms, concert hall, etc. The opening of the premises took place on the 1st inst.

TRADE NEWS.
Under the direction of Mr. J. V. Johnston, A.R.I.B.A., Londonderry, Boyle's latest "air-pump" ventilators have been applied to Picture House, Londonderry. The new Limekiln-leaving Company's shafting patent blocks are to be laid in the adrange, Buckingham Palace. The new billiard hall and picture theatre, network, is being ventilated by means of orland's patent exhaust roof ventilators, applied by Messrs. E. H. Shorland & Brother, Ltd., of Fallowfield, Manchester.

BRITISH AND FOREIGN TENDERS.
A letter has been addressed to the various Metropolitan Borough Councils, embodying the following resolution passed by the Council of the Union Jack Industries League—"The Council of the Union Jack Industries League respectfully urge the Metropolitan Borough Councils to pass a resolution instructing their committees to accept, wherever possible, British in preference to foreign tenders for contract purposes; the continuation of such a policy being a direct encouragement to British labour and a patriotic example on the part of public bodies to private individuals to support me in preference to foreign industries." The letter proceeds—"A similar resolution to this is forwarded to all the Metropolitan Borough Councils last year, and in most instances, accepted by those Councils. May I take advantage of this opportunity to say that complaints have recently reached me from manufacturers supplying the building trade of alarming increase in the importation of foreign materials affecting this trade, and to your Council to bring the subject before your Committee having charge of passing orders and specifications in connexion with the building trade?"

KING'S COLLEGE HOSPITAL.
We are asked to state that Messrs. Doulton & Co., Ltd., are supplying the sanitary fittings of the King's College Hospital, and that these comprise many new designs and important improvements.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 TO 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Act were dealt with. (The names of the applicants are given in parentheses).—

Lines of Frontage and Projections.

Chelsea.—Erection of a church building upon a site on the north-eastern side of Park walk, Chelsea, abutting also upon the north-western side of Camera-square (Sir Arthur Blomfield & Sons).—Consent.

Holborn.—Illuminated sign at the Fisher-street substation of the Metropolitan Electric Supply Company, Ltd., Fisher-street, Holborn (Mr. E. Cunliffe Owen).—Consent.

Islington.—Erection of a building upon a site between No. 2, Blackstock-road, and the "Blackstock" public-house, Blackstock-road, Seven Sisters-road (Mr. H. A. Saul for Miss Farmer).—Consent.

Kennington.—Building on the north-western side of Kennington Park-road, Kennington, upon the site of Nos. 2, 2A, 4, and 6 (Messrs. Walter Jones & Sons for the Commercial Car Hires, Ltd.).—Refused.

Marylebone, West.—Erection of an addition at No. 2, Melina-place, St. John's Wood (Mr. H. W. Bins for Dr. G. A. Gunton).—Consent.

St. George, Hanover-square.—Wood and glass enclosures to the porch at No. 77, Eaton-square (Mr. J. A. Minty).—Consent.

St. George, Hanover-square.—Erection of a roller shutter box at No. 15, Waverton-street, Hill-street, Mayfair (Messrs. Haywood Brothers for Mr. B. G. Raphael).—Consent.

Strand.—Illuminated sign in front of No. 33, Greek-street, Soho (Messrs. Kettner's, Ltd.).—Consent.

Width of Way.

Kennington.—Re-erection of the "Engineers' Arms" beerhouse, No. 103, Wandsworth-road (Mr. A. Dixon for Messrs. Whitbread & Co., Ltd.).—Consent.

Kennington, South.—Retention of a studio building at the rear of No. 17, Pembroke-square, Kennington, with a forecourt boundary (Mr. S. Newcombe for Mr. R. J. Barrett).—Consent.

Kennington, South.—Erection of a green-house at Hill Lodge, Hillside-road, Kennington (Messrs. W. Cooper, Ltd.).—Consent.

Width of Way and Lines of Frontage.

Holborn.—Retention of an illuminated sign at the Tower-street substation of the Metropolitan Electric Supply Company, Ltd., abutting upon West-street, Holborn (Mr. E. Cunliffe Owen).—Consent.

Holborn.—Advertisement hoarding at No. 116, New Oxford-street, Holborn (Messrs. H. & F. Worror for Cleaver's Emporium, Ltd.).—Refused.

St. Pancras, South.—Erection of projecting steps and landing in front of the new chemistry building, University College—Gower-place, St. Pancras (Professor F. M. Simpson for the Committee of the University of London).—Consent.

Lines of Frontage and Construction.

Chelsea.—Showcase at No. 15, Sloane-street, Chelsea (Messrs. Charles Spreckley & Co., Ltd.).—Refused.

Clapham.—Temporary wood, iron, and canvas pent on the forecourt of No. 23, North-cote-road, Battersea, abutting upon Cairns-road (Mr. C. W. Hall).—Consent.

Levisham.—Temporary wooden building in front of No. 11, Aitken-road, Catford (Mr. W. J. Ball).—Consent.

Width of Way and Construction.

Greenwich.—Two temporary wooden sheds at premises, No. 66, Deptford-green, Greenwich (Cheap Wood Company).—Consent.

Islington, South.—Temporary watchman's box at the entrance to the yard of Bean's Express, Ltd., on the western side of Nelson-terrace, City-road, Islington (Mr. H. C. Flack for Bean's Express, Ltd.).—Consent.

Kennington, South.—Erection of a potting-shed of a temporary character in the grounds of No. 1, Holland-park, Kennington (Mr. H. W. Currey for Mr. W. F. Fladgate).—Consent.

St. George.—Temporary wood and iron building at the rear of No. 76, Umberston-street, St. George-in-the-East (Mr. W. J. Fitt).—Consent.

Southwark, West.—Two additional iron sheds at the premises of Messrs. J. J. Spicer & Sons, Redcross-street and Union-street, Southwark (Mr. R. Plumble for Messrs. J. Spicer & Sons).—Consent.

Wandsworth.—Temporary concrete building at Pincocks Wharf, Jew's-road, Wandsworth (Murblo (Partition Slabs), Ltd.).—Consent.

Wandsworth.—Erection of an addition to an existing temporary building, and the erection of a further temporary building upon a site on the western side of Putney Bridge-road, Wandsworth (Mr. W. J. Harris).—Refused.

Whitechapel.—Temporary wood and iron building upon a site on the southern side of Great Prescott-street, Whitechapel (Mr. E. W. Chicken).—Consent.

Space at Rear.

Chelsea.—Erection of a building with an irregular open space at the rear upon a site abutting upon King's-road and Flood-street, Chelsea (Temperance Billiard Halls, Ltd.).—Consent.

Hammersmith.—Erection of buildings upon the site of Nos. 156 and 153, King-street, Hammersmith, with an irregular open space at the rear of one of such buildings (Messrs. J. S. Quilter & Son for Messrs. Batley, Sons, & Holmes).—Consent.

Hampstead.—Erection of an additional story over a portion of Norfolk-mansions, Litho- road, Hampstead (Mr. G. E. Ellis for Mrs. M. A. Ellis).—Consent.

Kennington, South.—Erection of an additional story at No. 1, Astwood-mews, South Kennington (Mr. A. W. Rose for Mr. G. Petrie).—Refused.

Cubical Extent.

Camberwell, North.—Additional cubical extent in respect of alterations and additions at the premises of Messrs. T. Tilling, Ltd., Acorn-street, Camberwell (Messrs. Gilbert & Constanduros for Messrs. Thomas Tilling, Ltd.).—Consent.

Kennington, North.—Erection at the premises of the Pall Mall Depository Company, Ltd., Barby-road, Kennington, of an extension exceeding 250,000 cubic ft. in extent (Mr. W. G. Hunt for the Pall Mall Depository Company, Ltd.).—Consent.

Kennington, South.—Additional cubical extent in respect of the conversion of the second floors of blocks 1 and 2 of Harrods' Stores, Ltd., Brompton-road, Kennington, for trade purposes (Mr. C. W. Stephens for Harrods' Stores, Ltd.).—Consent.

Paddington, South.—At the premises of Messrs. W. Whiteley, Ltd., Queen's-road, Bays- water, the construction of the corridors and lifts between the old and new buildings, the provision of doors of special construction in lieu of double iron doors to openings in the division wall between the new building and the adjoining old buildings, Nos. 147 and 149, Queen's-road, erection of an extension of the third story of No. 157, Queen's-road, the erection of kitchen and restaurant additions at the fourth-floor level of the new building, the erection of a roof garden on the roof of the new building, the erection of a photographic studio (fourth story) over No. 149, Queen's-road (Messrs. John Belcher, R.A., and J. J. Jones).—Consent.

Rotherhithe.—Additional cubical extent in respect of a proposed addition to the premises of Messrs. Champion & Slee, Ltd., Church- street, Tower Bridge-road (Mr. J. M. Kennard for Messrs. Champion & Slee, Ltd., Church- street).—Consent.

Westminster.—Additional cubical extent in respect of additions at blocks F and G of the Army and Navy Co-operative Society, Ltd., Victoria-street and Howick-place, Westminster (Mr. W. J. Falkiner for the Army and Navy Co-operative Society, Ltd.).—Consent.

Formation of Streets.

Brixton.—Formation or laying out of two new streets for carriage traffic between Brixton- hill and Acre-lane, Brixton (Mr. H. B. Michell for the British Land Company, Ltd.).—Consent.

Alteration of Buildings.

Chelsea.—Erection of a studio addition on a flat roof at St. Loo-mansions, St. Loo-avenue, Chelsea (Mr. A. Roberts for the Chelsea Electricity Supply Company, Ltd.).—Consent.

City of London.—Smoke-pipe to a steam- boiler at No. 3, Lime-street, City (Messrs. J. Boulting & Sons for J. P. Restaurants, Ltd.).—Consent.

Width of Way, Line of Frontage, and Construction.

Rotherhithe.—Erection of external steel and concrete gangways to unite Nos. 137, 139, and 139A, with Nos. 170, 172, and 174, Rotherhithe- street, Rotherhithe, over the public way of Rotherhithe-street (Messrs. J. Shelbourne & Co. for Messrs. Fisher's Wharves and Granaries, Ltd.).—Refused.

The recommendations marked + are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

BALBY.—One hundred and twenty-four houses at Balby and Carr House (25,994.); Mr. A. Thomson, builder, care of the Clerk, Town Hall, Doncaster.

Banbury.—Forty houses (6,572.); Messrs. Bosworth & Lowe, builders, Ashley-street, Nottingham.

Barnard Castle.—Territorial drill hall; Messrs. Wright & Chapman, architects, New-castle; Messrs. R. Wilson & Sons, builders, 1, Victoria-terrace, Barnard Castle.

Batley.—Conversion of houses into offices for Messrs. R. Talbot & Sons, woollen manufacturers, Bullrush Mills, Bradford-road, Batley. Bellevue.—Proposed school (54,000.) for the Edinburgh School Board.

Blackpool.—Alterations to bath (10,000.); Mr. John Banks Brodie, Surveyor, Town Hall, Blackpool.

Blakenhall.—Proposed bath: Mr. G. Green, Surveyor, Town Hall, Blakenhall.

Bolton.—Institute, Bridgman-place (6,000.) for the Lancashire and Cheshire Miners' Federation.

Bowdon.—Proposed hall: Vicar, Parish Church, Bowdon.

Brighouse. Premises, Thornhill Briggs, for the Co-operative Society. Carnarvon.—Housing scheme, Bethel-road and St. Helen's-area; Mr. E. Hall, Surveyor, Town Hall, Carnarvon.

Chalvey.—Buildings at pumping-station (507.); Mr. W. Street, builder, Slough.

Clayton-le-Moors.—Church; Vicar, All Saints Church, Clayton.

Cleckheaton.—Extensions to Mount View Leather Works, for Messrs. H. F. Cockrill & Sons.

Colwall.—Houses; Surveyor, Parish Council Offices, Colwall.

Cornwall.—Sanatorium (10,500.); Messrs. S. W. Jenkin & A. E. Brookes, Surveyors, County Hall, Bodmin.

Crews.—Church (6,000.); Vicar, St. Paul's Church, Earle-street.

Dartford.—Additions at workhouse infirmary (676.); Mr. J. C. Hayward, Clerk, Guardians' Offices, Dartford.

Dartmouth.—Proposed isolation hospital; Surveyor, Town Hall, Dartmouth.

Devon.—Schools, Brixham (2,142.) and Umberleigh (1,357.); Mr. F. J. Badcock, builder, Hazeldene-yard, Ashburton, Devon.

Dewsbury.—Parochial hall (900.); Vicar, St. John's Church, Dewsbury Moor.

Dover.—Extensions to bank, Market-square, for the London County and Westminster Bank, head offices, 41, Lothbury, E.C.

Dumfries.—Housing scheme, King-street (8,000.); Mr. F. Armstrong, Surveyor, Town Hall, Dumfries.

Edinburgh.—Labour Exchange, corner of Riego-street, Lauriston-place, Tollerooss (8,001.); His Majesty's Office of Works, Storey's gate, Westminster, S.W.

Elland.—Cinematograph theatre, Coronation-street, for Central Pictures (Elland), Ltd.

Falkirk.—Billiard-room, Meeks-road (400.), for Messrs. Train & McIntyre, Ltd., whisky merchants, 60, Wellington-street, Glasgow.

Fleckney (Leicester).—Extensions to factory for Messrs. R. Walker & Sons, hosiery manufacturers.

Fleet.—School (200 places); Mr. W. Bailey, Town Hall, Winchester.

Gedney Drove End (Lincs).—Eight houses (1,390.); Mr. W. H. H. Davies, architect, York-row, Wisbech; Messrs. Wilkinson & Co., builders, Elm, Wisbech.

Heigham.—Alterations to St. Phillip's Church School and new school, Dereham-road (448 places); Messrs. H. Ramage & D. O. Holmes, Education Offices, Norwich.

Horden.—Police-station, Mr. W. Crozier, Architect, County Hall, Durham.

Hull.—Hall, etc. (2,250.); Rev. A. C. Carter, Pastor, East Park Baptist Church, Hull.

King's Lynn.—Extensions to baths (1,000.); Mr. J. H. Webb, Surveyor, Town Hall, King's Lynn.

Langholm.—Weaving shed and office, Factory Entry, for Messrs. Reid & Taylor, woollen manufacturers, Langholm Mills, Langholm.

Leeds.—School (5,000.); Trustees, St. Francis Roman Catholic Church, H. H. Beck, Leeds.

Swimming-baths. houses, chimney to laundry, etc. (2,665.); Messrs. H. Atkinson, Ltd., 2, Carlton-street, Leeds.

Leigh-on-Sea.—Addition to St. Clement's Church; Rev. R. S. King, Vicar.

Lewes.—Sanatorium (19,959.); Mr. F. J. Wood, Surveyor, County Hall, Lewes.

Lincoln.—Proposed infirmary; Mr. W. B. Danby, Clerk, Guardians' Offices, Lincoln.

* See also our list of Competitions, Contracts etc., on another page.

Loughborough.—Destructor house (720.); Mr. A. Faulks, builder, 4 and 5, Sparrow-hill, Loughborough.

Maidstone.—School, Tonbridge-road (1,786.); Messrs. Martin & Newman, builders, Curzon-road.

Milnrow.—Theatre for the Milnrow Empire, Ltd.

Mold.—Proposed restoration of Mold Church (8,000.); Rev. E. Jones, The Vicarage, Mold.

Monmouthshire.—Cookery centre, Blaenavon, and school, Cwmfrwdor; Mr. T. G. James, County Education Offices, Newport.

Newbridge (Mon).—Twenty houses for the Bryn Building Club (250. each); Messrs. Jenkins, James, & Co., architects, Newbridge; Mr. G. Smith, builder, Ynysddu, Mon.

Osett.—Extensions at Highfield Mills for Messrs. W. Walker & Sons, Ltd., woollen and worsted yarn spinners, dyers, etc.

Pendlebury.—Alterations to offices for the Worsley Brewery Company, Ltd., Bolton-road, Pendlebury.

Penzance.—Forty houses, Weeth's Field, adjoining Alverton; Mr. F. Latham, Surveyor, Town Hall, Penzance.

Prestwick.—Additions to school, High-street, for the School Board.

Ramsbottom.—Buildings for the Bradford Dyers' Association, Ltd., 39, Well-street, Bradford.

Redditch.—Proposed cinematograph theatre, Alcester-street, for Mr. C. H. Baines, of London.

Rochdale.—Headquarters for Prudential Assurance Company, Holborn Bars, E.C.

Roscrea.—Fourteen houses, Moneygall, and twenty houses, Shinrone; Surveyor, No. 2, Rural District Council Offices, Roscrea.

Rushden.—Additions at factory, Cromwell-road, for Messrs. W. Green & Son, boot and shoe manufacturers, Queen-street, Rushden.

Additions to factory, Mantons-road, for Mr. W. Knight. Two houses, Wellingborough-road; Mr. William Backwood, builder, 80, Newton-road, Rushden. Alterations and additions to Palace Theatre for Messrs. Cave Brothers. Additions to factory, Rectory-road, for the Central Machinery Company.

Saltburn-by-the-Sea.—Manual institution centre (515.); Mr. J. Hunter, builder, Saltburn.

Sandwich.—Extensions to Guildhall (1,126.); Messrs. Turner & Watts, builders, Cattle Market, Sandwich.

Selby.—One hundred houses, Flibby-road and Armoury-lane; Mr. R. B. McGray, Surveyor, Urban District Council Offices, Selby.

Slough.—Extensions at Gotha Works for Messrs. Peters & Co., railway carriage furniture manufacturers.

Stockton-on-Tees.—Additions at Newtown School (1,500.); Mr. J. Tweedie, Town Hall, Stockton.

Stoke-on-Trent.—School, Rookeny-lane; Architect, Education Offices, Stoke.

Stone (Staffs).—Additions to factory, Oulton-road, for Messrs. Bostock & Co., boot manufacturers.

Stowupland.—Houses (180. each); Mr. G. Harrison, Surveyor, Rural District Council Offices, East Stow.

Sunderland.—Tuberculosis pavilion on site of isolation hospital (1,100.); Mr. William Crozier, Architect, Shire Hall, Durham.

Sutton-in-Ashfield.—Fire-station; Mr. W. Burn, Surveyor, Urban District Council Offices, Sutton.

Swindon.—Business premises for Mr. J. H. Pakeman (900.); Messrs. Drew & Sons, architects, 25, Regent's-circus, Swindon; Mr. A. J. Colbourne, builder, County Building Works, Swindon.

Swinton.—Additions to Cyclone Works for Messrs. Mathews & Yates, Ltd., electrical engineers, etc.

Tavistock.—Ten almshouses (3,000.); Messrs. Peart Brothers, builders, Gilwell-street, Plymouth.

Thirsk.—School (100 places); Mr. J. C. Wrixley, North Riding Education Offices, Northallerton.

Trevelthan.—Twenty-two houses; Mr. W. H. Tresider, Surveyor, Town Hall, Falmouth.

Troon.—Shops and houses, corner of Wallbeck-crescent and West Portland-street (4,000.); Mr. Hugh Watt, Parkview, Troon.

Truro.—Alterations to various buildings, for dispensaries (1,640.); Messrs. S. W. Jenkins & A. E. Brookes, County Hall, Bodmin.

Uppminster.—Church hall (300.); Vicar, St. Lawrence Church.

Uxbridge.—Alterations to factory for Messrs. F. Parker & Sons, Ltd., furniture manufacturers, Cowley Peachey, Uxbridge.

Velindre.—School; Dr. J. James, Secretary, Glamorganshire Education Offices, Cardiff.

Wensum View (Norwich).—School (3,964.); Messrs. T. Gill & Son, builders, 28, Rupert-street, Norwich.

West Hartlepool.—Proposed pavilion (2,000.), Park-drive, for the West Hartlepool Cricket Club.

Westoning.—School (1,700.); Mr. Spooner, County Education Offices, Bedford.

West Sussex.—Additions to school, Aldbourne (550.); school, Lancing (1,478.); alterations to school, Rudgwick (260.); Mr. Thompson, West Sussex Education Office, Horsham.

Winchester.—Proposed baths, North Wall; Mr. W. V. Anderson, Surveyor, Town Hall, Winchester.

Wombwell.—Proposed completion of Park Church (2,000.), for the Vicar.

Worcester.—Proposed school; Messrs. Duckworth & F. F. Spackman, Education Offices, Worcester.

Worsley.—Additions to dye-house for Messrs. Burgess, Ledward, & Co., Ltd., dress goods manufacturers, 22, Dickinson-street, Manchester.

Wroughton (Swindon).—Rebuilding "C. ters' Rest," for Messrs. R. B. Rowley & Co. Ltd., brewers (790.); Messrs. Drew & Sons, architects, 25, Regent's-circus, Swindon.

Yarm.—Grammar school (3,187.); Messrs. Dobson & Son, builders, Stokesley.

Yoker.—Additions to works, Harvey street for Halley's Industrial Motors, Ltd.

FOREIGN AND COLONIAL.

Buildings in New York.

According to the Annual Report of the Bureau of Buildings for the Borough of Manhattan, the total value of the buildings erected in Manhattan during the last ten years about 216,000,000, varying from 17,000,000 in 1904 to 29,000,000 in 1909. The number new buildings varies from 659 in 1908 to 2,572 in 1909, the average cost ranging from 9,700 to 26,000. The total value of buildings erected during 1911 in Greater New York amounts to nearly 40,000,000, showing for the entire city a decrease of 67 per cent. as compared with the preceding year. Manhattan the proportion of fire-resistant buildings has increased from 51 per cent. in 1910 to 39.4 per cent. in 1911, and in a section between Fourteenth and Ninety-sixth streets the value of the fire-resisting buildings is 95 per cent. of all the new buildings.

Building Work, Canada.

The Imperial Trade Correspondent Toronto (Mr. F. W. Field) has forwarded extract from the local Press containing description of the proposed municipal abattoir at Toronto. According to this description, the building is to be absolutely fireproof, sanitary; glazed bricks and tiles will enter very largely into its construction, with vitrified bricks will be used for the floor. The "rendering" building will include departments for the manufacture of oiled oil, a storeroom and also for the manufacture of and address of the United States firm of architects who have prepared the plans, etc. for the building may be obtained by British manufacturers on application to the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

With reference to the notice on p. 206 of the Board of Trade Journal of July 25 relative to the formation of a company to establish a chain of terminal warehouses from Montreal to the Pacific Coast in connection with the Grand Trunk and Grand Trunk Pacific railway systems, H.M. Trade Commissioner for Canada now reports that the scheme has fallen through.

Belgian Cement.

The British Consul-General in Belgium reports that there was a considerable augmentation in 1911 of the amount of Belgian cement exported to Great Britain. For several years past the quantity of Belgian cement exported has been rapidly declining, but during 1911 there appears to have been a renewal demand, the figures reaching 64,547 tons, compared with 55,354 tons in 1910.

Schools, Hayti.

The British Acting Consul-General at Port-au-Prince (Mr. E. D. Watt) reports that a *Moniteur* of October 9 publishes a law authorising the annual expenditure of 50.0 dollars (about 10,270.) by the Department of Public Works for the construction of national schools in the Republic. Tenders will be invited for carrying out this work in accordance with the plans of the Department of Public Works, and exemption from customs duty granted on all material which it may be necessary to import from abroad.

THE CONCRETE INSTITUTE: PRESIDENTIAL ADDRESS.

THE twenty-seventh ordinary general meeting of the Concrete Institute was held on November 14, in the Lecture Hall at Denison House, Westminster, S.W.

The following were elected members of the Institute:—

W. J. B. Barker, London.
G. J. Bertinshaw, Wellington, New Zealand.
W. E. A. Brown, London.
J. Cathcart, Cleveland, U.S.A.
R. T. Cooke, London.
J. D. Cornack, Professor of Mechanical Engineering, University College, London.
J. P. Day, London.
J. P. Ion, London.
J. W. Gibson, Hull.
A. W. Green, London.
C. M. Gregory, Hove, Brighton.
C. A. Duncan, Behar.
J. M. Jardine, Edinburgh.
A. Bryce Johnstone, Braemar.

W. R. Kerr, Melbourne, Australia.
W. H. Lascelles, London.
W. J. H. Leverton, London.
S. G. Lyttle, Bijapur, India.
G. Metson, London.
A. H. Quick, London.
T. Ritchie, Cape Town, South Africa.
G. M. Stonier, Manchester.
J. Edge Taylor, London.
W. W. Tonkin, Johannesburg, Transvaal.
F. J. Treacher, Malvern.
H. A. Tristram, London.
H. H. Turner, London.
P. J. Waldram, London.
F. V. Wharton, Fort of Spain, Trinidad.

Mr. E. P. Wells, J.P., who presided, said that he brought the total membership of the Institute up to 938. He then delivered his Presidential address, in the course of which he said they were all aware that the scope of the Institute had been enlarged to include structural engineering. The Science Committee had undertaken to compile a standard notation for calculations in structural engineering generally. Further effort in the direction of standardisation was being made by the same Committee in drafting a standard specification for reinforced concrete work, which at the present time was very badly needed, and also a report on the standardisation of attachments for joints in reinforced concrete. The Tests Standing Committee had the following subjects under consideration:—

1. The effect upon steel of the presence of sulphur in aggregates.
2. The grading of aggregates.
3. The expansion and deterioration of concrete due to changes of atmospheric temperature.
4. The effect of the use of sodium silicate on the surface of concrete as affecting reinforcing metal.
5. The erratic results obtained by the Vicat needle in ascertaining the initial set of cement.

The Reinforced Concrete Practice Standing Committee were investigating:—

1. Methods of treating the surface of concrete.
2. Care to be taken to the expansion and contraction of reinforced concrete.

A special Investigation Sub-Committee had been formed to investigate failures and accidents in connexion with reinforced concrete construction, and also the restrictions placed by the Local Government Board upon the granting of loans to local authorities for the purpose of undertaking work in that material.

The Practical Side of Reinforced Concrete Construction.

Proceeding, the President said:—

"With regard to the first and the principal constituent in concrete—namely, Portland cement—it is strange, at this present day, how many engineers and architects still adhere to the old specification of coarse grinding, consequently requiring aeration of the cement. It has been my lot only this week to come across a specification where it was stated the cement was to be spread on a floor for twenty-one days before being used. Those of us who are well acquainted with the present-day cement, and also its fine grinding, know how deleterious this is when great crushing strength is required. I think I have said, on more than one occasion at this Institute, that if cement is to be kept up to its full strength it is absolutely necessary that when it is received on the site of the works it should be stored in air-tight wooden bins; and if this is done cement may be kept for many years and be just as good after the lapse of time as it was when freshly made, whereas if the cement is stored in sacks, and even a very small amount of moist air plays upon them, then the cement is rapidly hydrated and cakes in the sack. If, as is often the case, this cement be rubbed through a sieve, it becomes almost absolutely useless for purposes of concrete-making—by that I mean good concrete.

I have in my mind's eye a case of a contractor who bought cement in the month of October. The whole winter was a bad one,

and he had very little opportunity of using the cement. It was stored in a shed through which the wind could blow freely, and he was rather astonished when the spring came and the cement was used that it would not set. He then wrote to the manufacturers, and when the matter was investigated the true cause of the mischief was found out.

I have myself on many occasions experimented with cement that has been so hydrated, and it is astonishing the enormous reduction in the strength, so much so that it becomes almost useless for making concrete.

Any of you who chooses to make the experiment can do so, and you will find that with the concrete made from an over-hydrated cement the amount of strength obtained will be very little indeed, and that its setting action will be so slow that it will practically take days before it shows much sign of hardening. The only use of such a cement is to mix with an over-clayed cement that is too quick setting; by this means the setting action can be retarded.

Careful Choice in Aggregates.

Passing from cement, one is led on to the careful choice in all aggregates, the proper grading of the same, and also, what is of more importance, the seeing that everything is absolutely clean and the water pure.

I know it has been said that dirt is of some good in increasing the strength of cement concrete, but the only case that I can find where, over any period, a dirty aggregate increased the strength of the concrete was due to the fact that it had been mixed with a very over-clayed cement. It slowed down its setting action, and by that means did good; but if the test had been carried over a lengthy period it would have been proved how fallacious is the advantage to concrete of dirt in any form.

With regard to aggregates consisting of gravels that are dredged either from the river or from the bed of the ocean, it is very seldom that the proper proportion of sand to coarse material is obtained. There is only one gravel that I know where one can see that the proportion is about correct, and that is obtained from the Spurn. In the ballast obtained from the Thames and along the East Coast there is at the present time a great excess of sand, and under any circumstances I would not in any way recommend that this aggregate should be used without separation of the larger particles from the finer and subsequent crushing of the coarse material.

The difference in the strength of concrete made with an excess of sand is very marked where the proportion of cement is not great; that is to say, 6 to 1 and 7 to 1 concrete with an excess of sand show very great falling off in strength, whereas with richer mixtures and an excess of sand, though there is a falling off in the early stages of hardening, after a few years the concrete will almost come up in strength to a concrete made in the correct proportions. Of course, it is well known that for all waterwork a large proportion of sand is required so as to get a perfectly dense mixture, but in no case must this be overdone.

In concrete for waterwork it is not necessary to add anything to make it watertight. If concrete be properly made it will be absolutely impervious to moisture, and if it be found necessary to reduce the labour some of these compounds of hydrated lime are, no doubt, of utility in decreasing porosity, but, at the same time, concrete so made is not improved in strength.

Before leaving the subject of aggregates I wish to call particular attention, as I have done here on more than one occasion, to the use of Fletton bricks for concrete. I have found lately that wherever Fletton bricks have been used disruption has taken place in the concrete, and I think this is due to the presence of lime in the bricks. Fletton bricks that are dangerous to use are those with purple markings, and great care should be exercised by all those who propose to use brick aggregate for concrete work to eliminate absolutely Fletton bricks in any form whatever. In this I am borne out by several who have been unfortunate enough to use the bricks, the result being that the concrete has failed.

I was called in only a few months ago to a special floor that had been put down for testing bowls, when it was found that about a month after the floor had been laid it was becoming uneven in places. On examination it was found that in every case where the floor had risen Fletton bricks in the aggregate were the cause of the mischief.

It is always advisable in the making of concrete that it should be got into the work as quickly as possible, especially in the summer; with low temperatures it is not of such great importance, as the cold slows the setting action and also its hardening. In frosty weather the drier the concrete and the more ramming, so long as there is no chance of displacing any of the reinforcing, the better for the concrete, as it will set very much more rapidly than if there is an excess of moisture.

Reinforced Work and Moisture.

With regard to reinforced work, it is far better that the concrete should have a slight excess of moisture than a deficiency. Certain experiences that I have had lately have shown that where steel has been put into concrete that was too dry the air and moisture had got through the porous concrete to the steel and caused rapid corrosion.

In one case the bottom layer of concrete had been put in and allowed to set, the steel was placed on the dry concrete, and other dry concrete was placed on top. When this work was broken up it was found that the rods in the concrete were quite loose, could be turned round by hand, and the adhesion between the two layers of concrete was anything but good. Now, had the concrete been made wet, there would have been no separation between the steel and the concrete, it would not have been possible to twist the steel rods round in the concrete, neither would moisture have passed through the concrete to the steel and caused oxidation after the alkaline salts had disappeared by age owing to the presence of air and moisture.

Excess of moisture, as we all know, decreases the crushing strength of the concrete; but at the same time in nearly all structures there is generally such an excess of concrete in the compression member, especially where T-headed beams are used, that it is better to have the steel perfectly protected with a slightly weaker concrete than to have imperfect protection with a stronger concrete, because if imperfectly protected corrosion will be almost bound to take place, with consequent disruption of the concrete.

Excessive ramming in concrete is not at all necessary where it is made wet. It is far better to employ very light ramming and see that fine particles of the concrete are brought to the surface of the shuttering boards by means of steel slices or trowels. If this be done there will be very little danger of air finding its way through into the steel reinforcing, but a coarse aggregate first put in with an insufficiency of sand is almost always certain to have some porous parts through which the air and sulphur, especially in a London atmosphere, can attack the steel.

An Important Point in Reinforced Work.

It may be well here to call attention to what I consider to be a most important point in reinforced concrete construction, namely, that as the concrete is being put into the work test-cubes should be made both for ascertaining the strength of the concrete *in situ* and exposed to the ordinary atmospheric conditions, and also to ascertain in the laboratory the strength of a series of cubes made at the same time and kept under laboratory conditions. One set of cubes should be kept on the works exposed to the varying atmospheric conditions, and the other at the laboratory at the normal temperature, say, of 60 deg. Fahr.

Effect of Cold on Concrete.

Some years ago I made an experiment to see whether cold had any effect on concrete, and, if so, to what extent. I found that in the month of December, when the cubes were taken from about 60 deg. Fahr. and placed on a roof where the temperature fell to below freezing-point, a most alarming decrease took place in the crushing resistance of the concrete, and this remained so until such time as the weather became warmer, when the crushing resistance went up and was practically the same as shown by cubes made to the same gauging but kept under normal conditions.

This clearly shows that if a building is constructed in cold weather the crushing resistance of the concrete cubes kept on the works will be low, but if it be found that the other set of test-cubes, kept under laboratory conditions, shows a rapid increase in the strength, then it is only fair to assume that the concrete that has been exposed to the cold air will, with favourable conditions, increase in strength and attain the same strength as the laboratory experiments.

The reason I am calling particular attention to this point is that if a building is constructed in the winter and the test loads are applied up to 50 per cent. in excess while the weather is cold, there may possibly be an excessive amount of deflection, owing to the fact that the strength of the concrete in compression is low, whereas if the experiment were held over until the warmer weather, when the compressive strength of the concrete was largely increased, then the deflection would be practically nothing—of course, assuming that the work in the first instance had been properly designed.

Testing.

If the work is properly designed, and if the supervision has been strict and the work has been carried out according to the drawings, it is fair entirely to dispense with the testing of the structure so long as the experimental cubes show that the concrete has attained the strength required by the engineer or architect.

It is rather foolish to test a structure when one knows by experience that the crushing resistance, owing to the cold, is low. It would be far better to wait until the weather had become warmer and the concrete had parted with a lot of its moisture, when it would have become much harder. On the contrary, if it is found that the laboratory tests are low, say, for the sake of example, one month after being made, then I should strongly recommend testing of the structure to ascertain whether there were anything seriously at fault. Having those conditions of a low laboratory test and a much lower *in situ* test, yet the structure not exhibiting any serious deflection, then the work may be passed; but still, it is advisable in all cases to watch the crushing experiments, as upon these depends almost entirely the strength of the structure. A good crushing resistance means that the concrete is strong in tension, strong in adhesion, and strong in shear, and, such being so, there is very little danger of the structure failing even if there is a deficiency of steel.

The testing of floors and other works is, as a rule, carried out on much too small a scale. Testing should be spread over an area that will at least take in always two sets of secondary beams as well as two spans of main beams completely. By this method of testing the beams always have their full load and the adjoining beams become unloaded, which gives the most severe form of test, unless absolute continuous construction be carried out.

My experience has taught me that where concrete is good, that is to say, mixtures of 5 to 1 and richer, with the ordinary normal loading for which the structure was designed, unless most delicate instruments be used there will be no deflection recorded, whereas when weak concretes are used, namely, 6 to 1 and under, then the deflection at times becomes very great.

In all cases in making deflection tests they should be made, not only at the centre of the span but also at the walls, as very often it is found that a large amount of the so-called deflection is due entirely to the squeezing of the brickwork, owing to the fact that the reaction has not been spread over a sufficient area of brickwork. In no case ought the load on the brickwork to exceed 8 tons per square foot; by this means a good distribution is obtained and the brick walls are strengthened thereby.

Causes of Failure.

In a great many works that I have seen where failures have taken place the failures have been very largely attributable to shattering and strutting. I have in mind cases of beams deflecting 2 in. or 3 in. after the concrete has been filled into the mould, this being due entirely to the strutting sinking into the soft ground underneath. In several cases this has caused what appeared like shear cracks at each abutment, though the work afterwards stood the test load satisfactorily. Still, such cracks made the beam look unsightly, and there could not have been the same adhesion between the concrete and steel, owing to this settlement, as if the boxes had remained perfectly true and level during the whole time the concrete was being put in and until the same were struck.

I know of one case of a failure taking place entirely owing to the strutting sinking into the ground, the sinking taking place over more than a week. The concrete, therefore, never had the least chance of getting a fair adhesion to the steel, but was constantly being drawn away from it by this settlement of the strutting, so much so that when the strutting was removed the whole structure came down with a run.

It is always advisable, if there is any doubt at all about the ground, to have the latter tested beforehand, and it is far better to increase the sole-plates to double the size required, so as to prevent any possible chance of settlement, than to have an insufficient area with consequent settlement and trouble taking place.

Not only does the settlement cause a reverse camber of the beam, but it also gives a fall in the floors the wrong way, and it needs extra expense all round to make good such defective work.

All these are points that are easily obviated by the simple means of closely watching the work as it proceeds, and not allowing any concrete to be put in until the engineer or his representative is satisfied that the strutting is of such a nature that settlement is not likely to take place.

Strutting.

Strutting should always remain up as long as possible after the concrete has been placed in position; in fact, if it were not for the exigencies of trade and also the rapidity with which building works of the present day have to be erected, I should personally like to see all strutting remain up for very much longer periods than is generally allowed, because the harder concrete can get before removal and any weight can get thrown upon it the better it is for the structure as a whole. Unfortunately, in the present day the question of expense has to be very largely considered, and to allow strutting to remain up as long as one would like it would increase in a great many cases the cost of the work, and I am afraid it would become almost prohibitive. Of course, in cold weather strutting must be left up for periods 50 per cent. longer than is allowed in the summer-time, and a great many of the failures in this country, and more especially in America, are mainly traceable to the removal of the shuttering and strutting at too early a period in the life of the concrete. The concrete at the time of striking was weak, but had an extra fortnight or more been allowed for the hardening, then the works that have failed would do doubt have stood up.

Water and Concrete-Making.

Before finishing with concrete-making I would like to refer to water to be used therein. In this country, as a rule, water is almost invariably obtained from what is called a domestic source, namely, water supplied by large public companies who are extremely careful in what is sold to the public. Such being so, it is very rarely in England that one has to use water that does not come from the public supply; but there are cases where it is advisable carefully to examine the same before it is used. There are some places where the water is highly charged with gypsum compounds, and, such being the case, it behoves one to see that there is no likelihood of failure taking place owing to an excess of this compound.

In the South of France, in Algeria, and in a great many districts waters are highly charged with gypsum, and so bad is this in places that concrete is absolutely dissolved and disrupted in less than two or three years. Whenever there is any doubt as to the quality of the water to be employed an analysis should be made beforehand, and so prevent what might lead to a disaster.

Steelwork.

One of the great defects with regard to reinforced concrete is constantly raised by those who have not had much to do with the subject, and often by those who are largely connected with it, namely, the difficulty of getting steel work placed in the position designed by the engineer. It is a difficult matter always to get the work placed in the designed position, owing to the carelessness of the British workman, whose idea seems to be to get the material into position as quickly as possible, no matter whether it be right or wrong, and in a great many cases if he has an opportunity of leaving the steel out he will do so. The only way to get over this difficulty is not to allow any concrete to be filled or poured in until the steelwork had been passed by the engineer or his representative. If this be done there will be very little danger to be apprehended, because if the steel is in the correct position, if the concrete is proved to be as good, as borne out by the *in situ* tests and by the laboratory tests, and if the strutting has not given way, then one may fairly assume that the work has been well carried out and will sustain all the loads for which it is designed, and that there will be no

deflection, or else of such a slight nature that it is not worth troubling about. If, however, the steel be badly placed, the concrete be poor and the strutting has failed, then there is no knowing what is going to be the result.

In a great many years of practical experience I have come to this conclusion, that even if there is a large deficiency of steel in the structure both in tension and in compression, and the concrete is of an excellent quality, there is hardly any chance of failure taking place, but if the steel is up to and even in excess of the requirements asked for, and by any chance the concrete be poor, then if an excessive load be placed upon the structure there is nothing to prevent it failing. As I have stated before, a rich concrete is strong in crushing, tension, adhesion, and shear, whereas with poor concrete exactly the reverse is the case.

A series of experiments that I carried out some years ago of some beams gave for thirty three days' test a factor of safety of $\frac{5}{3}$ to 1, in three years the factor was over 9 to 1. This was due entirely to a very good concrete which was absolutely homogeneous throughout, and when the beams broke they failed only at the centre, the only place where cracks developed. There was no sign of shear and the diameters of the rods where the failure took place were, to all intents and purposes, the same diameters as when they were put in. These experiments, I think, simply show an enormous increase in the lever-arm, due to the rich concrete; in fact, in the case I now mention, the lever-arm was practically the total depth from the axis of the tension members to the outside of the compression member of the beam, but even this will not account wholly for the enormous load that the beams carried, as the tests produced extraordinary stresses both in the steel and also in the concrete itself.

Labourers and the Carrying-out of Work.

A great deal has been done by the London County Council School of Building in educating clerks of the works and others as to the method in which the practical part of reinforced concrete construction should be carried out. They ought to go a step lower and take in hand labourers who are connected with the carrying-out of the work, because until such time as they themselves understand, to even a very slight extent, what is required of them, so long will they be careless in doing the work they have to do.

The foremen employed must be instructed to keep a sharp look-out on all their men, and not to allow luxury in any shape or form. The men know that the foreman is up to all their so-called tricks of the trade, then they will take good care that the work is carried out in an efficient manner, but if by any chance the foreman is careless his workmen will be the same; and it will, I think, very often be found that where anything serious takes place it is not only the men but the foreman and even the clerk of the works on the job who are answerable for this state of affairs.

Electrolysis.

A point that was investigated by the Science Committee some time ago was one which it is advisable, I think, for me to call attention to and that is electrolysis. I have watched on work where this mischief occurred, and only about a couple of months ago I made a further examination and found that the mischief was still increasing. It is a moot point with some as to whether there is any electrolytic action or not, but personally I have very little doubt upon the subject, so that it behoves all designers and contractors to see that there is no possible chance of electric currents finding their way into the steel reinforcing, because should they do so, I do not think there is any doubt whatever that it will mean the eventual disruption of the concrete. It only requires the exercise of care to put a stop to this and to be perfectly certain that all cables throughout the reinforced concrete work are properly insulated, and that there are no stray currents wandering about the work.

Calculations of Reinforced Concrete and Mathematics.

I think a great many of my hearers will agree with me in regard to the calculations of reinforced concrete work that a great deal too much mathematics has been imported into the subject and that common sense has had to take a back seat.

If we were dealing with two materials, both of which were absolutely constant—that is to

ay, the concrete constant within a month after it was made in strength as the steel is immediately after it is rolled—then it would be possible to go in for mathematical formulae of a high order; but where you have a material—e. g., concrete—the strength of which, if all portions are good, is increasing day by day, and in some cases attaining a strength of three, four, or more times that which it was originally calculated for, how is it possible in these ways to formulate any formulae which are even moderately correct? It is far better to use more common sense and simplify or formulate empirical rules which you know are absolutely safe in their application. It is no good trying to extract the square root of two—it is useless.

I have seen cases where the stresses have been worked out to five places of decimals, and it would all have been done by mental arithmetic, and the result would have been so close that it was really not worth while troubling about.

I see cases constantly where rods are put into work varied in diameter to 32nds of an inch. That is not at all necessary. It wastes time on the work, and in a great many cases wrong rods go into the wrong place. It is as bad to adhere in all cases to commercial sizes, never advancing beyond 16ths of an inch, and if possible advancing only by 1/4ths, as by that means the size of the rod is clear to the naked eye and does not require a caliper to be put upon it to find out whether it is 3/4 or 7/8 of an inch. Such reinforcements as these simply how designers lack common sense and bring the work into disrepute. Exactly the same thing takes place with calculations submitted for approval. A mass of figures will be carried out into millions where the whole lot can be simplified by reduction into tens or hundreds, and the elimination of anything beyond two places of decimals. The simpler calculations are made the less liability there is of errors creeping in, and if an error does creep in then it is much easier to discover; and where a whole foolscap page of figures is used to arrive at a result, it means in a great many cases simply courting disaster, as well as being also a waste of time and expense with view to possibly saving a pennyworth of cost.

Figures have always been a great enemy to the complicated calculations, as I do not think they are at all necessary. It only brings to mind the great building that has ever been constructed in London. I am now speaking of as long ago as about five-and-twenty years. In an arch there was a deficiency in the centre of the arch, I think, 1/2 in. in a large sectional area of steel. To make up this deficiency in compression a bar 2 in. by 1/4 in. was riveted on, and this only for a length of 2 ft. or 3 ft., thus making mathematics simply an absurdity, whereas a common-sense engineer would have for the sake of 1/2 in. in 100 sq. in. ever think of giving anything so absurd.

The same applies to reinforced concrete. It far better to work in all cases to commercial sizes of rods, even if there be a slight deficiency in sectional area, than to put in multiples of 1/8 of an inch diameter so as to make up a given sectional area. This entails an enormous amount of work, not only upon the designer, but also upon the foreman who has to take charge of the work, and upon everybody connected therewith, and it is of no practical use whatever. Therefore I should like to see all rules made for reinforced concrete that common sense should enter more largely into the formulae that are given to the world, and not a mass of mathematics provided, which authors know perfectly well are even then empirical, because one material is a constant and the other is an inconstant."

Mr. H. Percy Boulnois, M.Inst.C.E., Chairman of the Council of the Royal Sanitary Institute, in proposing a vote of thanks to the President, said that materials should be standardised, but unfortunately one could not standardise men, and the personal element of the men came into the work enormously. The best design might be ruined by bad workmanship.

Mr. C. S. Meik, M.Inst.C.E., who seconded the vote of thanks, expressed the opinion that less one could get good workmanship one did not get good work in reinforced concrete. All such work the men should be specially trained, and one should make sure that there is not a man amongst them who had been accustomed to make concrete as it used to be done. He emphasised the necessity of making cubes when doing important work. Such

cubes made as the work was going on were of great value afterwards should anything happen to the work. If a failure took place, for instance, during testing it could be found out by reference to the cubes made on that particular day whether the failure was due to the cement or to bad workmanship, and the engineer's mind would be relieved to a great extent when it was found the cement was not at fault.

Mr. E. Flinder Etchells, A.M.I.Mech.E., in supporting the vote of thanks, said he would like to make the Institute "The Institution for Structural Engineers and Architects," because it was the Institution *par excellence* for them. There was no other institution in this country which combined architects and engineers in one corporate body, though there might be in Austria and in Germany.

NEW YORK WATER SUPPLY.

UNTIL 1774 the City of New York was supplied with water from wells, mostly sunk at street corners. The oldest of these, dating from 1658, was opposite the fort at Bowling Green.

The first public waterworks system was constructed in 1774, from the plans of Christopher Colles, an English engineer. The source of supply was the old "Collect Pond" on the site of the present Tombs, and the water was pumped by steam engines to a reservoir between Pearl and Walker streets in Broadway, being distributed thence through mains formed of hollow logs, similar to those formerly used in London for the same purpose.

In 1799 the Manhattan Water Company obtained a charter for supplying the city with water, which they drew from wells near the junction of Reade and Centre streets, and pumped into a reservoir between Broadway and Centre-street, whence it was delivered through hollow log mains.

In 1834 the New York State Legislature authorised the city authorities to obtain supplies from the Croton River, and the works were completed in 1842. The first reservoir on this river was formed by building a dam 50 ft. high, and the water was conveyed to New York in a masonry aqueduct, 8 ft. 5 1/2 in. high by 7 ft. 5 in. wide. For the greater part of its length the conduit followed the Hudson River, hills being pierced by tunnels and valleys filled by stone embankments. The Harlem River was crossed by a bridge of fifteen arches with 50-ft. and 80-ft. spans.

Although designed for the maximum output of 36 million gallons per day, the original Croton Aqueduct was required to deliver as much as 95 million gallons per day in 1880, so as to keep pace with the enormously increased consumption.

In 1884 an additional supply of 23 million gallons daily was secured from the Bronx and Byram Rivers, and in 1890 a second aqueduct from the Croton River was brought into use. This work, known as the New Croton Aqueduct, is 135 ft. 6 in. high by 13 ft. 6 in. wide, and has a capacity of 300 million gallons daily. It crosses the Harlem River by a tunnelled siphon 1,300 ft. long and 300 ft. below water level, and cost 4,000,000.

Storage reservoirs constructed in the Croton Valley, and including the New Croton Reservoir, bring up the storage capacity to more than 104,000 million gallons for the boroughs of Manhattan and the Bronx, the boroughs of Brooklyn, Queens, and Richmond having independent supplies.

As the three aqueducts—two from the Croton River and one from the Bronx and Byram Rivers—can only deliver about 400 million gallons daily, while the average consumption is more than 300 million gallons, works were inaugurated, as a result of the recommendations of the 1902 Commission, for obtaining an additional supply of 500 million gallons daily from the Catskill Mountains.

The works, which were commenced in 1905, include the Ashokan Reservoir, with a storage capacity of 150,000 million gallons; the Catskill Aqueduct, 17 ft. high by 17 ft. 6 in. wide, and 92 miles long; Hill View Reservoir, in New York, with a capacity of 900 million gallons; Kensico Reservoir, on the Bronx River, with a capacity of 40,000 million gallons; and distribution mains, 34 miles long, for supplying the five boroughs of Greater New York.

The works now in progress will cost about 40,000,000, and will yield some 250 million gallons daily. Additional impounding reservoirs will be constructed later for the purpose of providing the further supply of 250 million gallons daily from the Catskill Mountains.

WESTMINSTER CITY COUNCIL.

THE following amongst other matters were dealt with at the fortnightly sitting of this Council on November 21:—

Thames Embankment Extension.—It was decided to pay 50,000, to the London County Council towards the cost of the Thames Embankment extension and improvements at Westminster, as soon as a loan for that amount can be obtained, and to pay a further 50,000, when the properties in Abingdon-street have been pulled down and a part of the land thrown into the public way.

British-American Tobacco Company's Premises.—A letter had been received from Messrs. Gordon & Gunton with reference to the Council's order as to the level of the lowest floor of the new premises at Millbank for the British-American Tobacco Company, stating their contractors say it was almost impossible to make a good job if the basement be tanked with 1-in. asphalt as required by the Council, especially on vertical work, and they strongly recommended 3-in. asphalt. They applied for permission to tank the basement with 3-in. asphalt. It was agreed that the order be varied as requested.

Wood-Paving Contracts.—It was agreed that the Improved Wood Pavement Company, Ltd., be informed that the Council was not prepared to consider an offer for the continued maintenance of the wood-paved carriageways of certain streets, in regard to which notice for the termination of the contract had been given.

TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.

Galsworthy v. London County Council.

THE Tribunal of Appeal under the London Building Act sat at the Surveyors' Institution on November 21 to hear an appeal by Mr. Frederick Thomas Galsworthy against the certificate of the Superintending Architect of Metropolitan Buildings, dated May 31, defining the general line of buildings on the south side of Euston-road, between Southampton-street and Fitzroy-street. Mr. Ernest Pollock, K.C., and Mr. D. Young appeared for the appellants, and Mr. Daldy for the London County Council. Mr. G. Mould appeared for the executors of Sir Horace Regnalt, the owner of the premises at the corner of Southampton-street, as an interested party, reserving his right to give notice on an appeal within the prescribed time.

Mr. Pollock, K.C., said the appellant was the owner of 49, Warren-street and 347, Euston-road, which were premises immediately behind one another. Fifteen years ago he appeared before the Tribunal in respect of this very portion of the road, and the Tribunal then decided the general line of buildings between Southampton-street and Tottenham Court-road, within which the appellant's premises were situated. The Superintending Architect had now, by his certificate of May 31, laid down a new line, which cut through premises already erected in the block. He contended that in face of the decision of the Tribunal in 1897 the new certificate of the Superintending Architect was bad.

Mr. A. A. Hudson (Chairman) asked how the Tribunal could hear an appeal in respect of a matter which they had already decided. A long legal argument followed, in the course of which Mr. Pollock contended that under sect. 22 his position was that of an aggrieved person in consequence of the Superintending Architect giving a new certificate, and he did not think it was possible for him simply to go on and treat the new certificate as waste paper. The certificate was applied for by the County Council, and he took it that it was their intention to act on it.

Mr. Daldy thought the Tribunal had jurisdiction to hear an appeal. What he said was that the decision of 1897 was not a determination of the building line of this particular place in the Euston-road, but was a determination of something else. The Tribunal could inquire whether the circumstances had altered, and whether, in fact, that the 1897 decision was on the general line of buildings.

The Chairman said the point was that between 1897 there might have been alterations

in the district which might cause the line to be changed.

Mr. Pollock said he was agreeable to evidence being heard of what had taken place since 1897, but he would object to the cases before 1897 being gone into.

Mr. Daldy said he could not agree to that.

Mr. Pollock quoted from the decision of the Tribunal in 1897, which said that the general line of buildings on the southern side of Euston-road, between Southampton-street and Tottenham Court-road, was as defined on the plan annexed. He called attention to the case of *Lilley v. London County Council* in the House of Lords, and submitted that no one could get rid of the previous decision unless there had been changes affecting the general line of buildings in the area.

Mr. A. J. Lambert, surveyor, said he had examined the property between Southampton-street and Fitzroy-street. There had been no changes in the buildings since 1901, except the rebuilding of Dunhill's property.

The parties agreed on the suggestion of the Chairman that there had been no alteration in the buildings between Fitzroy-street and Southampton-street, except Dunhill's premises, which, Mr. Daldy said, were erected by consent, and therefore could not be taken into consideration in any determination of the line.

Mr. Pollock pointed out that the certificate of 1902, giving consent to Dunhill's premises, which were built within the line laid down by the Tribunal, was not necessary.

Mr. Daldy said Mr. Pollock's argument was that the Tribunal could go into the 1897 decision, but they were not entitled to go into it to the extent of finding out what it really was. He submitted that if they were entitled to go into it or proceed on it at all, they were entitled to find out what it really was. If that was done he contended that the decision of the Tribunal of 1897 was not a decision as to the general line of building at all. Of course, the Tribunal was the best judge of what it really had before them in 1897, but he hoped to satisfy them by evidence that what they really decided upon in that case was with regard to all the buildings on the site. In view, however, of the decision of the House of Lords in *Fleming's case*, the Tribunal was not entitled in 1897, although they supposed they were entitled, to overrule a well-established general line of buildings.

The Chairman: You say we were wrong in law in 1897?

Mr. Daldy said how he put it was this—Under the Building Act the Tribunal had to discharge a certain duty, and on appeal they had to determine what was the position of the general line of buildings in a given piece of street. If by a mistake, whether in fact or in law, they had not determined it, then it came to nothing, and it did not matter whether it was a mistake in fact or law. He stood or fell by that. If in 1897 the Tribunal discharged its duty under the Act, then he could not get behind what they had done; but he was entitled to show that by a mistake they did not discharge their duty, although they intended to do so.

The Chairman asked if Mr. Daldy moved the Court to set aside the decision of 1897 on the ground that there was already a line defined and the Tribunal had no jurisdiction. That was really the point; the answer would be: "Why did he not appeal?" Was Mr. Daldy not asking them to reopen the facts of the case to enable him to raise a point of law which ought to have been raised in 1897?

Mr. Daldy admitted that it came somewhat near that.

The Chairman said they were really being asked to decide that their decision in 1897 was no decision at all.

Mr. Daldy said it was a decision, in fact, but he denied that it was a decision under the Act of Parliament. One further point was that in 1897 the Tribunal dealt with a longer length of street than the Superintending Architect at that time dealt with.

Mr. Pollock strongly objected to the Tribunal admitting evidence as suggested by Mr. Daldy. It was only an ingenious method of trying to get the Tribunal to say their 1897 decision was bad.

The Chairman said the Tribunal were agreed that they should not hear the evidence. If they were to go into this they would have to reopen the cases of the properties of thirty-five persons who had interests in the section dealt with.

Mr. Daldy asked to be allowed to give evidence to show that from the time of the passing of the Metropolitan Management Act there was a general accepted general line of buildings, with reference to which consents were asked for and given. His object was to show that in 1897, according to the decision in the case of *Lilley v. London County Council*, the Tribunal was not entitled to alter the

general line of buildings laid down by the Superintending Architect between Southampton-street and Fitzroy-street.

The Tribunal ruled against Mr. Daldy on this point, and allowed the appeal, with 60 guineas costs.

LEGAL COLUMN.

Water Board Charges.

The case of Metropolitan Water Board v. Phillips has been carried to the House of Lords. By sect. 15, subsect. 1, of the Metropolitan Water Board (Charges) Act, 1907, the rateable value of premises upon which the water rate is levied is to be determined "by the valuation list in force at the commencement of the quarter for which the water rate accrues, or, if there is no such list in force, by the last rate made for the relief of the poor or other rate in which such last mentioned rate is included." By sect. 15 the quarter days are April 1, July 1, October 1, and January 1. The question was, what was the valuation list in force? On April 6, 1909, under the provisions of the Valuation (Metropolis) Act, 1869, a supplemental valuation list came into force in which the rateable value of the premises in question was 400*l.* On June 2, 1910, the overseers had sent to the Assessment Committee a supplemental list, placing the value at 399*l.*, but on objection to this list the Assessment Committee reduced the valuation to 234*l.*, and this was returned and signed October 3, 1910—i.e., three days after the first quarter's water rate in question had begun to accrue. The majority of the Court of Appeal held that the latter list went back, and was therefore in force, on October 1. The House of Lords have reversed this judgment, holding no other list to be in force on October 1 but that which came into force April 6, 1909, and which placed the rateable value of the premises at 400*l.* The reasoning of this judgment is easier to follow, but in the case in question it represents some hardship to the water consumer, as had the new list been issued and signed but three days sooner his water rate would have been nearly halved. Hard cases, however, make bad law, and as the Lord Chancellor pointed out, in some cases the assessment might be increased and not diminished, in which case the loss would have fallen on the Water Board, as the lower assessment would have remained in force.

The Trade Disputes Act.

The House of Lords have recently delivered judgments of the utmost importance on sect. 4, subsect. 1, of the Trade Disputes Act, 1906, in the case of *Vacher & Sons, Ltd. v. London Society of Compositors*, which we noted in the Court of Appeal, *The Builder*, April 12 last. The action was one for conspiracy, and libel brought against a trade union, the libel complained of being to the effect that the firm dealt unfairly with their employees. The facts were denied, as the defendant union never delivered a statement of defence, but relied solely on sect. 4 of the Trade Disputes Act, and applied to be struck out of the action. Sect. 4, subsect. 1, of the Trade Disputes Act is as follows:—"An action against a trade union, whether of workmen or masters, or against any members or officials thereof, on behalf of themselves and all other members of the trade union in respect of any tortious act alleged to have been committed by or on behalf of the trade union, shall not be entertained by any Court."

For a long time it has been uncertain whether this section was to be interpreted in its natural meaning or whether the qualification inserted in other sections, and in subsect. 2 of this section, as to certain acts being privileged only when done in contemplation or furtherance of trade disputes, must not be read into it. These doubts, we may say, have really only arisen because it could not be realised that the Legislature intended to place trade unions outside the law as regards wrongful acts committed entirely unconnected with trade disputes. The House of Lords have now held that the meaning of the words used by the Legislature being plain, they must be interpreted in their natural sense, and that the Act does grant this absolute immunity from any restraint in the Law Courts. We have always held this view, as we pointed out in effect of this section when the Bill was before Parliament on the Third Reading and subsequent stages (see *The Builder*, November 17, 1906).

The important point now to be noted is the effect of this section, thus interpreted on the Trade Union Bill now before Parliament. The Legislature can never have seriously intended to enable trade

unions, irrespective of trade disputes, to commit every tortious act, from libel to damage to property, or even personal violence without being liable to a civil suit, as in no civilised state can such a license be allowed to any class, and now that the effect of the section has been demonstrated by the House of Lords we imagine every law-abiding person will call upon the Legislature to remedy what it is quite obvious can only be deemed to be a slip or mistake in the Act.

LAW REPORTS.

OFFICIAL REFEREE'S COURT.

(Before Mr. EDWARD POLLOCK.)

Removing and Reconstructing a Tudor House

Tibbenham v. Gill.

THE hearing was begun on November 1 and continued on subsequent days of a claim for the recovery of 1,695*l.*, balance of an account, advanced by the plaintiff, Mr. Frederick Tibbenham, of Lower Brook-street Ipswich, against the defendant, Mr. John Hamblet (Gill), of Oxford-street, London. The subject-matter of the action has reference to the removal from Hawstead, near Bury St. Edmund's, and its re-erection at Clacton, of a Tudor house. In respect to that the claim was for 850*l.* There was also a claim in respect to furniture supplied by the plaintiff and, amongst other things, to an oak staircase which, according to his case, had been adapted so that it might be in accord with a house of the Tudor period. There were claims under several other heads. Various defences were raised, the defendant pleading, *inter alia*, that the plaintiff agreed to supply materials to complete certain works for 800*l.*, and not 850*l.* subject to certain conditions, including on that no alterations should be paid for unless advised in writing, and then only at agree prices and upon the architect's valuation. It was also pleaded that the defendant's architect had not given the certificate required by the contract as a condition precedent to the defendant's liability to pay. It was further alleged that the plaintiff was claiming payment for many things as extras, which were included in and covered by the contract price and were not extras at all. Several other pleas were raised by defendant as to other items.

Mr. E. Grimwood Mears and Mr. H. Atkin (instructed by Messrs. Rye & Eyre) appeared for the plaintiff; and Mr. Greer, K.C., and Mr. A. S. Garsland (instructed by Messrs. Dod, Longstaffe, Son, & Fenwick) represented the defendant.

Mr. Grimwood Mears, in opening the case, pointed out that the defendant's architect, Mr. Scheuermann, of Ipswich, had endeavoured to get Mr. Tibbenham to sign a contract by which the latter never did so, referring to do his business with Mr. Gill. Counsel intimated that this house at Clacton placed upon it a tablet stating that it was a Tudor house of 1490, removed from near Bury St. Edmund's by Messrs. Gill & Reigate of London. An architect, Mr. H. Atkin, Referee concerning the absence of a contract, Counsel said the parties had made a bargain, and except as a reason for raising money, there was no reason why plaintiff should be bound down by a cast-iron contract at a time when the house was half completed.

The plaintiff, in the witness box, stated that in 1904 he began doing business with Messrs. Gill & Reigate. Witness had made reproductions of panelling, furniture, and houses for Messrs. Gill & Reigate. Witness added that he had introduced Mr. Scheuermann to Messrs. Gill & Reigate, that event taking place in connexion with the putting up of the Tudor House at the White City. It was in February, 1910, that he discovered an old house being used as a barn at Hawstead. He communicated with Messrs. Gill & Reigate and subsequently purchased the house for 250*l.* The firm agreed to buy it, but ultimately it became Mr. Gill's liability. Mr. Gill was managing director of Messrs. Gill & Reigate. In January, 1911, Mr. Scheuermann had got out the specifications, and on January 22 he received the specifications for the plan. He handed them to a Mr. Harry and a Mr. Warner, who did work for him and, after receiving their aid, he arrived at the conclusion what the cost would be. He thought that the cost to carry out the work named in the specification would be about 1,000*l.* or 1,100*l.* Mr. Gill had told him a Oxford-street that that was too much, and that if he could not reduce it they could not sell the Tudor houses.

The Official Referee stated that this was only one house. Mr. Tibbenham: But they have been selling others. Proceeding, he said that Mr. Gill had

anted this house at Clacton to be a great detriment for the firm. Mr. Gill had said that if witness could reduce the price would make it up to him. Defendant had recently said that he would not give more than £500. Mr. Schoemann told witness that could not be done for the money. Witness said that he would have to do it. Witness saw the erection of the old building he had seen down at Hawstead on May 4. He read that his account was made up as follows:—£500 for house, £321 for extras and £14 for garden, making a total of 1,942.18.8d. a prime-cost book showed that the total to him of the defendant's house was £381.14s.2d., which gave him a profit of £10 on the house.

Mr. Meers: Regarding these extras coming £321, is there one single extra put into building that did not receive sanction or not to the approval of the defendant or representative?—No.

Mr. Greer: I do not describe them as extras. I agree that the work was done. Mr. Meers: As regards every item you're charged as an extra, are the prices fair and reasonable?—They are.

Mr. Meers: If my friend wants it, place before your prime-cost book, showing him all items?—Yes. Witness added that he had time to do with the drawing up of the specifications. Witness was then examined length as to the old oak staircase. He marked that it was quite easy for a man with his experience to make an old staircase for approximately of the Tudor period.

Mr. Meers: In Tudor times they had a cully in getting upstairs, and knocked the stairs about. Did you make provision for that?—Yes, we had men running up and down for some time with heavy boots.

Mr. Greer: A cross-examination by Mr. Greer, the witness said that he refused to sign an agreement because he wanted £500, in respect to house and not £800.

Mr. Greer suggested that the contract submitted to plaintiff in a subsequent form put total price for everything at 1,050.

Mr. Greer: I suggest to you that at no time you ever take any objection to the sum of £500. In that document?—Yes, I did; but not tell exactly the date.

Mr. Greer: Did you ever say to Mr. Schoemann that he ought not to have put £500 in the agreement, but that he ought to have put 1,100?—I did, but I can't tell the

where?—In his own office. Mr. Greer: You have done a certain amount of building work before you took this contract?—Yes, I have done any ordinary building work, moving and re-erecting structures, and fitting them up with new parts as much in money with the old as possible?—Yes, I added to them. It has been very rare that I have had specifications before me. The hearing was adjourned.

garden, etc. An interview took place on February 25. Then Mr. Aberne told defendant that he would accept the offer of 1,100, and they went on to discuss the other matters.

On February 26, 1911, plaintiff wrote to Mr. Couchman, saying:

"I am obliged to you for your letter of February 25. I will accept Mr. Glover's offer made through you of 1,100. for the freehold house, completion at midsummer."

His Lordship: I feel very great difficulty about any binding offer having been made.

Mr. Ward Coldridge argued that Mr. Couchman was defendant's agent, and the letter contained all the elements of a good offer. Plaintiff had suggested to Mr. Glover that if the completion of the house was desired to be done at once, then the completion of the purchase should take place earlier than midsummer; but that was the only point left open on February 25. Mr. Glover found, however, that he could not obtain release from the tenancy of his then house until March, 1913, and Counsel submitted, that it was on that account that he cried off the bargain. His first solicitor's letter said:—

"The letters contain no contract, and as your client (plaintiff) is not willing to make the alterations to the house and garden as stipulated by our client, the matter will not proceed."

As a matter of fact, plaintiff had always been ready to complete the house as arranged. Plaintiff, in evidence, stated that the only matter left open on February 25, when he saw Mr. Glover, was whether the purchase should be completed in March, 1911, or the following midsummer.

Other evidence was also called. Mr. Norton, K.C., for the defence, argued that no definite offer was made in the letter of February 25, and that Mr. Couchman had no authority to make such an offer; further, that the letters did not contain all the terms of the alleged contract, and on that ground could not bind the defendant.

Mr. Glover, in evidence, said that at the interview of February 25, the whole question of purchase or no purchase was left open until after he should have seen his landlord.

Other witnesses were also called for the defence.

His Lordship, in giving judgment, said the contract on which plaintiff relied was alleged to be constituted by the letters of February 25 and February 26, 1911. The first of these was the only scrap of writing in the case which could possibly be binding on the defendant, and when this was first read he had felt and expressed doubt as to whether, on the face of it, this was such a simple and definite offer as could by acceptance be converted into a contract. But in case it could or ought to be so construed, it was clear to his Lordship's mind that it was made without the authority of the defendant. In other words, the offer being unauthorised, no acceptance could convert it into a contract binding on the defendant. But on the evidence it seemed clear that this letter was not intended to be a simple unconditional offer, nor was it so treated by the plaintiff. Mr. Couchman was negotiating as to price only, and there were other material matters not referred to in the letter which it was arranged between Mr. Couchman and Mr. Glover should be left to be settled by direct negotiations between the plaintiff and the defendant himself. Mr. Couchman had no authority as to anything but price, or, rather, he declined to have to do with anything but price. If he had authority to make an offer, it was only on certain conditions not expressed or referred to in the letter.

Now, this so-called offer was not accepted at once. Before the acceptance of February 25 was written, plaintiff saw the defendant in order to discuss and negotiate with respect to these matters other than the price, and the meeting of that date terminated before any settlement was arrived at. The letter of February 26 was written by the plaintiff with these other matters remained unsettled. With regard to what took place at the interview, there was, indeed, a direct controversy; but Mr. Glover said that the meeting was taken up with discussion and negotiation as to what was to be done by the plaintiff with the garden and as to the date of completion, and as to certain suggested additions to the cloakroom conveniences, and there were also questions about the papers. Mr. Glover said these matters were unsettled, and his Lordship said he was inclined to believe there was no final or complete bargain concluded on February 26, and as to that passed was merely verbal, and there was no memorandum of any kind in writing on the subject. On any view of the case, therefore, when the letter of February 26 was written by the plaintiff, he was not entitled to treat the letter of February 25 as an unqualified offer to

purchase. And defendant, whom, his Lordship said, he believed stated further that Mr. Aberne agreed to the whole of the negotiations standing over till the following morning, when Mr. Glover was to see his landlord. For some reason the defendant declined to proceed further, and there being no concluded contract, he was entitled to do so. In his Lordship's opinion, therefore, the action failed, and must be dismissed with the usual consequences.

CHANCERY DIVISION.

(Before Mr. Justice SWINFER EADY.)

Barker v. Vecchietti.

MR. EDWARD MALCOLM BARKER, the owner of property in Vauxhall Bridge-road, was the plaintiff in an action against Mr. Quino Vecchietti, of 311, Vauxhall Bridge-road, and he asked for an injunction to restrain the defendant from interfering with any building operations incidental to the raising of a party wall between his property and the defendant's in accordance with plans approved by the London County Council and the joint award of the plaintiff's surveyor and the defendant's surveyor in pursuance of sect. 91, subsect. 3, of the London Building Act, 1894.

Mr. Colefax, K.C. (with him Mr. Goddard), in opening the case, said the matter arose out of the construction of a cinematograph palace in Vauxhall Bridge-road, at the Victoria end. The plaintiff was the leasehold owner of Nos. 313, 315, and 317, Vauxhall Bridge-road, and the defendant was the lessee of No. 311. Between Nos. 311 and 313 there was a party wall, and when the plans had been passed for the alteration of Nos. 313 and 315 into a picture palace, notices were served upon the defendant under the London Building Act, 1894, with respect to the wall, it being proposed as part of the alterations to raise the height of the wall, so that the new roof might rest upon it. After notice had been served and an award made under the Act, and after the building operations had commenced, the defendant proceeded to pull down part of the work on the party wall. The plaintiff thereupon applied to the Court for an *ex parte* injunction, which, upon motion, was extended until the trial or further order. After that the work proceeded, but the defendant again threatened to further interfere with the work. He did not do so, however, as he was warned of the consequences, and now the premises had been completed, and so far as the plaintiff was concerned, the matter was merely ancient history. There was, of course, the question of getting the injunction made perpetual, and that was the object of the present application. There was further a counterclaim by the defendant, which was somewhat difficult to understand. The defendant had been represented by different solicitors, but now appeared in person. The counterclaim set out that the defendant protested against the party wall being built upon, as it would interfere with the access of light and air to his premises, wherein he carried on the business of a lodging-house keeper, and he claimed 3,150*l.* damages for (a) the raising of the wall, (b) for nuisance, and (c) damage to his lease.

His Lordship: There does not seem to be any facts in dispute, but you must better call your evidence and prove the award under the London Building Act.

Mr. Charles O. King, A.R.I.B.A., who acted as surveyor for the plaintiff in respect of the alterations, proved the services of the proper notices. As the first notice was not complied with, witness wrote to defendant, asking him to appoint a surveyor, and, as he did not appoint, witness appointed Mr. William Woodward to act upon defendant's behalf. They then agreed that Sir Alexander Stenning should be appointed third surveyor; but, in fact, it was not necessary to resort to Sir Alexander, as witness and Mr. Woodward agreed as to the award.

Mr. Colefax: Do the buildings interfere in any way with the amenities of No. 311, or in any way damage those premises?—Not at all. Is there any obstruction of light?—No.

Mr. William Woodward, F.R.I.B.A., said he was appointed to act for the defendant in August, 1910, under the London Building Act. He agreed with the award submitted by Mr. King, and he acted throughout in strict accordance with the Act and in the interests of the defendant. Now that the work had been completed, no damage, as far as he could see, had been done to the defendant's premises, nor was there any interference with his light. A wall at the rear of the defendant's premises had been condemned, and the plaintiff had to rebuild it. He did so, and on the suggestion of witness faced it with white glazed bricks opposite the defendant's window. The defendant's light was, therefore, improved.

Mr. Edward Malcolm Barker, the plaintiff, said, on the question of nuisance, that, though the alterations had been completed and the

CHANCERY DIVISION.
(Before Mr. Justice JOYCE.)
Aberne v. Glover.

THIS was a case in which Mr. William de Aberne, an architect, of The Pleasance, 1, 2, Norton, sued Mr. Edward Glover, a merchant living at Warwick, for specific performance of a contract to purchase a house Warwick-road, Solihull, at the price of £1,100. His Lordship dismissed the action with costs.

Mr. Ward Coldridge, K.C., who appeared for the plaintiff, said that his client had built houses in Warwick-road, Solihull. Defendant authorised an estate agent named Chapman to offer 975*l.* for one of these houses sold. This was refused. Mr. Glover then sold on Mr. Couchman, and handed him a letter containing the following:—

"I shall be willing to give 1,100*l.* for the said house with the site, on condition that the vendor shall put the house and gardens in a condition satisfactory to Mrs. Glover." At, Counsel submitted, was authority to Couchman to make an offer, and Mr. Glover said in addition that he would pay a deposit on the purchase price, and completion at midsummer, with immediate possession of the garden for purposes of building.

Mr. Couchman wrote the following letter to Mr. Glover:—

"Mr. Edward Glover writes he will give £1,100 for the freehold land and house, and 10 per cent. deposit. He will be glad to give you immediate possession of garden with, in order that he may plant it. He is complete at midsummer next."

At the same time Mr. Couchman advised Glover to see the vendor himself, in order to arrange about the papering, preparing the

theatre working nearly two years, there had been no complaints of any kind.

The defendant made a long statement to the Court, and protested against the alleged interference with his premises.

In giving judgment, his Lordship, after referring to the facts, said that the plaintiff proceeded to build in accordance with the award. That was his legal right after compliance with the statute. The defendant took the law into his own hands, took no notice of the party wall notice, and while the building was proceeding pulled part of the wall down. He had no right to do anything of the sort, and, as he was claiming to interfere further, the plaintiff obtained an injunction against him. The plaintiff now asked to have that injunction made perpetual. The defendant contended that the wall ought to be restored to its old height. Why? He had no legal right to ask that, because the plaintiff, as adjoining owner in compliance with the statute, was entitled to build upon and raise the height of a party wall. The plaintiff had been manifestly right throughout, and was, therefore, entitled to have the injunction already granted made perpetual and to have the costs of the action.

Then the defendant put in a counterclaim, claiming damages for nuisance caused by the cinema theatre, and in respect of obstruction of ancient lights. With regard to the ancient lights, two surveyors had been called, and both denied that there had been any damage caused with regard to the nuisance by noise, etc., and the plaintiff's evidence had clearly disposed of that, and the counterclaim must be dismissed, without costs, as the plaintiff did not ask for costs on the counterclaim.

His Lordship added that he thought it right to say that the plaintiff seemed to have acted with every courtesy and consideration to the defendant, and the defendant seemed to have attributed that courtesy and consideration to a knowledge and consciousness on the part of the plaintiff that he was doing wrong. "There was," his Lordship added, "no hidden rascality in putting glazed bricks in the wall facing the defendant's premises."

Judgment accordingly.

Surveyor's Claim: Action against

Sir John Bethell, M.P.

MR. JUSTICE PHILLIMORE, in the King's Bench Division, on November 19, concluded the hearing of an action by Mr. William Henry Savage, engineer and surveyor, residing at Cookfosters, Hertfordshire, against Sir John Henry Bethell, Bart., M.P., of Upton Park, Essex, to recover £221.1s. for supervision work claimed to have been done for the defendant in connexion with certain land at East Ham from 1900 to 1901.

The defendant denied liability and said the work was not done to his order.

Mr. Forbes Lankester, K.C., appeared for the plaintiff, and Mr. Colam, K.C., was for the defendant.

Mr. Forbes Lankester explained that Sir John Bethell and Mr. Burges were the owners of land that adjoined, and a proposal was made for the construction of a new road and a small exchange of land between the two owners that would have the effect of considerably increasing the value of the land. Mr. Savage superintended the work so far as it affected the property of Mr. Burges, and was paid his 5 per cent. fees, and counsel said, he would show that he did the same service for Sir John Bethell in regard to that part of the road affecting his land, and he was entitled to the remuneration claimed. Counsel said that the contention between the parties seemed to be whether the plaintiff really supervised the whole work; but he would show that the work was done by the contractor, Mr. Anstead, as one job, and that plaintiff supervised the whole. He believed he would be able to establish clearly that the work that plaintiff supervised was work done in the interests of the defendant, and was work for which the defendant paid the contractors.

Mr. Lankester proceeded to deal with the various items in the claim incidental to the construction of the road, and Mr. Colam, K.C., said he could say at once that the defendant's case was that what plaintiff did he did for Mr. Burges, and was paid by him, and defendant was not liable for any services by the plaintiff.

Mr. Savage gave evidence that for twenty-one years he was Engineer and Surveyor to the East Ham Local Board, and since 1899 he had been in business as a consulting engineer privately. He had, as the local surveyor, been brought into contact with Sir John Bethell in connexion with the development of land in the district. There was land owned by the defendant and Mr. Burges, and he

conceived the idea of arranging an exchange of land and the making of the new road. He approached Sir John, and pointed out that the scheme would improve both properties and enhance the value of the land by bringing his land into better communication with other parts of the district. Both Sir John and Mr. Burges agreed to the construction of the road. Mr. Burges gave the contract to Mr. Anstead, and witness superintended and was paid for his work. Mr. Anstead had the whole contract, and witness also superintended as affecting the land of the defendant.

Counsel: Were you employed by Sir John in connexion with the work?—Certainly.

It was known by Sir John that you were acting as regards one part of the work for Mr. Burges?—Yes.

Did Sir John clearly know that you were asked to supervise the work as affecting the road on his land?—Certainly.

Was the work on the second portion carried on immediately after the first was finished, so that it made one complete job by one contractor?—Yes, it went on continually.

Was the whole plan of the new road your own idea?—Entirely.

And it was submitted to both Mr. Burges and the defendant?—Yes.

In cross-examination by Mr. Colam, K.C., Mr. Savage insisted that he acted for both Mr. Burges and the defendant.

Counsel suggested to the plaintiff that a Mr. J. H. Carte, surveyor, was employed by the defendant, and asked, if this was the case, what need had Sir John to employ plaintiff?

Plaintiff replied that Mr. Carte was an excellent architect and surveyor, but he was not an engineer. Plaintiff said he was taken ill while the work was in progress, but this illness had not caused his memory to be impaired.

Mr. Colam: Is it not a fact that Sir John, when you made your claim, denied that he ever employed you?—No.

For the defence, Sir John Bethell gave evidence, denying that he at any time employed the plaintiff to act on his behalf.

In the result his Lordship held that the plaintiff had not made out his claim, and entered judgment for the defendant, with costs.

CHANCERY DIVISION.

(Before Mr. Justice PARKER.)

Heavy Claim by and against Contractors:

J. Aird & Co. v. the Tanjong Pagar Dock Board.

As already stated, the plaintiffs claim from the defendant £500,000 in damages for alleged breach of contract in connexion with the construction of a wet dock at Singapore. Plaintiffs, who are the well-known contractors, allege that the defendants misrepresented the conditions under which the contract was to be carried out, and, therefore, that they were justified in repudiating the contract. Defendants denied these allegations, and served a notice on the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiff firm and a party to the contract, making a claim against his estate of about £1,000,000, as damages for breach of contract.

Mr. Upjohn, K.C., Mr. Macassay, K.C., and Mr. Schwann appeared for the plaintiffs; and Sir R. Finlay, K.C., Mr. George Cave, K.C., Mr. Romer, K.C., Sir Hugh Fort, Mr. Mathews, and Mr. Hull for the defendants.

The case for the plaintiffs having concluded, Sir Robert Finlay, in opening the case for the defence, said he proposed to call his Lordship's attention to the law applicable to each of three issues. The points he proposed to deal with were the charge of misrepresentation, the allegation that because the work was contracted for was impossible, the plaintiffs were justified in refusing to go on with the work, and that an order for monoliths was given which was beyond the scope of the contract. With regard to the charge of misrepresentation, he would submit that it was clear beyond all doubt that the terms of the contract excluded any claim to rescind the contract on the ground of innocent misrepresentation. In order to get rid of the contract it was absolutely necessary that the plaintiffs should establish fraud, and fraud in the sense of moral delinquency committed by someone for whom the defendant Board were responsible. He would ask his Lordship to say that the charge of fraud ought never to have been made, and that it was absolutely essential, now that it had been brought, for the plaintiffs to prove dishonesty. If that were established, the whole of the terms of the contract would fall to the ground. Therefore, in the first place, he would address himself to the question of law with regard to misrepresentation, and, secondly, to state the nature of the facts with reference to the charge

made against the defendants. Then he would deal with the question of the alleged impossibility of performing the contract, and submitted that it was no answer. If a man contracted to do a particular work it was ground for his throwing it up to say that he found it impossible to do it. The authorities were absolutely conclusive on the point.

With regard to the question of damages the learned Counsel contended that the plaintiffs were liable to pay damages to the defendants for not completing the contract which they had undertaken to complete.

His Lordship said he understood that plaintiffs claimed damages by reason of the fact that the defendants had entered into possession of the works, which, plaintiffs maintained, they were not entitled to do, and plaintiffs alleged that that amounted to repudiation of the contract.

Sir Robert Finlay said that the defendants maintained that they were justified in circumstances in entering into possession of works.

Mr. P. R. Warren, formerly engineer the Dock Board, gave evidence in support of the defendants' case.

[The case was proceeding when we went press.]

Drainage By-Laws.

At Marylebone Police Court, a few days ago, Sir Edward White, former Chairman of the London County Council of an Upper Berkeley-street, W., who have appeared before Mr. Plowden reference to a summons heard by him February 9, taken out at the instance of Marylebone Borough Council, for construct at his residence soil pipes of iron instead drawn lead with proper wiped plumbers' joints as required by the County Council drainage by-laws made under the Metropolitan Management Acts of 1855 and 1889. Mr. Plowden originally dismissed the summons, but agreed to state a case. The magistrate's decision reversed in the King's Bench Division, and a case was permitted for a conviction.

Mr. Plowden now fined the defendant (who was not present) 20s. and 2s. costs.

KING'S BENCH DIVISION.

(Before the LORD CHIEF JUSTICE and a Common Law Judge.)

Claim against a Builder for Arrears of Wages.

HIS LORDSHIP, on Wednesday, November heard an action brought by Mr. William J. Evans, a builder's clerk, of 114, North View Road, Hornsey, against Mr. Abram Kell, builder and contractor, of 274, Kirkbeck Chambers, High Holborn, in which the plaintiff claimed 204s. alleged to be due to him wages. The defence was a denial that sum in question was due.

The jury found for plaintiff for the amount claimed, and his Lordship entered judgment accordingly, with costs.

LONDON COUNCILS.

Barking.—The tender of Messrs. Parsons & Sons has been accepted, at 335s. 11s. 1d. for the execution of private street works Devon-road. Other tenders were from:—W. J. Jackson, at 392s. 15s. 1d.; Messrs. Free & Sons, at 409s. 1s. 5d.; Messrs. Manders & Co., at 416s. 18s. 5d.; Mr. G. P. Trenham, at 436s.; and Mr. D. T. Jack at 455s. 19s. The Surveyor has been instructed to report upon the question of making Bennington-avenue.

Barnet.—It was decided at the last meeting to reduce the expenditure on the proposed new municipal offices to 4,000l.

Battersea.—The London County Council to be asked to substitute wood for the existing granite sets in a portion of the tramway in York-road. Repairs are to be carried to the carriageways of nineteen roads at estimated cost of £1,077. Plans have been passed for Messrs. Chapple & Utting for erection of forty houses in Rosendale-road. Mr. W. J. Middleton has lodged plans for the London County Council for the erection of a building at the rear of No. 125a, Laven Hill.

Berkhamsted.—Plans have been passed Messrs. Gilbert Brothers, for the erection of three houses at Gosson's End.

Bromley.—The following tenders have been received for widening Poverest-lane, Orpington.—Messrs. J. Mowlem & Co., Westminster, S.W., 339s.; Messrs. E. Poill & Son, Broad Common, 377s. 10s.; Mr. R. Large, High-street, Orpington, 355s. 15s.; Messrs. T. Wood & S. Crockenhill, near Swanley, 350s. (accept). Application is to be made to the Local Government Board for sanction to borrow 166l.

aking up Clarence-road. Sanction has been given to the borrowing of 400*l.* for artificial one paving in Palace-road, and 550*l.* for widening Plaistow-lane.

Bushey.—Plans have been passed for Mr. G. Gaggard for the erection of five houses in King George's-avenue; also for the London County and Westminster Bank, Ltd., for the erection of premises in High-street.

Finchley.—The following resolution was moved at the meeting of the Urban District Council last week by Councillor Nicholls:—That, having regard to the need in the district for the erection of additional dwellings for the working-classes, the Plans and Town Planning Committee be directed to take the matter into consideration and bring up a report thereon to the Council at an early date. He said all he wished to do was to secure power for the Town Planning Committee to deal with the question of more workmen's dwellings. Councillor Bloomfield, who seconded, said that these houses could be put up by private enterprise. He had tried to himself, with only four houses, but could not let them to workmen at a low rent that would pay, as the land was too dear. Councillor Royston said he was afraid that were very long, if the present policy of the Town Planning Committee continued, there would be very urgent necessity, not only for dwellings for workmen, but for those in a better position. Councillor Day thought the building of workmen's dwellings was the least objectionable form of municipal trading. Private enterprises would not build workmen's dwellings; people would not put their money to them. Councils had means of borrowing money on advantageous terms, and he was quite sure that the building trade would give local authorities a free hand with workmen's dwellings. After further discussion the motion was agreed to. The following plans have been passed:—Manor Farm Dairy, 100, Manor Farm, Manor Farm, East Finchley; Mr. A. P. Joyce, additions to factory, King-street, East Finchley; Mr. J. Carborough, three houses, Eton-avenue; Co-partnership Tenants, Ltd., twelve houses, Addison-way extension, Oakwood-road; Mr. G. Vaughan, extension of North Finchley Skating Rink into cinema theatre, Great North-road, North Finchley.

Fulham.—Plans submitted by Mr. T. L. Tinton, on behalf of Mr. J. C. Mears, for the construction of sewers on the Broomhouse estate and in Peterborough-road, have been approved.

Hammer-smith.—Mr. H. A. Welch has lodged plans with the Spring-gardens authority for the erection of buildings upon an island site at St. Peter's-square.

St. Pancras.—Electricity mains are to be extended at an estimated cost of 2,000*l.*

Southwark.—Plans have been lodged with the London County Council by the following:—Mr. F. Danby Smith, architect, Parliament-mansions, Victoria-street, S.W., addition to the Newcomen Schools, Newcomen-street; Mr. W. W. Mathe, architect and surveyor, brick-chambers, Holborn, W.C., erection of bridge across Cathedral street; Messrs. Swaney & Sons, Ltd., engineers, Steelworks-lane, S.W., extension of premises of Messrs. H. Edgington & Co., Ltd., 103, Old Kent-road, S.E.

Stepney.—Plans have been lodged with the London County Council by Mr. W. Park for the erection of an addition to "The Mitre," White Horse-lane; as have also plans by Mr. William J. Pitt for the erection of a building at No. 76, Burslem-street.

Waltham-stow.—The Surveyor has been directed to pave, kerb, and channel the footpath in Blackhorse-lane, subject to the owners posting the estimated cost of the work. Anns, etc., are to be prepared by the Engineer for making up the road. The order of Mr. J. W. Pearce, Morecombe, has been accepted, at 18,548*l.*, for doubling the railway track in Forest-road, including motions to Chingford-road and Hoe-street, and doubling the track in certain portions of Chingford-road. A plan and estimate is to be prepared by the Engineer for the erection of a block of temporary buildings at theatorium for the treatment of tuberculosis.

Watford.—The tender of Messrs. J. Ellis & Sons, Leicester, has been accepted, at 3*l.* 18*s.* 4*d.*, for carrying out a portion of the Callow Land storm-water and Balmoral-sewerage scheme. Repairs are to be carried out to the sewer in Marlborough-road.

West Ham.—A portion of Canning-road is to be made up as a new street, the roadway to be paved with granite setts, and the footpaths to be made up with granite. Tenders are to be invited for making up a portion of Dartmouth-road. Plans have been passed as follows:—The Corporation Electricity Department, extensions at 84, Romford-road, Stratford; Mr. M. W. Hudson, alterations to

Salisbury Hall, Romford-road, Stratford; Mr. F. W. Waggott, conversion of Waldstein Hall, Plashet-road, Upton Manor, into cinematograph theatre, etc.; Mr. F. Sherrin, sailors' homes, 61, Lambert-road, Custom House; Mr. H. I. Cundy, proposed extension of cinematograph theatre, Richmond-road, Plaistow; Mr. W. J. Maddison, alterations and additions to "Foresters' Arms" public-house, Whitwell-road, Plaistow; Mr. W. Sweetingham, alterations to cinematograph theatres, Rathbone-street, Canning Town, and Albert-road, Silver-town. The following plans have been lodged:—Messrs. J. & P. J. Groom, amended plan of cinematograph theatre, Forest-lane, corner of Parliament place, Forest Gate; Messrs. A. Mockridge & Co., addition to factory, 17, Second-avenue, Plaistow; Mr. J. Savage, cinematograph theatre, Upton-lane, Forest Gate.

Willesden.—Plans by the Engineer have been approved for widening a portion of Neasden-lane at an estimated cost of 346*l.*; as have also plans for making up the passageway at the rear of Nos. 232-252, High-road, Willesden Green. The following plans have been lodged:—Mr. W. L. Trant Brown, on behalf of Mr. Alex. Phillips, two houses, Chatsworth-road, Willesden Green; Messrs. W. H. Holmes & Son, on behalf of the Holly Lodge Laundry Company, additions to 54, Chaplin-road, Willesden Green; Messrs. W. H. Holmes & Son, on behalf of Mr. J. E. Bernard, addition to garage, 20, Brondesbury Park; Mr. S. R. Miller, on behalf of Mr. C. Miller, addition to Kingsbury Laundry, 37, Dudden Hill-lane; Messrs. Grainger & Price, on behalf of Messrs. T. Illingworth & Co., refrigerator-house, boiler-house, and chimney shaft at New Works, Cumberland-avenue, Park Royal.

Wood Green.—Application is to be made to the Local Government Board for sanction to borrow 320*l.* for carrying out improvements to the footpath across the filter beds. Plans by the Surveyor have been approved for making up Ellesborough-road and Bridge-road as new streets, at estimated costs of 817*l.* and 901*l.* respectively. A plan lodged by Mr. J. Bronson for the erection of eight houses in Vallance road has been approved.

OBITUARY.

Mr. H. Hall.

The late Mr. Henry Hall, who was elected in 1872 an Associate, and 1877 a Fellow, of the Royal Institute of British Architects, was for many years a partner of Mr. Keith D. Young, F.R.I.B.A., at No. 17, Southampton-street, Bloomsbury, W.; the partnership was dissolved as from December 31, 1911, owing to Mr. Hall's retirement from practice on account of ill-health. On last January 1, Mr. Young took into partnership his articled pupil, Mr. Alner Wilson Hall, A.R.I.B.A., the son of Mr. Henry Hall, the firm name of Messrs. Young & Hall remaining unchanged. Mr. Henry Hall made the plans and designs for Cheltenham Grammar School, in competition (May 8, 1886*l.*). Messrs. Young & Hall were the architects of many large and important hospitals, infirmaries, workhouses, sanatoria, and similar buildings in London and the provinces. The category comprises the entire reconstruction, on an enlarged site, of the London Fever Hospital, originally designed by C. Fowler in 1848 (December 22, 1883*l.*); the Hampstead General Hospital and extension buildings (January 31, 1903*l.*); Great Northern Central Hospital, Holloway-road, N. (December 25, 1896*l.*); East Sussex, Hastings and St. Leonard's Hospital (December 6, 1884, and January 29, 1887*l.*); Miller Memorial Hospital, Greenwich, and Royal Kent Dispensary (August 23, 1884*l.*); the Medical School, and extension and Middlesex Hospital, and St. George-in-the-East Baths (October 18, 1890*l.*); S.P.C.K. Training College, Stepney (1897*l.*); Royal South London Ophthalmic Hospital, St. George's Fields (1891-2*l.*); Middlesex Hospital Convalescent Home, Clacton-on-Sea (April 25, 1906*l.*); Chesham School, Royal Portsmouth, Portsea, and Gosport; Huntingdon (isolation), and Royal South Hants, and Southampton Hospitals; Evelina Hospital, Southwark Bridge-road, reconstruction (1907*l.*); Dental Hospital, Leicester-square (1898*l.*); Sanatorium, Shrewsbury School (September 19, 1903*l.*); Royal London Ophthalmic Hospital, City-road, E., at a cost of some 80,000*l.* (1898-9*l.*); Seamen's Hospital, Royal Albert and Victoria Docks, with the London School of Tropical Medicine (1898-1900*l.*); remodelling and extension of Royal Berks Hospital, and site of Whit Infirmary and Comm. Hospital, Ryde, North Staffs, Hartshill, and Chelmsford Infirmaries; Royal Boscombe and West Hants Hospital, in conjunction with Mr. G. A.

Bligh Livesey; Royal Orthopaedic Hospital, Oxford-street, W. (1886*l.*); Bolingbroke, Wandsworth (enlargement), and Maids Vale (June 22, 1901*l.*), for Epilepsy and Paralysis Hospitals; Metropolitan Hospital, Kingsland-road, E., entire remodelling and reconstruction (1906-9*l.*); Fitzroy-square, N.W., Hospital for the Home Hospital Association (1880-93*l.*); the St. Pancras Goldington buildings, Great College-street, for 350 residents (1902*l.*); extensive additions, Chelmsford and Essex Hospital and Dispensary (1909*l.*), with Mr. W. H. Pertwee, Derbyshire Royal Infirmary (July 17, 1887*l.*); New End, Hampstead, Workhouse; Warneford Hospital, Leamington, Jubilee Memorial (1897-8*l.*); house at Dunsley (July 17, 1909*l.*); and their designs for "Hostel of God, Free Home for the Dying," or Friedenheim (July 20, 1895*l.*); and New Royal Infirmary, Manchester, for 500 beds (July 8, 1903*l.*), for which they were one of the twelve nominated to compete.

Mr. J. T. Bressey.

The death is announced also of Mr. John Thomas Bressey, who practised at Nos. 70-71, Bishopsgate-street, Within, E.C., with Mr. C. H. Bressey (who became a member of the Architectural Association in 1883), under the style of Messrs. John T. Bressey & Son, architects and surveyors; the partnership was dissolved in last January. Mr. J. T. Bressey was elected a Fellow of the Royal Institute of British Architects in 1877. He was the architect of Holy Trinity Church, Leytonstone (1878), and the Cobbold Road Schools, for the (old) Wanstead School Board (1888); and of the Schools, with detached infants' schools, cookery and manual training centres, cottages, etc., on the Aldersbrook site, Ingatstone-road, for nearly 1,200 pupils in all (1906-11); the Downside Road, Wanstead, Schools (1895-6), and other work for the Essex Education Committee, Wanstead District.

Mr. T. Arnold.

The late Mr. Thomas Arnold, formerly of No. 10, Basinghall-street, E.C., was elected in 1867 an Associate, and in 1904 a Fellow, of the Royal Institute of British Architects; he was placed upon the list of retired members in 1904. He was the architect of St. James's Presbyterian Church, Wood Green, and the Presbyterian Church, Tooting. He, we understand, took up his abode in Edinburgh a few years ago on giving up practice.

Mr. C. H. Rew.

The late Mr. Charles Henry Rew was elected a Fellow of the Royal Institute of British Architects in 1905, and practised with Mr. N. A. Rew, as Messrs. C. H. & N. A. Rew, at Great Berkhamstead. He was the architect of All Saints' Church, several houses, the new Granmore School buildings (with hall), the Infirmary and Workhouse improvements and extensions, and the Maintained School for Girls in Prince Edward-street, Great Berkhamstead; and of many similar works in the locality.

PATENTS.

APPLICATIONS PUBLISHED.*

23,692 of 1911.—Henry Frank Berry: Heating and drying of stone and other materials for use on roads and like surfaces.

23,695 of 1911.—Henry Frank Berry: Apparatus for heating and otherwise treating stone and like materials.

24,000 of 1911.—Henry Frank Berry: Apparatus for heating and otherwise treating stone and like materials.

24,117 of 1911.—Ludwig Schomburg: Pipe joints.

24,584 of 1911.—Walter John Hollick: Electric-light fittings.

24,656 of 1911.—Hermann Robert Zeitz: Machines for the manufacture of road tiles or other similar articles.

25,513 of 1911.—James Alger Coombs and Samuel Seaborn: Apparatus for distributing sewage or like effluents on to filter beds and the like.

26,375 of 1911.—John Murray Leighton: Pile-drivers.

27,322 of 1911.—Henry Collett: Rubbing-stone for domestic or sanitary purposes.

29,228 of 1911.—Jean Debeize and Alfred Rigaud: Safety lock for doors and the like.

503 of 1912.—Theophilus Lippiett, David James Lippiett, Thomas Lippiett, Stephen Lippiett, Benjamin Lippiett, and William Lippiett: Apparatus for timber hauling, weight lifting, and the like purposes.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

(Continued on page 664.)

* Illustrated in the Builder.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, i., Contracts, iv. vi. viii. x.; Public Appointments, xviii.; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

NOVEMBER 29.—**Langside, Glasgow.**—BRANCH LIBRARY.—Assessor, Mr. Alex. N. Paterson, A.R.S.A. Premiums, 50l., 30l., and 25l. Particulars from the Town Clerk, City-chambers, Glasgow.

NOVEMBER 30.—**Balham.**—SWIMMING-BATH.—The Wandsworth B.C. invite designs. See advertisement in issue of August 16. Particulars from Mr. P. Dodd, 215, Balham High-road, S.W.

DECEMBER 2.—**Carlisle.**—SCHOOL BUILDINGS, ETC.—Particulars from the City Surveyor, 36, Fisher-street, Carlisle.

DECEMBER 7.—**Rome.**—BRITISH SCHOOL AT ROME, SCHOLARSHIP IN ARCHITECTURE.—200l. per annum for three years. Particulars from Mr. Evelyn Shaw, 54, Victoria-street, S.W.

DECEMBER 20.—**R.I.B.A. Competitions.**—All work for the Studentships and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913.—**Belfast.**—DWELLING-HOUSES.—Premiums of 25l., 15l., and 10l. Particulars from the City Surveyor, Belfast (11, 15).

JANUARY 1, 1913.—**Dublin.**—MUNICIPAL BUILDING.—Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin. Deposit, 2l. 2s.

JANUARY 31, 1913.—**Jamaica.**—MUNICIPAL BUILDINGS.—To cost 9,000l. Premium 100l. Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2a).

FEBRUARY 3, 1913.—**Harrogate.**—SCHOOL.—The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 22, 1913.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, page 635.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS. Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see page 173, August 9, and page 330, September 27).

MARCH 1, 1913.—**Winnipeg.**—CITY HALL.—Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.

JULY 10, 1913.—**Town Planning Scheme.**—Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.

NO DATE.—**Dursley.**—WORKMEN'S DWELLINGS.—The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in issue of October 25 for further particulars.

NO DATE.—**Folkestone.**—PROPOSED KURSAAL.—Cost not to exceed 20,000l. Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnett, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 29.—**Kincardine.**—GARAGE.—For erecting a new garage at Kincardine Lodge, Kincardine-on-Forth. Plans, specifications, and general conditions of contract with Messrs. Davidson & Garden, 12, Dee-street, Aberdeen.

NOVEMBER 30.—**Cardiff.**—HOUSE.—For the erection of an engine-house at Ely Workhouse. Plan and specifications with the architect, Mr. Edwin Seward, F.R.I.B.A., Queen's-chambers, Cardiff.

NOVEMBER 30.—**Cleckheaton.**—ADDITIONS.—For alterations and additions to the public baths. Plans and general conditions of contract seen, and form of tender and quantities with Mr. C. Lund, M.I.M., and C.E., Engineer and Surveyor, Town Hall, Cleckheaton.

NOVEMBER 30.—**Sowerby Bridge.**—ALTERATIONS.—For alterations to girls' cloakroom, etc., at Tuel Lane Council School, Sowerby Bridge. Specification from Mr. F. J. MacDonald, Education Office, Sowerby Bridge.

DECEMBER 1.—**Leeds.**—PREMISES.—Erection of business premises, New York-street, Leeds, for Messrs. C. A. Wilkinson & Co. Mr. W. Mason Coghill, architect, 4, Aire-side-terrace, Stourton, Leeds.

DECEMBER 2.—**Buckie.**—VILLA.—For villa, to be erected at Cliff-terrace, Buckie. Plans and specifications with Mr. W. Hendry, architect, 31, West Church-street, Buckie.

DECEMBER 2.—**Glyn Neath.**—SCHOOL.—For erection of new school, Glyn Neath. Plans and specifications seen, and quantities at the Neath Police-station, and with Mr. T. Mansel Franklin, Clerk of the County Council, Glamorgan County Hall, Cathays Park, Cardiff.

DECEMBER 2.—**London.**—REPAIRS, ETC.—For repairs and reinstatements to cast-iron gutters at Workhouse, Northumberland-street, St. Marylebone. Specifications and form of tender from the Guardians' Architect, Mr. Saxon Snell, F.R.I.B.A., 9, Bentinck-street, Manchester-square, W. Deposit of 5l.

DECEMBER 3.—**Bradford.**—HOME.—Erection of a children's home at Thackley, Bradford. Quantities from Mr. Fred Holland, Architect to the Board, 22, Manor-row, Bradford. Deposit of 1l. 1s.

DECEMBER 3.—**Easingwold.**—COTTAGES.—For erection of two cottages and farm buildings on Manor House Farm, Easingwold. The Land Steward, Small Holdings Department, County Hall, Northallerton.

DECEMBER 3.—**Glasgow.**—SHELTER. Erection of a shelter in Maryhill Park. Specifications and forms of tenders at the Office of Public Works, City-chambers, 64, Cochrane-street.

DECEMBER 3.—**Pembroke.**—DESTRUCTOR.—For the construction of a refuse destructor at electricity works, Seely, Llanelli. Plans, specifications, and form of tender, with conditions of contract, at the Town Hall, Ball's Bridge, County Dublin. Deposit of 5s.

DECEMBER 3.—**Poole.**—KITCHEN, ETC.—For erection of a kitchen and alterations to male infirmary ward at the Workhouse, Longfleet, Poole. Plans and specifications with Mr. G. H. Seymour, architect and surveyor, Longfleet-road, Poole.

DECEMBER 3.—**Rhymney.**—IMPROVEMENTS.—For improvements in High-street Rhymney. Plans and specifications with the Surveyor, Mr. W. Lloyd Marks, 61, High-street, Rhymney.

DECEMBER 4.—**Buxter.**—HOUSE.—Erection of a house at Alphonston, near Buxter. Mr. E. H. Harbottle & Son, architects, County-chambers, Buxter. Deposit of 3l. for quantities.

DECEMBER 4.—**Burslem.**—ADDITIONS.—For erection of additions and alterations to Friar's Hill Working Men's Club. Plans seen, and quantities from Messrs. J. Berry & Sons, architects and surveyors, 3, Market-place, Huddersfield.

DECEMBER 4.—**London.**—LAUNDRY, ETC.—Erection of a laundry and disinfecting block at the Borough Isolation Hospital, Muswell Hill. Forms of tender, etc., and particulars from Mr. E. J. Lovergrove, Borough Engineer and Surveyor, Municipal Offices, Highbury.

DECEMBER 5.—**Cork.**—ROOM.—For construction of strong-room at Workhouse. Plan and specification at the Board-room, Workhouse.

DECEMBER 6.—**Halifax.**—SHED.—Erection of a shed and basement at Ladyship Mills, Cweden, Halifax. Plans seen, and quantities from Messrs. Joseph F. Walsh, F.S.I., & Graham Nicholas, F.R.I.B.A., architects and surveyors, 10, Harrison-road, Halifax.

DECEMBER 6.—**Mallow.**—COTTAGES.—For erection of thirty-nine single cottages. Plans and specifications at the Office of the Council. Deposit of 5l.

DECEMBER 7.—**Camborne.**—RESIDENCE.—For erection of a residence at Camborne. Plans and specifications with Mr. S. Hill, architect, Green-lane, Redruth.

DECEMBER 7.—**Manchester.**—SCHOOL.—For the erection of a new municipal school, Elmfield-place, Rusholme, Manchester. Plans seen, and quantities on deposit of 2l. 2s., from Mr. Thomas Hughes, Clerk, Education Offices, Deansgate, Manchester.

DECEMBER 7.—**Portlannington.**—ADDITIONS, ETC.—Erection of the new sanctuary and other additions to the Church of Saint Michael, Portlannington. Plans and specifications with the architect, Mr. Thomas F. M'Namara, 192, Great Brunswick-street, Dublin.

DECEMBER 9.—**Griffith.**—LODGE.—For the erection of a porter's lodge at the Hospital, Stafford. Plans and specifications with the architect, Mr. Christopher M. Shiner, A.R.I.B.A., 7, Adam-street, Adelphi, London, W.C.

DECEMBER 9.—**Tidworth.**—QUARTERS.—The erection of two detached officers' quarters (Group II) at Tidworth, Hants, in the Southern Command. Plans, specification, and conditions of contract at the office of the Director of Barrack Construction, 50, Pall Mall, London, S.W., or at the Barrack Construction Office, Tidworth, Hants. Quantities on deposit of 10s.

DECEMBER 10.—**Hereford.**—SHED, ETC.—The Great Western Railway invite tenders for the erection of a grain shed, offices, etc., at Hereford. Plans and specification seen, and form of tender and quantities at the office of the Engineer, Gloucester Station.

DECEMBER 10.—**Oxford.**—EXTENSION.—The Great Western Railway Company invite tenders for extension of the platform covering Oxford Station. Plans and specification seen, and form of tender and quantities at the office of the Engineer at Paddington Station, London. * DECEMBER 10.—**St. Mary's.**—FIRE STATION AND DWELLINGS.—The West Ham B.C. invite tenders for erection of fire brigade station at St. Mary's dwellings. See advertisement in this issue for further particulars.

DECEMBER 11.—**Ramsgate.**—SCHOOL.—For erection of a new elementary school in Ellington place, Ramsgate. Deposit of 3l. 3s. to the architect, Mr. G. G. Tucker, 4, York terrace, Ramsgate.

DECEMBER 12.—**Dungannon.**—COTTAGES, ETC.—For building twenty-two single labourers' cottages, eighteen double labourers' cottages, and for fencing fifty eight plots. Plans, specifications and tender forms, on deposit of 5s., from Mr. William McGuffin, Clerk of the Town Workhouse Boardroom, Dungannon.

DECEMBER 14.—**Aberavon.**—OFFICES.—For the construction of offices and boundary wall at the Corporation gasworks at Aberavon. Specification, plans, and forms of tender, on deposit of 1l. 1s., from Mr. James Roderick, Borough Surveyor.

DECEMBER 14.—**Dover.**—ADDITIONS.—For additions and alterations to the girls' department of St. Martin's Council school at Marlborough, Dover. Forms of tender, specification, and quantities from the Borough Engineer, Mr. C. Hawke, A.M.Inst.C.E., Maison Dieu House, Dover-street, Dover, on deposit of 2l. 2s.

DECEMBER 14.—**Truro.**—PREMISES.—For the erection of first section of proposed new premises for the County Museum and Art Gallery, Truro. Plans and specification with Mr. Sampson Hill, architect, Green-lane, Redruth.

DECEMBER 16.—**Aberdare.**—SHEDS.—For the erection of two sheds at various sites, at various Council schools. Plans and specification from Mr. T. Botting, Director, Education Office, Aberdare.

DECEMBER 16.—**Strathmiglo.**—HALL, ETC.—For proposed hall and alterations on church at Strathmiglo. Plans and specifications seen at the Manse, and schedules from Mr. George Craig, architect, 85, Duke-street, Leith.

DECEMBER 19.—**Tonbridge.**—SCHOOL.—Erection of a new Council school at Sussex-road, Tonbridge. Plans and specification by the Committee's Architect, Mr. W. H. Robinson, M.S.A. and form of contract with Mr. Fras. W. Crook, Secretary, Caxton House, Westminster, S.W. Deposit of 1l.

DECEMBER 20.—**Milntownpass.**—SCHOOL.—Erection of National school buildings at Milntownpass, Co. Wexmouth. Plans and specification at 12, Royal Irish Constabulary Barracks, Rochford Bridge.

NO DATE.—**Watford.**—VICARAGE.—For erecting a new vicarage at Watford, Church, 5, Albans-road, Watford. Drawings and specification by Mr. Henry A. Saul, A.R.I.B.A., of 2, Gray's Inn-square, London. Quantities from the architects, Messrs. G. C. & J. Neighbour, Nicholson, 329, High Holborn. Deposit of 1l. 1s.

* DECEMBER 21.—**Hersham.**—DRILL-HALL.—For the erection of a Drill Hall. Plans and specification for new drill-hall premises. See advertisement in this issue for further particulars.

NO DATE.—**Dewsbury.**—PREMISES.—For alterations to premises in Grove-street and Bone-street, Dewsbury. Mr. Wm. F. Cave, architect, surveyor, and valuer, Market-street, Hockley, Wetherby.

NO DATE.—**Ford.**—ADDITIONS, ETC.—For alterations and additions to Infectious Diseases Hospital at Ford. Mr. Geo. T. Brown, F.R.I.B.A. F.S.I., architect, 51, Fawcett-street, Sunderland. * NO DATE.—**Great Eccleston.**—OFFICES.—For the erection of new offices, etc., at St. Mary's School, Great Eccleston. Plans and specifications at St. Mary's Rectory.

NO DATE.—**Greenford.**—HOUSES.—For the erection of houses at Greenford, Middlesex. Mr. W. Svidie Dakers, Vernon House, Bloomsbury square, W.C.

BUILDING-continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NO DATE.—**Torrington.**—HEADQUARTERS.—Erection of a new drill hall and Infantry and company headquarters at Torrington. Plans and specifications seen, and quantities, on deposit of 11. 1s., from Messrs. Ellis, Son, & Jevon, architects and surveyors, Bedford-square, Exeter.

NO DATE.—**Treherbert.**—CHAPEL.—Erection of new chapel at Treherbert. Plans, etc., at 17, unraven-street, Treherbert.

NO DATE.—**South Shields.**—THEATRE.—For the erection of new Borough Theatre, South Shields. Quantities, on deposit of 21. 2s., to the architect, Messrs. Gibson & Stienel, 56, Camden-street, North Shields.

NO DATE.—**Swansea.**—THEATRE.—For the erection of a new theatre at Swansea, for Messrs. L. Behrens & Co. Deposit of 11. 1s. for plans, specifications, and quantities to Mr. Ben Jones, architect and surveyor, Glantawe-mans, Wind-street, Swansea.

ENGINEERING, IRON, AND STEEL.

DECEMBER 2.—**Dublin.**—LIGHTING.—For the electric lighting of Cook-street dwellings. Specifications, with general conditions and form of tender, at the office of the City Electrical Engineer, Fleet-street, Dublin. Deposit of 8. 6d.

DECEMBER 2.—**Ongar.**—BRIDGE.—Reconstruction of the bridge which crosses the Surt navigation at Ongar. Plans and specifications on deposit of 11. 1s. from Mr. Percy J. Sheldon, M.Inst.C.E., County Surveyor, Chelmsford.

DECEMBER 3.—**Halifax.**—BOILERS.—For erection of two water-tube boilers, complete with superheaters and mechanical smokers. Specifications and particulars from Mr. W. M. Rogerson, Inst.E.E., Borough Electrical Engineer, Hunter-street, Halifax. Deposit of 10.

DECEMBER 10.—**London.**—LIFTS.—For installation of three electric lifts and diamond-milling and removal of existing lifts at Kenfrow-road Works, Lower Kennington-lane, S.E., and Admiralty, Brook-street, Kennington, S.E. Specification and form of tender, on deposit of 2s., from Mr. James L. Goldspink, Clerk, Guardians' Offices, Brook-street, Kennington-road, S.E.

DECEMBER 10.—**London.**—STATION, ETC.—For the extension of the bridge station and freemen's celling, Silverdown. Plans and specification, and form of tender, quantities, and particulars from Mr. John G. Morley, Borough Engineer, Town Hall, West Ham, E., on deposit of 11.

DECEMBER 10.—**Pennar.**—WIDENING.—The West Western Railway Company invite tenders for the widening of a portion of the Pennar Railway, Monmouthshire. Plans and specification seen, and form of tender and quantities at the office of the New Works Engineer at Paddington Station, London.

DECEMBER 14.—**Balderton.**—INSTALLATION.—Erection of an electrical installation for street lighting. Particulars from the Clerk, Balderton, 2, Osborn-terrace, Balderton.

NO DATE.—**Eglwysbach.**—HEATING.—For heating of the church, Eglwysbach, and particulars from Messrs. Deakin & Howard Jones, S.A., Plas Ynys, Borth, R.S.O.

FURNITURE, PAINTING, MATERIALS, etc.

NOVEMBER 29.—**Hartlepool.**—PAINTING.—For painting at the Workhouse. Specification at the Surveyor's Office, 8, Fountain-terrace, West Hartlepool.

DECEMBER 3.—**Bradford.**—PAINTING.—For the prior painting at Bowling Park Hall, Rooley, Bradford. Specifications and particulars from Mr. F. Holland, Architect to the Board, Manor-row, Bradford, 11, le deposit.

DECEMBER 3.—**Glasgow.**—PAINTING.—For the painting and pointer work required at the various police offices and buildings in the northern division of the city. Specifications and quantities of other at the Office of Public Works, Chambers, 64, Cochrane-street.

DECEMBER 5.—**Fulwood.**—DECORATION.—For the decoration of six houses in Shirrow Green, Fulwood. Specifications from Mr. James Clarke, Clerk to the Guardians, Union Offices, Eton.

DECEMBER 5.—**Newton Abbot.**—DECORATION.—For the decoration of the Alexandra Hall and rooms. Specifications and conditions seen, form of tender at the Surveyor's Office, in Hall, Newton Abbot.

DECEMBER 6.—**Gillingham.**—COLOURING.—For colour-washing, etc., at various schools. Specification, general conditions, with forms of tender, from Mr. Andrew Johns, Secretary, 4, Gardine-street, Gillingham, Kent.

DECEMBER 6.—**Sheffield.**—REPAIRS, ETC.—For plumbers and glaziers' work required for general repairs. Specifications and forms of tender at the office of the Education Committee, Leopold-street.

DECEMBER 6.—**Southend.**—RAILS, ETC.—For the supply of approximately 200 tons of "Sandberg" steel rails and sleepers. Specification and form of tender from Mr. Ernest J. Elford, M.Inst.C.E., Borough Engineer, Clarence-road, Southend-on-Sea, on deposit of 21. 2s.

* DECEMBER 7.—**London.** S.T.—SUPPLIES.—The House Committee of Guy's Hospital invite tenders for supplies for twelve months from January 1, 1913. See advertisement in this issue for further particulars.

DECEMBER 7.—**Manchester.**—TERRA-COTTA.—For the supply of red terra-cotta for the new Heald-place Municipal School, Rusholme, Manchester. Plans and quantities, on deposit of 11. 1s., from Mr. Thomas Hudson, Town Clerk, Deansgate Offices.

DECEMBER 11.—**Leeds.**—PAINTING.—For painting exteriors of properties owned by the Development Committee. Specifications seen, and form of tender, with particulars, from Mr. W. Lang-cashire, City Engineer, Municipal-buildings, Leeds.

* DECEMBER 16.—**London.**—STORES.—The London General Omnibus Company, Limited, invite tenders for supply of stores during 1913. See advertisement in this issue for further particulars.

DECEMBER 18.—**Harrogate.**—PAINTING, ETC.—For painting, colouring, etc., at the Royal Bath Hospital and Rawson Convalescent Home, Harrogate. Specifications from Mr. B. Shaw, Secretary.

NO DATE.—**Whitehaven.**—PAINTING.—For the colouring and painting of St. Begh's and St. Gregory's Schools. Specifications from the Secretary, Town Hall, Whitehaven.

ROADS, SANITARY AND WATER WORKS.

NOVEMBER 29.—**Barnstable.**—DRAINAGE.—For drainage works. Particulars from Mr. E. Y. Saunders, M.Inst.M.C.E., Borough Surveyor, The Strand, Barnstable, S.E., and

DECEMBER 2.—**Cambridge.**—STONE.—For the supply of broken granite, syenite, basalt. Specification and form of tender at the office of the Borough Surveyor, Guildhall, Cambridge.

DECEMBER 2.—**Swansea.**—MAINS.—For the extension of a 4-in. water main to the new road off Llanidloes-terrace, Gorseion, in the parish of Llanidloes. Plans, specifications, and conditions of contract at the offices of Mr. T. Trevor Williams, Engineer to the Council, Alexandra-road, Swansea.

DECEMBER 2.—**Whitley.**—STREET.—For carrying-out public improvement works in the reconstruction of the carriage-way of Oxford-street, Whitley. Plan and specification seen, and quantities and form of tender from Mr. A. J. Russell, A.M.Inst.C.E., Surveyor to the Council, Council Offices, Whitley Bay.

DECEMBER 2.—**Wolverhampton.**—STREETS.—For private street works, construction of new street off Upper Villiers-street. Plans seen, and specification and quantities from Mr. G. Green, M.Inst.C.E., Borough Engineer, Town Hall, Wolverhampton.

DECEMBER 2.—**Wombwell.**—MATERIALS.—For the supply of 800 tons of granite, 400 tons of white stone, 600 tons blue rock limestone, 1,000 tons tarred stone, 1,500 tons lump slag and rejections, 400 tons basalt, 200 tons dress chippings, 100 tons limestone asphalt, 30 tons English cement, and various quantities of setts, kerbing, channelling, flags, and stoneware pipes. Particulars and forms of tender from Mr. W. Quest, Surveyor to the Council, Town Hall, Wombwell.

* DECEMBER 3.—**Faling.**—ROAD-PAVING.—The Faling T.C. invite tenders for road-paving. See advertisement in this issue for further particulars.

DECEMBER 3.—**Rhymney.**—IMPROVEMENTS.—For improvements in High-street, Rhymney. Plans and specification with the Surveyor, Mr. W. Lloyd Marks, 61, High-street, Rhymney.

DECEMBER 4.—**Barnsley.**—ROADS.—For draining, flagging, channelling, and otherwise completing part of Longbarrow and part of Elmhelm-road. Drawings and specifications seen, and form of tender from Mr. Manor House, Barnsley.

DECEMBER 4.—**Grimsby.**—ROADS.—For sewer-erecting, kerbing, channelling, and metalling of Harbrough Marsh-road, Grimsby. Plans, specification, and conditions of contract at the Engineer's Office, St. Mary's Gate, Grimsby. Deposit of 11. 1s.

DECEMBER 5.—**Ballincollig.**—MAINS.—For supplying and laying new water mains at Ballincollig. Plan and specification, on deposit of 201., with Mr. John Cotter, Clerk of Council, Board-room, Workhouse, Cork.

DECEMBER 5.—**Leicester.**—MATERIALS.—For supply of iron and steel, timber, bricks, sewerage ironwork, etc., bricks, Portland cement, stoneware pipes, granite, Brecon gravel, etc. Forms of tender, on deposit of 10s., from Mr. E. George Mawbey, M.Inst.C.E., Borough Engineer and Surveyor, Borough Surveyor's Office, Town Hall, Leicester.

DECEMBER 6.—**Bridgwater.**—STONE.—For the supply of stone for the roads. Form of tender, particulars, and conditions of contract from the Council's Surveyor, Mr. W. A. Collins, 56A, East-over, Bridgwater.

* DECEMBER 6.—**Walthamstow.**—PERMANENT WAR.—The Walthamstow U.D.C. invite tenders for alterations and additions to the permanent works (light (electric) railways). See advertisement in this issue for further particulars.

DECEMBER 7.—**Birmingham.**—SEWER.—For the construction of about 450 yds. of stoneware pipe sewer and other incidental works in Hagley-road, near Sandon-road. Drawings and specifications seen, and quantities and form of tender, on deposit of 21., from Mr. Henry E. Surcel, M.Inst.C.E., City Engineer and Surveyor, The Council House, Birmingham.

DECEMBER 7.—**Dorking.**—GRANITE, ETC.—For the supply of 560 tons of 14-in. broken granite and about 150 tons 4-in. granite chippings. Forms from Mr. Wm. A. Clegg, the Council's Surveyor.

DECEMBER 7.—**Horsham.**—MATERIALS.—For the supply of broken granite, quartzite, and pit flints, pings, picked surface flints, and pit flints. Plans, specifications, and conditions of contract, A.M.Inst.C.E., County Surveyor, County Surveyor's Office, North-street, Horsham.

DECEMBER 7.—**Swansea.**—SEWAGE.—For the construction of a 12-in. sewer for a distance of about 248 yds., including the construction of two manholes, one flushing chamber, and one vent shaft, at Llysgegyn-terrace, Pontardulais. Plans, specifications, and conditions of contract at the offices of Mr. T. Trevor Williams, Engineer to the Council, Alexandra-road, Swansea.

* DECEMBER 9.—**Beckenham.**—STREET WORKS.—The Beckenham U.D.C. invite tenders for making-up of Overbury-avenue. See advertisement in this issue for further particulars.

DECEMBER 9.—**Wakfield.**—WORKS.—For private street works in Dale-street, Fikington-street, and Jessop-street. Plans and specifications seen, and quantities and form of tender from Mr. J. P. Wakford, Assoc.M.Inst.C.E., City Surveyor, Town Hall.

DECEMBER 10.—**Hartlepool.**—MATERIALS.—For the supply of materials. Specification and form of tender from Mr. Percy H. Hockley, Borough Engineer, Borough Engineer's Office, Hartlepool.

DECEMBER 10.—**Sheppey.**—TANKS, ETC.—Construction of a filter, 25 ft. diameter, with screen chamber, settling tank, etc., the laying of about 90 yds. of 6-in. stoneware pipes, and appurtenant works in the Workhouse grounds. Plans seen, and specification, quantities, and form of tender at the Workhouse, Minster, near Sheerness. Deposit of 10s.

DECEMBER 11.—**Shalford.**—SEWAGE.—For laying in about 182 lin. yds. of 6-in. stoneware pipe sewer and two manholes in East Shalford-lane, Shalford. Particulars from Mr. Edward L. Lunn, Sanitary Surveyor, 36, High-street, Guildford.

DECEMBER 12.—**Berks.**—MATERIALS.—For the supply of broken road materials, granite, and sand. Forms of tender and particulars from Mr. Fred Hawkins, County Surveyor, Shire Hall, The Forebury, Reading.

DECEMBER 12.—**Westbourne.**—GRANITE, ETC.—For the supply of granite quartzite or other hard stone. Forms from Mr. H. Norris, Surveyor, West Ashling, Chichester.

DECEMBER 16.—**Donaghadee.**—SEWERAGE.—For supplying 5 miles of 7-in., 6-in., 4-in., and 3-in. cast-iron water mains; for the erection and completion of a pumping-station, consisting of engine and pump house, gas-producer house; for the provision and erection of a duplicate set of 20-h.p. suction-gas engine and plant; for the erection and completion of a ferro-concrete water-tower, 50 ft. high, with a capacity of 40,000 gallons; for the supplying about 81 miles of sewers, 18 in., 15 in., 12 in., and 9 in. diameter, with manholes, lamp eyes, and flushing chambers. Plans seen, and specifications, quantities, and form of tender from the Engineer to the Council, Mr. Henry J. West, M.Inst.C.E., M.I.Mech.E., F.G.S., Northgate-mansions, Gloucester, on deposit of 51.

DECEMBER 30.—**Woking.**—SEWER.—For the construction of about three miles of 8-in. and 9-in. stoneware and cast-iron pipe sewers, and thirty-nine manholes. Drawings, conditions of contract, specification, and quantities at the offices of Mr. G. J. Woodbridge, the Engineer to the Council, Council Offices, Woking. Deposit of 51.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
ROUGH SURVEYOR AND INSPECTOR OF NUISANCES	Ludlow Town Council	2001. per annum	Dec. 21
SECOND ARCHITECTURAL ASSISTANT	Caydon Government	See advertisement in this issue	No date.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDER AND JOINER'S PLANT, HAMPSTEAD—On the Premises	Joseph Hubbard & Sons	Dec. 3
*SANTARY ENGINEER'S STOCK AND PLANT, WESTMINSTER—On the Premises	Walter Mortlock	Dec. 3
*CONTRACTOR'S PLT. MOHRY, STOCK & EFFECTS, ROCHESTER—On the Premises	C. D. Levy	Dec. 3
*BUILDING MATERIAL, GRAY'S INN-ROAD—On the Premises	Verward & Yates	Dec. 5
*FREEHOLD BUILDING SITE, NOTTING HILL-GATE—At the Mart	Horne Co.	Dec. 10
*"BRITANNIA WORKS," BRITANNIA-STREET, GRAY'S INN-ROAD—At the Mart	Horne & Co.	Dec. 10
*FREEHOLD PROPERTY, CROYDON—At the Mart	Joseph Stower	Dec. 12

PATENTS—continued from page 661.

843 of 1912.—Thomas Cank: Buckets, pails, and the like.
 5,893 of 1912.—Henry Frank Berry: Heating and drying of stone and other materials for use on roads and the like surface.
 10,379 of 1912.—Edward Richards, Frederick Burris, Frederick Meredith Burris, and Ernest Harry Burris, trading as Fred Burris & Sons: Clips, straps, or holdfasts for pipes and the like.
 10,498 of 1912.—Frederick Augustus Homer: Tap for water, steam, or other fluids.
 12,217 of 1912.—Thomas Ritter von Oxinski: Instrument for marking out timber, stones, and the like.
 12,928 of 1912.—Carl Rohrer: Chimneys and ventilating shafts.
 12,935 of 1912.—Alexander Gibb, Thomas Graham Menzies, and Robert Chalmers: Driving and extracting of piles, posts, and the like.
 14,800 of 1912.—Richard Brierley: Water-heating apparatus.
 15,287 of 1912.—Jacob Henry Coffman: Door stop and holder.
 16,537 of 1912.—Gustav Lehmann: Doors.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.
 All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.
 The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.
 We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them.
 All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from insertion to this.
 Any communication to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.
 N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGER REPORT.	
November 7.—By SIMMONS & SONS.	
Baling—81, The Grove (s.), f. y. 561.	£300
Bermundsey—1 to 5, George-row, f. w. 1561.	850
Walworth—106, Boyson-rd., ut. 38 yrs., g. r. 51. 5s., ex. 381.	220
Camberwell—2, Dagmar-rd., ut. 42 yrs., g. r. 71, ex. 461.	200
By NEWBORN & SHEPHERDS.	
Hampstead-rd.—172 and 174, Seymour-st., f. g. r. 261, reversion in 18 yrs.	695
Haverstock-hill—Chalk Farm-rd., f. g. r. 206, reversion in 121 yrs.	460
Bloomsbury—4, Queen's sq., f. g. r. 121, reversion in 33 yrs.	375
Kilburn—53 to 67 (odd), Percy-rd., f. g. rents 521, reversion in 99 yrs.	1,100
Finchley—49 and 51, Clifton-rd., f. g. rents 131, reversion in 98 yrs.	1,000
Leyton—1 and 2, Webster-rd., f. g. rents 81, 3s., reversion in 83 yrs.	160
19 and 21, Birkenhead-rd., f. g. rents 81, 3s., reversion in 88 yrs.	160
30, Goodall-rd., f. g. r. 51. 5s., reversion in 89 yrs.	100
Plain-st.—49 and 51, Stratford-rd., f. g. rents 151, reversion in 83 yrs.	345
Barboursby—11, 13, and 15, Barnsbury-gt., f. g. rents 151, reversion in 52 yrs.	335
Wood Green. 3 to 8, Brampton Park-rd., f. g. rents 271, reversion in 67 yrs.	590
New Southgate—46 and 48, Springfield-rd., f. g. rents 121, reversion in 45 yrs.	250
44 to 50, High-rd., f. g. rents 351. 6s., reversion in 79 yrs.	690
November 8.—By SAMUEL WALLACE & CO.	
West Thurock, Essex.—1 and 2, Industrious-pl. (s.), f. y. 301.	360
Stockwell—49 and 51, Lingham-st., f. w. and ex. 731.	305

By GREEN & SONS.		STONE (Continued).	
Bermundsey—Southwark Park-rd., f. g. rents 511, ut. 19 yrs., g. r. 151.	£110	YORK STONE—Robin Hood Quality.	
By HANSON & WHEELDON.		Per Ft. Cube, Delivered at Railway Depot.	
Marton, Lincs.—Farm, 163 a. 0 r. 84 p., f. and c.	4,231	Scrapped random blocks	2 1/2
By THORNBOROUGH & CO.		Per Ft. Super., Delivered at Railway Depot.	
Penrith, Cumberland.—Bleak House, f. p. d.	475	6 in. sawn two sides landings to sizes (under 40 ft. super.)	2
November 9.—By BOUT, SON, & MAPLES.		6 in. rubbed two sides ditto, ditto	2
Manley, Cheshire.—Part of the Manley Estate, 388 a. 3 r. 2 p., f. and c.	20,478	3 in. sawn two sides slabs (random sizes)	0 1/2
By MILLAR, SON, & CO.		2 in. to 2 1/2 in. sawn one side slabs (random sizes)	0
Bishop's Frome, Wilts.—Three farms, 395 acres, f.	10,800	1 1/2 in. to 2 in. ditto, ditto	0
November 12.—By WEATHERALL & GREEN.		HARD YORK—	
Regent's Park. 2 and 4, St. Mark's-cres., ut. 34 yrs., g. r. 71. 5s., y. r. 1001.	610	Per Ft. Cube, Delivered at Railway Depot.	
By EDWARD WOOD.		Scrapped random blocks	3
Stoke Newington. 100, Palatine-rd., ut. 61 yrs., g. r. 51, w. r. 391.	150	6 in. sawn two sides landing to sizes (under 40 ft. super.)	2
2 and 4, Woodlea-rd., ut. 61 yrs., g. r. 131, w. r. 761.	250	6 in. rubbed two sides ditto	2
Wandsworth—11, 11A, 13, 13A, 61, and 61A, Quinton-st., ut. 91 yrs., g. r. 201. 10s., w. r. 131. 2s.	770	3 in. sawn two sides slabs (random sizes)	1
Contractions used in these lists.—F. g. r. for freehold ground-rent; l. g. r. for leasehold ground-rent; i. g. r. for improved ground-rent; g. r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e. r. for estimated rental; w. r. for weekly rental; q. r. for quarterly rental; y. r. for yearly rental; u. r. for unexpired term; p. a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gds. for gardens; yd. for yard; gr. for grove; h. for farmhouse; p. h. for public-house; o. for offices; s. for shops; ct. for court.		2 in. self-faced random flags	0

PRICES CURRENT OF MATERIALS.

*. Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.	
Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facers	2 10 0
Per 1000, Delivered at Railway Depot.	£ s. d.
Flettons	1 13 0
Best Fareham	1 13 0
Red	3 12 0
Best Red Pressed	4 0 0
Buabon Facing	5 0 0
Double Headers	14 17 6
One Side and two Ends	18 17 6
Two Sides and one End	19 17 6
Plays & Squints	17 7 6
Second Quality	11 10s. per 1000 less than best.
Thames and Pit Sand	5 9 per yard, delivered.
Thames Ballast	6 "
Best Portland Cement	96 0 per ton, "
Best Ground Blue Lime	19 0 "
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.	
Grey Stone Lime	13s. 6d. per yard delivered.
Stourbridge Fireclay in sacks	27s. 6d. per ton at rly dpt.

STONE.	
Per Ft. Cube.	
BATH STONE—delivered on road wagons, a. d.	
Paddington Depot.	1 74
Do. do. delivered on road wagons, Nine Elms Depot.	1 9
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf.	2 3
White Beasbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf.	2 44
Per Ft. Cube, delivered at Railway Depot.	
Ancaster in blocks.	1 10
Bees in blocks	1 10
Greenhill in blocks	1 10
Darley Dale in blocks	2 4
Red Cornish in blocks	2 3
Closeburn Red Freestone	2 0
Red Mansfield Freestone	2 4
Talsore & Gwespys Stone	2 4

TILES.	
At Railway Depot.	
Best plain red roofing (per 1000)	42 0
Hip and Valley (per doz.)	3 7
Best Bursley (per 1000)	50 0
Do. Ornamental (per 1000)	52 6
Hip and Valley (per doz.)	4 0
Best Buabon red, brown, or brindled (Edw'ds) (per 1000)	60 0
Do. Ornamental (per 1000)	60 0
Hip (per doz.)	4 0
Valley (per doz.)	4 0
Best "Hartshill" brand, plain surfaced (per 1000)	45 0
Do. pressed (per 1000)	42 0
Do. Ornamental (per 1000)	47 0
Hip (per doz.)	4 3
Staffords (Hanley) Beds or Brindled (per 1000)	42 0
Hand-made sand faced (per 1000)	45 0
Hip (per doz.)	4 0
Valley (per doz.)	3 8
WOOD.	
At per standard.	
Deals: best 3 in. by 11 in. and 4 in.	£ s. d.
by 9 in. and 11 in.	14 0 0
Deals: best 3 in. by 9 in.	13 10 0
Battens: best 2 1/2 in. by 7 in. and 3 in. by 7 in.	11 0 0
3 in. and 3 in. by 7 in. and 3 in. by 8 in.	12 10 0
Battens: best 2 1/2 in. by 6 in. and 3 in. by 6 in.	10 0 0
Foreign Sawn Boards—	
1 in. and 1 1/2 in. by 7 in.	0 10 0
more than battens	1 0 0
1 in. and 1 1/2 in. by 7 in.	0 10 0
Fir timber: best middling Danzig or Memel (average specification)	5 0 0
Seconds	4 10 0
Small timber (8 in. to 10 in.)	3 17 6
Small timber (6 in. to 8 in.)	3 5 0
Swedish balks	2 12 6
Pitch-pine timber (30 ft. average)	5 5 0
JOINERS' WOOD.	
At per standard.	
White Oak: first yellow deals, 3 in. by 11 in.	24 10 0
3 in. by 8 in.	22 10 0
Battens, 2 1/2 in. and 3 in. by 7 in.	17 0 0
Second yellow deals, 3 in. by 11 in.	19 0 0
3 in. by 8 in.	18 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	14 0 0
Third yellow deals, 3 in. by 11 in.	14 0 0
11 in. and 9 in.	15 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0
3 in. by 8 in.	18 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	14 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0
3 in. by 8 in.	15 0 0
Battens, 2 1/2 in. and 3 in. by 7 in.	11 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0
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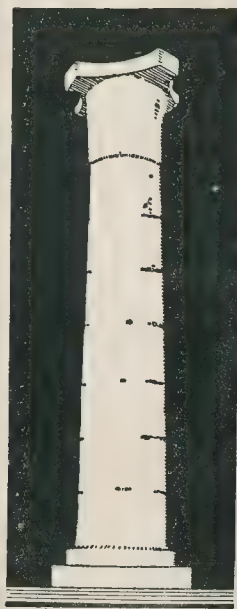
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FULL INFORMATION

may be obtained from the Directorium of the International Building Trades Exhibition, Leipzig (1913), or from its Official Bureau in England, 3, Regent Street, London, S.W.



TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 5 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100, unless in some exceptional cases and for special reasons.]

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 2644.

DECEMBER 6, 1912.

ILLUSTRATIONS.

CHURCH OF THE RESURRECTION, LEEDS. MR. TEMPLE MOORE, F.R.I.B.A., ARCHITECT.
DESIGN FOR PROPOSED CHURCH, FINCHLEY.
MESSRS. GROFFEY LUCAS & ARTHUR LODGE, ARCHITECTS.

PARLIAMENT BUILDINGS, WINNIPEG, MANITOBA:—
DESIGN SUBMITTED IN FINAL COMPETITION.
BY MESSRS. EDWARD & W. S. MAXWELL, OF MONTREAL.

ILLUSTRATIONS IN TEXT.

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LOGIC IN ARCHITECTURE.

A GREAT essential in architecture is that it should be logical and that the designer's purpose should be expressed poetically. Unlike the sister arts of painting and sculpture, it is largely utilitarian in its nature; in fact, as Ferguson cleverly pointed out long ago, it is in many ways more akin to shipbuilding than to either the other arts. A picture, and even a group of statuary, might without exaggeration be said to be a poet's dream; but it would be an obvious misstatement to apply such an expression to any building, although the greatest of the world's buildings possess an artistic appeal founded on rhythm, proportion, mysteries of light, shade, and distance which render them poetical in the highest sense. But the limitations fixed by the fact that physical laws have to be obeyed, and that practical wants have to be dealt with, that, in the case of all great works, architectural monuments take long periods of time to complete and need the most mature deliberation and consideration,

separate it from the other arts by a well-defined and definite line.

Professor Baldwin Brown, in his work on the Fine Arts, objects to the definition that architecture is but the decorative clothing of structural necessity, and points out that the greatest works are the result of two desires—to create a monument, coupled with the necessity of constructing to satisfy some utilitarian necessity, and states that it only rises to the dignity of an art when governed by a sense of proportion.

As, compared with painting and sculpture, there is infinitely less room for the individual note in architecture: it must, in any of its great manifestations, be the product of a master mind expressing itself through the medium of the manual labour of many; technique, which plays so large a part in painting, is necessarily absent; the imitative faculty is not required, and originality of conception or expression must be indulged in with the utmost care.

The work of the greatest periods of architecture was produced by great schools of workers instinctively approaching

the best solution of some problem by continuous and systematic effort, and little concerned about leaving their mark on time by innovation or experiment.

The monuments of Egypt show comparatively little change through periods far longer than that of the entire Christian era, and the whole of the great Greek period shows very little alteration in the originality of conception with which types of buildings were treated, but a gradual and increasing sense of the value of proportion, and care with which the original themes of an earlier period were developed until the great culmination of Athenian art was reached.

Even Ruskin, living in a period when our architects thought it possible to adopt and carry out works in the spirit of first one and then another period of the past, writes that "it does not matter whether we have an old or new architecture, but it matters everything whether we have an architecture which might be taught at our schools from Cornwall to Northumberland as we teach English spelling or English grammar"; and here he (misguided as we feel he was in many

points) has grasped one of the greatest truths, the recognition of which is necessary to the production of really great works.

Until we know and practise what may be called the language of style so automatically and thoroughly that we never have to think of it, we are bound to fail in expressing our meaning logically, clearly and architecturally, we shall be obsessed by detail in the same way that a man trying to express himself in a language with which he is but partially familiar is obsessed by the mechanical difficulty of finding words—a difficulty which renders his clearness of thought useless for any practical purpose.

And we have to remember that the logical expression of one age may represent nothing that is logical to-day. The symbolical carving and sculpture of the great European mediæval period was reasonable and consistent in an age when reading was a rare accomplishment, and when the sculptured message was the direct way of appealing to the understanding of an unlettered people, living in ages of faith and superstition. In this age symbolism (except to a limited extent in certain religious buildings) is an exotic to be indulged in with reserve. On the other hand, the great cathedrals of the Ile de France, with their wonderful development of buttress and vaulting, may represent a logical and reasonable way of dealing with a modern problem. The design for Liverpool Cathedral, now in course of erection, is founded on the logic of mediæval construction, freely adapted to the modern requirements of a great preaching space, unencumbered by supports, coupled with the necessity of providing for the traditional ritual. The domes over the nave of the Roman Catholic cathedral at Westminster lose none of their effect by being cast in concrete instead of laboriously constructed with rings of pumice-stone, as in St. Sophia; and in the great Pennsylvania Railway Station at New York Messrs. McKim, Mead, & White have shown how a modern building, fulfilling all its purposes, may be logically based on the system employed in the *Thermae* of the Romans.

We think that if Messrs. McKim, Mead, & White had in the latter building tried to impress us with their power of inventing original detail they might easily have failed in devising a building expressing modern requirements practically, and, at the same time, America would have lost a masterpiece which will stimulate generations of architects to think out great problems in a reasonable way, expressing them in accordance with the canons of art and the laws of perfect proportion. In the St. Louis Library, again, another American architect has given us a building which is original only in its great excellence and the consistent way in which a practical problem has been solved. It may be said that the best American building shows less individualistic expression than any modern work; it would be easier to discriminate between the work of the American architects by varying degrees of excellence than by individual traits. This may be largely the result of a systematised method of training and a recognised system of

education, of which there is a real want in England.

We feel that in this country a great need is that we should obtain a more thorough knowledge of the work of past ages, but that in obtaining it we should analyse more than we have ever done before the reasons which have been at the root of all architectural development.

Comparatively speaking, too much relative importance has been given to the work of the Greek period. For us it has few lessons beyond the great one of the value of exquisite refinement and proportion. It brings us little nearer to the right solution of the problems which face us to-day; it belongs to a past age and an alien civilisation. Roman architecture, on the other hand, was the work of a people who were resourceful and inventive, whose civilisation had become complex, whose wants approached those of the modern world in their number and variety, and for whom no problem seems to have been too great. In Greek work we have the fullest expression of possibilities open to the designer in a trabeated style, used to express very simple wants, while the arch, vault, and colonnade were freely used by the Romans in such combinations as were best found to fit each case. And the adoption of the Renaissance proved that Roman methods were nearer to the wants and uses of the modern world than those of the mediæval styles, and that a system of decoration and character of ornament, largely dependent on symbolism, had no longer a meaning. Had this not been so, the Renaissance could never have become the architectural language of Europe.

It becomes more and more necessary to define the architectural language by which we can most easily and logically express our wants architecturally.

The best of the works of that phase of the Renaissance which is characterised by Greek detail, St. George's Hall, at Liverpool, and some of Professor Cockrell's buildings must ever seem more or less exotic, with mouldings and ornament borrowed from buildings belonging to a land where atmosphere, climate, and sunlight give altogether different values to architectural forms.

The same, to a lesser degree, may be said of much of the work of the Italian Renaissance. Beautiful as we feel it to be, it is unsuited to harsher conditions, and depends too much on delicate and subtle effects of light and shade to suit a duller atmosphere. Such work is, however, logically right and reasonable in America, where climatic considerations are more favourable than in this country. We believe that in our own Renaissance, in the work of Inigo Jones and Wren and Chambers, we have models on which to base our work, and from which we can reasonably hope to develop a suitable style for the needs of to-day, and that such work is a much safer basis on which to build than that of the Neo-Greek or any so-called "revival."

With the great exception of the executed design for St. Paul's, Wren's work is nearly always the reasonable expression of practical wants, and the faults which mar St. Paul's are the direct consequence of the harassing control under which Wren worked. The City churches are examples of suitable design

for churches in the services of which ritual played practically no part.

We may, however, reasonably revert to some modification of the tradition mediæval church, as ritual has once more become an important element in the Anglican Church, and the necessity of mere preaching space is once more often subordinated to other considerations. Wren was right in his age, and we, departing from the type of church which he built, may be right in our age; either case, a clear and logical recognition of the points to be borne in mind should determine our action. A very strong case can be made out for the retention of the mediæval manner of the treatment of churches whose tradition is based on the continuity of tradition in this country, as our Renaissance churches belong to an age of Protestantism, which was an alien interruption of the tradition of which the English Gothic was the outcome and a reasonable expression.

But, except for churches adapted to the expression and use of ritual, where exceptional treatment may be justified, there seems every reason why we should endeavour to unify our architectural language, and in doing so reject what is unsuitable and alien, unfitted for our climatic conditions, and more or less dependent on greater intensity of light and shade than we have here. The use of marble externally, and the employment in any large measure of mosaic, are hardly suited to our local conditions and the expression of our wants.

A much more careful consideration of the proposed lines on which future building developments may take place will become necessary in an age when newly developed districts and roads are carried out in their entirety in periods of a few years. It is little use to open new thoroughfares except for purposes of traffic, if we exercise, as at present, little or no control over the general heights and effect of buildings in a mass; it is easy to make a new street line Kingsway less satisfactory than Gower Street by the absence of some such control.

Modern English architecture is too often spoilt by a saturnalia of conflicting features; the dome which surmounts the Central Criminal Court is rendered unfitting and trivial when silhouetted against the outline of the dome of St. Paul's, while the spire of St. Martin's, Ludgate-hill, forms a charming and harmonious note leading up to the campaniles and dome of the dominating cathedral beyond. There is little logic and use in putting up a beautiful façade to be spoilt by the near neighbourhood of an engineering bridge which has received no consideration with a view to harmonising it with its surroundings. We can no longer logically isolate any one problem in towns; satisfactory results are alone to be obtained by a much greater effort to secure harmony with our surroundings.

And a greater degree of culture and thought, and an attempt to free ourselves from a desire to create novel detail and logically think out reasonable solutions to new problems, must, we think, be an integral part of any real advance in architecture.

NOTES.

concerning the demolition of the old Westminster Hospital. To the *Saturday Review* of November 23 Mr. Filson Young contributes an interesting article under the above heading, which he prefaces by quotation from the Book of Job—"He violently taken away an house which he builded not." In commenting on the sight of the destruction of the old Office he says, "Mere destruction is not pleasing to witness, and the sight of men being paid to destroy and to do down what but yesterday other men have been paid to make and build up filled with uneasy doubts of the sanity of one of the most admired enterprises of the modern industry." We confess to have recently been troubled by similar doubts: our sense of the value or merit of architecture too often depends on contrary opinion, and too seldom on a well-earned recognition of intrinsic qualities; but from which there is little of the which is not valuable as an historical link of the great chain of time. We all know, however, that such acts of destruction are frequently necessary and unavoidable, but there is much in Mr. Young's observations on the relative differences between the new and old Post Office. Plain and efficient, it has the semblance of a factory; no one, I think, could claim much more for it architecturally. And it is a pity to make way for this factory that the people over the way is demolished." In the greater leisure given by the fewer and the limited opportunities of even the present past we feel that there was something in the time in which men were more apt to think of the poetry and meaning which is instinct in the ideas aroused by the purposes of many buildings, and we think that Mr. Filson Young is right in saying that much of this feeling has been parted from us to the great loss of architecture. We can have buildings which are fine and imposing and suitable for their uses, and which are yet so humanly materialistic in the message they convey to us, and, on the other hand, see structures erected in what we may call debased periods, which we feel could have been produced by those who possessed imagination striving to express its message through building. As Mr. Filson Young puts it, "There is no merit in building down a thing unless you are to put something better in its place"; and, further, in emphasising his argument, he states we "pull down and sell what appeals to the imagination" "to put up in what will only appeal to common sense and material desire." We feel in the present there is much food for thought, and we rarely have we known the dangers which may attend destruction more fully and forcibly emphasised.

In common with King's College and St. George's Hospitals, Westminster Hospital, Westminster Hospital will shortly be rebuilt on a site outside the metropolitan area, and a Bill will enable the Governors to dispose of the site and other property, and to acquire a new site outside the metropolitan area, is to be promoted next year. The present building, designed in an emasculated Tudor manner and clad with white Suffolk bricks with

stone dressings, was designed by Inwood, and built in consequence of an Act obtained in 1836. The hospital is said to be the oldest in London supported by voluntary contributions, and was founded two hundred years ago, occupying in the intervening period no less than four sites. Professor Beresford Pite, in a letter to the *Observer* of October 24, points out that a great opportunity now arises to replan the general building lines in a more architectural manner, and suggests that it would be advantageous if an Imperial zone could be formed at Westminster under an Imperial authority, which could suitably deal with the architectural replanning "of the loose pieces of public places and enclosed grounds that are grouped without much unity round the west-end of the front of the Abbey." Such an authority, Professor Pite thinks, could do more for such a site than the Westminster and County Councils. With regard to the actual site of St. George's, Professor Pite makes what we consider is a very good suggestion, which is that it should be acquired by the Stationery Office, which is separated by a narrow roadway from the back of the hospital, that this roadway should be done away with, and the hospital site, together with the roadway, utilised for new buildings fronting the Abbey. The absorption of the road in the rear would enable the new front to be set back without financial loss, as the land given up would be balanced by the land acquired by the absorption of the road, and the new frontage line would give emphasis to the approach to the west entrance to the Abbey, where State processions have concentrated with so much difficulty on recent occasions like the Coronation. It is also to be hoped that if such a scheme of improvement is, as we earnestly wish, carried out, the new Wesleyan Church House may be completed by the erection of the towers on either side of the entrance, which are at present omitted because of the rights of light possessed by the hospital. The present makeshift not only affects the Wesleyan Church House, but is an unsightly blot in an unusually prominent position, and we trust that an arrangement can be made with the future owners of the site for the removal of the "unsightliness of the incomplete."

Engineering and Art.

In his Presidential address to the Society of Arts Lord Sanderson made some remarks on a topic which is well to the front to-day—the relationship between art and engineering practice. His definition of beauty as something that has been accepted as such in former and present times by the most cultivated judges is not one that will help engineers very much. It is one that, to use the words of Professor Beresford Pite, will not enable engineers to "keep clear of the changing whims of artistic fashion," and may well encourage the meaningless introduction of artistic styles unsuited to the particular material under consideration. The late Sir Benjamin Baker once said that when very young he had thought he could do without architects, and had carried out some very pretty work with columns and arches and scrolls in iron. The result was so pretty that

Mr. Ruskin said of it in a lecture that it made him wish he "had been born a blind fish in a Kentucky cave." In later works, such as the Forth Bridge and the Assouan Dam, Sir Benjamin Baker aimed merely at beauty as denoted by good workmanship, economy of material, and directness of object, thus achieving an artistic style based upon scientific necessities, and giving no occasion for adverse criticism. It is satisfactory to note that Lord Sanderson also regards a certain simplicity as a characteristic of the highest art. Nevertheless, there are many engineering structures in the design of which the collaboration of an architect is essential to the attainment of beauty. But it must never be forgotten that beauty in construction is inherent rather than extraneous.

President's Address, South African Society.

We have before us the November number of the *South African Architect*, from looking through which we gather the impression that even in a new country we cannot escape old troubles. The newly-elected President of the South African Society states that phrases as to architectural advancement are easy, yet "the dull facts proclaim that in the greater part of the South African territory the meaning of the term 'architect' is hardly understood, his employment comparatively rare, and hill and dale are constantly being disfigured by hideous structures which will affect the taste of a future generation as surely as they reflect the bad taste of the present." He goes on to urge that "larger powers should be vested in governments and municipalities to deal with such contingencies," though expressing doubts as to whether their present achievements are such as to merit "absolute confidence." In Johannesburg the "opportunity of a dignified lay-out" worthy of so prominent a position as Brandis-square has been completely ruined, and the gaol, the "pre-war insult," remains in the most prominent position in the town. Town planning is urged as being a first necessity in South Africa as it is here, and the appointment of an Advisory Board of Architectural Control is advocated. The present system of patronage and departmental work meets with adverse criticism, and the advantages of competition are urged in that it "allows greater play and affords greater interest to local patriotism—for, after all, it is local patriotism which makes the town and the village." Truly there is little new in that world which "the eye of heaven visits."

The Metropolitan Water Board's Offices.

In the adjourned Report of the new Water Board's General Purposes Committee a report is made on the subject of office accommodation required by the Board. The Report recommends the acquisition of the site of King's College Hospital, which contains an area of 48,000 ft., with 60,000 ft. super. of clear floor space, all well lighted, subject to the proviso that it should be obtained at a reasonable figure. The suggestion made is that for the present the existing accommodation should be utilised for the

Board's departmental work. The Committee, therefore, recommend that it should be authorised to enter into negotiation for the acquisition of the site and buildings as central offices for the Board, and that it should be an instruction to the Committee to submit a further report to the Board at their next meeting.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The following gentlemen were elected at the last meeting of the R.I.B.A. :—

As Fellows.

L. U. Grace, London	C. H. Raily, M.A.
W. H. Greene, St.	Cantab, Liverpool
John's, Newfoundland	C. M. Crickmer, London
A. H. Hind, Leicester	C. E. Elcock, Colwyn
T. Hennor, London	Bay
V. D. Horsburgh,	W. Haywood, Birming-
Toronto, Canada	ham
J. J. Jones, London	O. C. Little, London
F. K. Kendall, Cape	A. C. Martin, London
Town	O. P. Milne, London
F. Lishman, London	S. J. Tatchell, West-
A. E. Munby, M.A.	munster, N.W.
Cantab., London	J. Watkin, Cragow
J. C. Reid, Glasgow	F. Willey, Durham

As Associates.

A. G. Allen, Leeds	*R. G. Muir, Baling
N. A. Allen, P.A.S.I.,	*K. E. Openshaw, Ox-
Montreal	ford
H. J. Axten, Hornsey	W. S. Owen, Hamp-
F. R. Barry, jun.,	stead
Richmond	J. Page, B.A. Cantab.,
T. P. Bayvor, Wakefield	Barnet
F. P. Bennett, Kilburn	G. E. Pease, Johannes-
J. A. Bessant, Hemel	burg
Hempstead	T. Pickmere, Hamp-
S. K. Bledwar, Bombay	stead
A. Booth, Barnsley	T. C. Pope, London
*H. J. Brownlee, London	W. S. Putwain, Peck-
*G. B. Bridgman, Khar-	ham
town	E. G. Roberts, Sheffield
J. A. Cheston, Sutton	J. C. Robinson, London
*D. S. Cullen, Norwood	S. P. Schoaling, Enfield
K. Dalgleish, Folke-	E. W. Scott, Finsbury
stone	Park
G. M. Dunn, Burgh	*W. W. Scott-Mon-
Heath, Surrey	crieff, London
C. G. Evans, North	T. S. Somersford,
O. Grant, Hitchin	Brixton
*T. G. Gilmour, Glasgow	W. R. Spurr, Wakefield
H. Goldstraw, Hareley	R. Stokes, Newcaste-
F. W. Green, Sheffield	on-Tyne
J. C. Harvey, North-	E. J. Sutcliffe, Halifax
ampton	V. R. Talvalker, Baroda
P. E. Holland, Bexley	G. R. Topham, C.
E. H. Honeyburne,	Greenwich
Liverpool	P. E. Webb, London
R. J. Hughes, Llan-	J. L. Warry, Fulham
writham	W. G. Winock, Stoke
J. W. Kay, Edinburgh	Newington
J. R. Mangham, New-	L. E. Williams, Ken-
castle-on-Tyne	nington
D. J. Moir, Montreal	J. H. Worthington,
F. W. Moore, Keighley	Hampstead

Hon. Corresponding Member.

S. L. Bernier, Membre de l'Institut, Président de la Société Centrale des Architectes Français, Professeur à l'Ecole Nationale des Beaux-Arts; 144, Boulevard Haussmann, Paris.

CHRISTCHURCH PRIORY.

In the *Times* of yesterday a letter was published from Mr. T. G. Jackson, R.A., referring to the restorations at Christchurch Priory. The subject-matter of the communication was given in the *Builder* last week.

UNIVERSITY OF LONDON: NEW LABORATORIES.

On the 4th inst. the new Pharmacology Laboratories at University College, designed by Professor F. M. Simpson, F.R.I.B.A., were opened formally by Sir Thomas Barlow, Bart. The building owes its origin to the generosity of Mr. Andrew Carnegie, and the scientific work to be pursued will be organised by the New Institute of Pharmacology, in connexion with the University of London. The new Laboratory contains, besides general and students' laboratories, a demonstration theatre, chemical room, library, professor's room, etc. It consists of three floors and a mezzanine floor as well as a basement.

* Passed the *Special* examination.

COMPETITION ASSESSORS.

THE point raised by Mr. C. F. A. Voysey in his letter to the *Builder* last week (p. 645) has aroused considerable discussion. So far as we have been able to ascertain, the profession generally does not agree with Mr. Voysey in his desire that competitors should be kept in ignorance of the name of the assessor who has been appointed to adjudicate upon their designs. It happens not infrequently that when conditions are issued it is stated that a competent assessor will be appointed, but even when the Royal Institute of British Architects is mentioned as the source of the nomination well-known architects have not considered it desirable to enter. It is an established custom that the assessor should be named beforehand and not kept in the background, and we think Mr. Voysey will have some difficulty in gaining adherents to his banner. We understand that the Council of the Royal Institute of British Architects had the matter before them on Monday last, and that it was referred to the Competitions Committee. It may be well to remind our readers of Clause I. in the Regulations of the Royal Institute relating to competitions. It is as follows:—"The promoters of an intended competition should, as their first step, appoint one or more professional assessors, architects of established reputation, whose appointment should be published in the original advertisements and instructions. The selection of an assessor should be made with the greatest possible care, as the successful result of the competition will depend very largely upon his experience and ability." We have discussed the question with several architects of wide experience in competition matters, and their unanimity in requiring the name of the assessor will be realised from the following views expressed by them.

Mr. William Flockhart, F.R.I.B.A., thinks it is distinctly right that the assessor should be known beforehand. He thinks Mr. Voysey has made an interesting suggestion, good in theory, but questionable in practice. Mr. T. Edwin Cooper, F.R.I.B.A., thinks that competitors should be given as much information as possible, and considers that the publication of the assessor's name in the first instance is essential to the proper conduct of a competition.

Mr. J. W. Simpson, F.R.I.B.A., does not think that Mr. Voysey's suggestion is based on experience or that it can be considered seriously. There could be no surer way, generally, to lose a competition than to appeal to the supposed ideals of the assessor, who, as a man of wide sympathies, approaches his task with elasticity of outlook, and resents any attempt to imitate his own style. Mr. Alfred Waterhouse was remarkable for his catholicity of taste in selecting the winning design in a competition. Mr. Simpson thinks that the name of the assessor should be announced beforehand.

Mr. W. A. Pite, F.R.I.B.A., thinks that the name of the assessor should be published, if only to deter those from entering who do not approve of the adviser chosen by the promoters. He would not stand aside because a professional assessor were not named at the outset if he were convinced that the conditions were good in other respects. Mr. Pite considers the ideal way of assessing a competition is by a jury of three, and he suggests that the Royal Institute of British Architects should undertake the arrangement of every competition on lines which would ensure the best design being chosen. He thinks that many men who are eligible to serve on a jury of assessors would undertake the duties for nominal fees, payable by the promoters through the Royal Institute, and that thereby the reputation of the profession and the advancement of architecture would be secured. Mr. Pite would compete without knowing the names of such a jury.

Mr. F. Winton Newman, A.R.I.B.A., of Messrs. Ashley & Newman, whose Birmingham Council House extension was illustrated

in the *Builder* a few weeks ago, expressed similar views to Mr. Cooper's, and does not agree with Mr. Voysey's ideas on this subject.

Mr. H. Austen Hall, A.R.I.B.A., of Messrs. Warwick & Hall, thinks that unless architect of repute and importance nominated and known in the first place, best competitors will not be attracted. An architect of standing will take the trouble and risk of a speculative design unless he knows that his work will be in good hands. Mr. Hall's letter in our Correspondence Column (p. 678) supplements our interview with the unknown assessor.

Both Mr. H. V. Lancaster, F.R.I.B.A., and Mr. E. A. Rickards, F.R.I.B.A., condemn the unknown assessor. However straightforward the promoters of the competition, there is no guarantee that the adviser who is appointed, but not named in the conditions, will be capable of judging in an enlightened manner. Many thorough experienced architects could be mentioned whose critical powers are inadequate for such special work as assessing a competition. The jury system commends itself strongly to Messrs. Lancaster & Rickards. So many are they in favour of it that, there being safety in numbers, they would be inclined to risk thought and expense in preparing design even if the names of the profession jury were not announced.

Mr. Halsey Ricardo, F.R.I.B.A., thinks that the whole competitive system is vicious and that the discovery of such men as Pines and Alfred Stevens is so exceptional that it does not justify the method. As a rule the successful design in a competition was a compromise, and did not possess the qualities which would be gained if a chosen architect were in personal touch with the requirements. He had all faith in the Royal Institute of British Architects, and so long as he knew that the assessor would be appointed by the Council he would not mind that the nominee should be named in the first instance.

PARIS NOTES.

We are glad, for more than one reason to be able to refer to an article by M. Dubrulle in a recent number of the *Rev. Archéologique*. It is, to begin with, an excellent piece of historical research; deals, further, with one of the most eminent sculptors of the Italian Renaissance; and, thirdly and lastly, it adds, as it were, a feather in the cap of one of the most underrated towns on the north coast of France. Boulogne, whether it is regarded (quite erroneously) as the crowded resort of a noisome kind of British tripper or as the first or last stopping place on your Continental journey rarely awakens any kind of serious interest; the mind of the traveller; yet it is one of the most picturesque and one of the most characteristically French towns in the North of France. In its busy life the tripper, the vivid kind scarcely counts; his sojourn in any case, is usually limited to a few hours and his peregrinations to the stretch between the Quai Gambetta and the Casino. The towns, in fact, possess a more interesting history, harking back to Roman times, and provide more pretty tales of legend or agreeable literary and artistic associations (many of them English). The architectural student might even spend a little time to advantage in the examination not only of the old buildings within the circle of the high ramparts, but also in the observation of many pleasant passages of late XVIIIth century work in other quarters of the town. But we must not be tempted to stray from M. Dubrulle's learned article in the *Rev. Archéologique*, which goes to prove, with wealth of documentary and inferential evidence, that the name and title of Giovanni da Bologna was, in effect, Jean Boulogne or Jean de Boulogne. In an occasional note we do not propose to examine the evidence, which is however, sufficiently convincing, and establishes in the XVth century a link between

BECKENHAM CENTRAL SCHOOLS COMPETITION.

THIS competition has evoked more interest than an elementary school competition usually does, chiefly because at the outset it was announced as being limited to those having special experience.

But in this case, to the disappointment of those who were selected, it was a case of many applying and many being chosen, as the possession of knowledge of and experience in schools is not a rare qualification, and some eighty architects have competed.

The site chosen is a good one, bounded on three and a half of its sides by roads, of which Balgovan-road constitutes the more important frontage, but its great disadvantage is that it barely affords playground area for the number of children to be accommodated.

An unusual feature even in school competitions was that only half the accommodation required was to be built in the first instance, the remainder forming future extensions.

The accommodation asked for was that required for a school for 1,200 in three departments, with certain rooms for handicrafts in connexion with the boys' school, and cookery, laundry-work, and housewifery in connexion with the girls'.

Obviously with a school on so limited a site the planning of the buildings so as to give the utmost possible free space for playgrounds was of the first importance. Usually in a school building the architect's task must be not only to plan the accommodation required in the best possible way, but to so arrange the buildings that convenient rectangular sunny playgrounds are provided free from inconvenient corners and angles, and this was in the nature of things a special point to be met in this case.

An assessor's duties in such a case as this are, first, to make up his mind what type of planning is most suitable, and, having done so, to successively eliminate from the designs belonging to the type the weaker ones till the best remains.

As to the first part of his duties, we consider that Mr. Cross has taken a clear and logical course; as regards the second, we may add that, in our opinion, he has selected what most of us would regard as the best design, but as, to the merits of the second and third designs we confess to having doubts.

The type selected by Mr. Cross was that which has been followed by the greater number of competitors, viz., a T-shaped plan, which has many advantages. The frontage line fixed necessitated those buildings which were brought near the roads being kept back at a distance from them, thus involving loss of space which might usefully be incorporated in playgrounds. The T-shaped plan has the advantage of having only one frontage to a road, the buildings forming the centre of the T, separating in most plans the site into the portions one of which is devoted to boys, the other to the girls' and infants' playgrounds, which most of the competitors have combined.

Another point which has apparently largely influenced the assessor's choice is the convenience obtained by placing the assembly hall at the head of the T, the cloak-rooms for each department and their entrances being in its immediate vicinity, so that the various departments can assemble in and disperse from the hall immediately on entering and leaving the school without having to traverse corridors.

Economy being of the first importance in this, as in many cases, the classrooms in the premiated designs are arranged in parallel rows along each side of a short corridor.

Messrs. Buckland & Haywood Farmer have produced a most excellent and carefully-thought-out plan on these lines. The entrances and cloak-rooms and staff accommodation is most conveniently arranged, and economy is effected by making the cloak-rooms sufficient only in the first case for the numbers to be originally accommodated. Additional cloak-rooms are placed at the end of the classrooms blocks when extended.

The planning of the rooms for special purposes placed in a block at the further end of the middle of the T is extremely well worked out, the boys entering their rooms from outside, which rooms are placed on the ground floor, the girls' accommodation being over, communicating with the girls' school internally, but also having external access. Full use of the playground space is ensured by recognising

the broken line of the Balgovan-road frontage, which is cleverly dealt with.

The elevations are simple and quiet, but we feel they can be considerably improved; but we know from actual experience that in Messrs. Buckland & Haywood Farmer's hands the Beckenham Council are sure of getting a most excellent school.

Of the second design by Messrs. W. T. Hale, of Sheffield, No. 44, and the third design by Messrs. Boram & Fletcher, of Sheffield, we can only say that, though there is little to be found fault with in the plans, we do not consider they are in the running with many designs of the type which Mr. Cross has adopted, and we feel some surprise that he should have given them their places.

In Messrs. Butler, Crouch, & Savage's design, No. 10, we have again a most excellently worked-out scheme, one feature of which is that the head of the T is placed back from Balgovan-road, so that a third playground is formed between the school and the boundary. Possibly a point militating against the plan is the fact that the whole of the corridors and rooms on one side of them are built in the first instance. This, while giving continuous elevations to the main road at the outset, necessarily increases the first cost. The elevations are, we are inclined to consider, the best of all submitted in the competition.

Another excellent design on similar lines is that by Mr. W. G. Wilson, No. 68, every part and detail of which has been carefully and thoroughly considered. A feature in the design is that in the final scheme the infants obtain a hall of their own, while the hall, which is at first used for all three departments, is finally allotted to boys and girls alone.

Mr. E. Cratney, of Walsend, submits in No. 64 a very good working scheme on the approved lines.

Messrs. Appleyard & Quiggin submit a good scheme on open quadrangular lines, facing Belmont-road, the two projecting wings forming the boys' and girls' school, the space between them an architectural court, and the block joining the two wings forming the infants' school. Playground space is thus divided into two—the open court and a large piece in the rear of the buildings forming the remainder, which is divided between two departments.

Of a somewhat similar type is No. 13, by Messrs. Townsend & Bryan.

In No. 25 we have an interesting design very carefully worked out again on open quadrangular lines. The scheme has many excellent points, but the disposition of the infants' school, forming a separate building, and the technical block is bad, as the playground space is much cut up.

The influence of the courtyard, verandah, and open-air type of plan, which has been so largely adopted in Derbyshire and other counties, is evidenced in several designs, notably that of Messrs. Paterson & Jenkinson, of Sheffield, No. 24. This is well and ably thought out, one of the playgrounds being formed by the central court, but, as this centre court is not completed until the second half of the building is built, the scheme would be incomplete and unsatisfactory in the first instance.

Nos. 41 and 48 fall under a similar category, Mr. East submits in No. 27 a thoroughly well worked out scheme having much architectural merit.

We understand that the designs from which the ultimate selection was made included Nos. 3, 43, 52, 69, 29, 10, and 68, which are all grouped together.

Interesting schemes were also submitted by Messrs. Gott, Robson, & Gott, No. 65; Mr. P. A. Robson, No. 71; Messrs. M. B. Adams & M. S. Adams, No. 3; Mr. H. O. Cresswell, No. 15; Messrs. Greenway & Newberry, No. 74; and Messrs. Sutton & Gregory, No. 72.

In this case, as in others we have recorded from time to time, the honours of victory have fallen to provincial architects, which in itself forms a pleasing testimony both to the fairness and open-mindedness of public bodies, since even in London local patriotism is a factor to be considered.

We may say in conclusion that we consider the Beckenham Council may congratulate themselves on the response which their invitation elicited, a result no doubt largely due to the well-deserved reputation for thoroughness and knowledge which the assessor, Mr. A. W. S. Cross, bears in the profession.

There is usually room for individual differences of opinion, but there can be no doubt that the selected design well merits its position.

de Pas de Calais and Tuscany (for theulptor was largely associated with the art of bronze). It was known that he was born at Genoa, but the association of his family with sculpture and his adoption of the name are new and interesting facts. It is not difficult to realise how Boulogne and Bologna became enfolded in Italian pronunciation (how many Italians of that day had ever heard of the French town?), and it may be that the artist, for a time, became content to acquiesce in the misunderstanding of his adopted country which had provided him, in those wonderful days of the Renaissance, not only with the means of acquiring his skill in sculpture, but who had given him opportunity for applying and fame. Associations of this sort may appear trivial, but when we are crossing the channel and have safely negotiated the view of Cape Gris-Nez, and Boulogne heaves in sight, with its ramparts, its domed cathedral, its climbing aggregation of houses, its light-uses and busy quays, we shall be able to add to the viewless memories of the place other *reminiscences* from the past.

A book on an interesting subject has been published recently under the auspices of the Bibliothèque de la Société des Architectes diplômés par le Gouvernement. The author M. Albert Louvet, architecte diplômé par le Gouvernement, and the title of the book "L'Art d'Architecture et la profession d'Architecte." This, the first instalment of work which will be completed in two volumes, deals with "La formation de l'architecte"; the second volume will be devoted to "L'exercice de la profession d'Architecte." M. Louvet has many interesting things to say, and he says them with a good deal of elaboration. If his book contains little that is not generally known by French architects and French students of architecture, it is, nevertheless, an extremely clear *résumé* of the point of view of an architecte diplômé par le Gouvernement of the French position with regard to the education of an architect and the scope of his work. M. Louvet supports the teaching of the Beaux-Arts as the best educational system existing in France, although not without certain reservations. The official *ateliers*—that is, studios attached to the Beaux-Arts—he condemns without qualification, while he supports the existence of the *ateliers libres*. At the qualities which he demands from architects who run an independent atelier—qualities of sympathy largely in regard to the temperament of his students—would probably daunt many architects whose attitudes lie rather in the direction of creating architecture than in teaching it.

He is afraid, for instance, of the too original architect in this position, because he would be more likely to control than to develop the natural talent of his students. M. Louvet particularly emphasises the fact that the conditions under which a modern architect works demand that he should be a person of wide culture as well as possess a clear head for business affairs. He deprecates, on the one line of argument, a student visiting France without he takes with him a knowledge of classic mythology and history. So far as the chief of an atelier is concerned, perhaps his ideal view is summarised in a phrase addressed to his students by a distinguished French architect:—"Je n'ai pas prétention d'être plus malin que vous, seulement il y a plus longtemps que je fais l'architecture et je puis vous donner des conseils." With M. Louvet's arguments we need little to disagree; they seem to us, on the whole, an admirable exposition of a system of training which has provided an example for most other countries, and which has perhaps raised the general standard of architectural achievement in France.

HONOUR TO A FRENCH ARCHITECT.

M. Louis Eugène Marie Feine, of Paris, has been created a Chevalier of the Légion d'Honneur "pour services exceptionnels rendus à la Société d'habitations à bon marché."



Parish Hall, Roehampton.

Mr. Sydney Tugwell, A.R.I.B.A., Architect.

(Royal Academy Exhibition, 1912.)

PARISH HALL, ROEHAMPTON.

This hall is a gift to the parish of Roehampton by the Countess of Leven and Melville, and is intended to commemorate the memory of her husband, the late Earl of Leven and Melville. The seating accommodation is for 400, and the building is faced with Daneshill and Guildford bricks, with Portland stone dressings and Tibbithwaite green slated roof.

The general contractors are Messrs. W. Adkins & Son, of Roehampton, and the building has been carried out without a clerk of works under the able direction of the contractors' general foreman, Mr. G. H. Bones. Messrs. Haden & Sons, of Trowbridge, are the heating engineers employed, and Messrs. Matt. Shaw & Co. have supplied the structural steelwork. The electrical engineers are Messrs. Cecil Cooper & Co., of Gloucester-road, W. The architect is Mr. Sydney Tugwell, A.R.I.B.A.

ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY.

The first general meeting of the Architects' and Surveyors' Approved Society under the National Insurance Act was held on Tuesday at the Rooms of the Architectural Association, 18, Tufton-street, Westminster, when the President (Mr. Reginald Blomfield, A.R.A.) took the chair.

Mr. F. E. Yerbury (Secretary) said that upon the National Insurance Act (of 1911) coming into force, the question of the position of those employed in architects' and surveyors' offices who came within its scope presented itself, and it was felt by certain members of the two professions concerned, after obtaining the best legal and expert advice, that they would be justified in advocating the formation of a special society for the employees of architects and surveyors for many reasons, the chief of these being that such a society would consist of a select membership, drawn from a professional class

whose occupation was healthy, and whose income would in very many cases rise to an amount which would remove them from the scope of the Act. The contributions of those passing out of the Society in this way would remain to the credit of the Society, and, as a consequence, it should be able, in a few years, to offer larger benefits than those actually prescribed by the Act, and in this way the contributions forfeited by those who passed out of this Society would be used for the benefit of fellow-members of their own profession. A provisional Committee of representatives of the Royal Institute of British Architects, the Surveyors' Institution; the Architectural Association, and Society of Architects was formed, and it was decided to proceed with the formation of the proposed Society. The Society was formally approved by the Joint Commissioners for England, Scotland, and Wales on October 16 last, but previous to this provisional approval had been granted by the Commissioners for England. At the present time the membership of the Society was 1,574 ordinary members, one voluntary member, and fifty-five honorary members. There were still a number of applications for membership to be dealt with, and, taking this into consideration, it might be safely reckoned that the total ordinary membership at the beginning of next quarter would be well above 1,600. A few applications for membership had been rejected for medical reasons, so that the present membership, as was anticipated, was composed entirely of select lives. Reverting to the original contention that the majority of members would in time pass beyond the income limit, it was interesting to note that already four members had withdrawn from the Society for this reason, and the following statistics went still farther to support the same contention, that the majority of members would pass beyond the income limit at a comparatively early age:—Number of members between sixteen and twenty-one, 358; number of members between twenty-one

and thirty, 942; number of members over thirty, 274; total, 1,574. With regard to finances of the Society, it was difficult at present juncture to give details, but expenditure up to the present might be divided into three sections, viz.:—(1) Preliminary expenses incurred in the formation of the Society: These amounted 199l. 2s. 1d., and were accounted for as follows: Printing, 129l. 1s. 1d.; clerical wages, 15l. 15s.; legal expenditure, 52l. 10s. advertising, 1l. 16s. These amounts were met by the four professional institutions interested who contributed the following sums:—Royal Institute of British Architects, 80l.; Surveyors' Institution, 80l.; Architectural Association, 20l.; Society of Architects, 20l. total, 200l. Thus the preliminary expenditure might be ruled off as settled, and this way the Society commenced with a clean sheet. (2) Non-recurring expenses: Under this head was reckoned expenditure on office equipment, extra clerical assistance, printing, etc., 50l. The Treasurer would give further financial details, in which he would take into account the present liabilities of the Society. (3) Recurring expenditure: Under this head was reckoned ordinary current administrative expenses, amounting to 31l. 5s. 8d. Up to the present, application had not been made to the Commissioners for payment on account of these expenses, but a friend of the Society had very kindly made an advance free of interest, from which these had been met. It was the business of that meeting to confirm the election of the officers and Committee appointed by the signatories of the application made to the Commissioners for approval of the Society, in accordance with Rules 1 and 25.

The list of now-elected officers was announced as follows:—President, Mr. Reginald Blomfield, A.R.A., P.R.I.B.A. Vice-Presidents: Sir J. F. L. Rolleston M.P.; Mr. C. Bidwell, Mr. Howard Marti Sir A. R. Stenning, Mr. H. T. Stewart

on, E. G. Strutt, Mr. Leslie R. Vigers, Mr. J. Lish, Mr. E. J. Hamilton, Mr. Gerald C. Horsley, Mr. Percy B. Tubbs, Sir Ernest George, A.R.A., Mr. T. E. Collcutt, and Sir Aston Webb, C.B., R.A., Trustees, and Mr. Aston Webb, C.B., R.A., Mr. Daniell, and Mr. W. Edgar Horne, M.P. The President congratulated the members on the formation of the Society, and said it reflected great credit on the younger men, who had borne the brunt of the work. They knew that opinion was divided on the Insurance Act, but it was the law, and as good citizens it was their duty to obey it. Their right to be a Society particularly favourable to the members, because assistants in architects' and surveyors' offices were, as a rule, healthy and vigorous young men, and, further, they were constantly moving upwards in salaries which took them outside the scope of the Act, and in this way the Society would have a large fund from which the less-fortunate members could be benefited. By the formation of the Society they got a solidarity of interest and an *esprit de corps* which was essential to any profession which expected itself and was entitled to the respect of the public.

The Hon. E. G. Strutt moved the confirmation of the election of the officers of the Committee as follows:—Auditor, Mr. Cyril Brown; Treasurer, Mr. Maurice E. Webb; General Committee: Messrs. George Corderoy (Chairman), Walter Cave, George Hubbard, H. D. Searles-Wood, G. Leonard Kingston, Maurice E. Webb, H. Austenall, Ian MacAlister, C. McArthur Butler, Goddard, E. H. Blake, B. Marr Johnson, H. Sabin, Ralph Ellis, Clifford T. Steward, G. Cross, E. C. P. Monson, R. G. Lovell, R. Priest, Gustavus Reeves, H. D. Latham, W. I. Keir, H. J. Higgs, and W. Virgo; Solicitor, Mr. F. R. Yerbury. He referred to the good work done by the Surveyors' Institution and the Architectural Association, and said it was pleasant to think they could work together in harmony. Mr. McArthur Butler (Secretary of the Society of Architects) seconded the motion. Mr. Baker pointed out that he was the first to take steps to form such a Society, but, after spending much time and money, he was told the present Society had been formed. His object in trying to form a Society was to benefit assistants and to obtain the position of Secretary for himself, and he asked some member to propose his election as Secretary. Mr. G. Pearson moved, firstly, that it be referred to the Committee to consider whether they could award Mr. Baker some remuneration for his efforts. But at the request of Mr. Baker he altered this to a motion that election of the Secretary be deferred until this matter had been considered by the Committee.

This was not seconded, and the original motion was carried. Mr. Geo. Corderoy acknowledged the resolution, and spoke highly of the prospects of the Society. He pointed out that a scheme was being outlined to deal with the subscriptions of honorary members for the benefit of the ordinary members, and said it was necessary to obtain 5,000 members within three years to preserve their separate entity. They approached the Institution of Civil Engineers with a view to that body joining them.

Mr. Maurice E. Webb proposed a vote of thanks to the societies who had financed the preliminary expenses, and pointed out that the Committee had spent considerably less than the sum they were entitled under the Act to allocate for expenses. He made a strong appeal to all those eligible to join to do so at once.

Mr. G. Reeves seconded the motion, which was carried.

On the motion of Mr. Gerald Horsley, seconded by Mr. J. H. Sabin, a hearty vote of thanks was passed to the President. It was mentioned by Mr. Horsley that the presidency of the Society would fall in alternate years to the Presidents of the Royal Institute of British Architects and the Surveyors' Institution.

It is necessary that the membership of the Society should reach the requisite 5,000 within the next three years in order that the Society may remain a separate entity for valuation

purposes. As no doubt a very large number of those employed in architects' and surveyors' offices are members of other societies for the purposes of the Act, it should be pointed out that there is very little difficulty in transferring their membership to a Society especially formed for their own profession, and the Secretary of this Society will be pleased to assist them in doing this, if required.

REGISTRATION AND THE ARCHITECT'S ASSISTANT.

We have received from the Council of the Guild of Architects' Assistants the following statement:—

"It is important that the architectural profession should fully appreciate the disabilities that the forthcoming proposals for the registration of architects may impose if they are not framed with accurate and complete regard for all sections of the profession.

The Guild of Architects' Assistants is more especially concerned with that class whose position and interests it has consistently endeavoured to defend. The probable ill-effect of registration upon the assistant has been continually placed before the profession in the technical Press. In order to avoid any derogatory effect of registration upon the assistant certain proposals have been made by the Guild to the promoting societies, particulars of which are enclosed. Possessing no mandate in favour of registration, the Guild desires to see the betterment of the assistant, or at least an unimpaired status for him under the proposed régime. The Guild can offer no guarantee for this result except by the inclusion of the assistant in the Registration Bill. The following statement describes the reasons for his inclusion:—

The architect's assistant is a member of a permanent class which persists notwithstanding the fluctuation of individual fortune. His claim for adequate consideration in the proposed Bill for the Registration of Architects is justly based on his membership in the promoting societies and his position in the profession.

The Bill will unquestionably pose as the inspired democratic ideal of all sections and interests concerned. It is the duty of the profession to see that this description applies. The result of the recent inquiry by the R.I.B.A. into the question of the number of Associates qualified for candidature as Fellows is not known, but should prove a valuable indication of the probable extent of the architect's assistant's interest in the Royal Institute. A glance at the membership lists of the promoting societies will show that about one-fifth are obviously students and assistants. A large percentage of the remainder are employed during the greater part of their career as assistants, and as such many continue. Together with these considerations, which serve to outline the position of the assistant in the promoting societies, there are those which affect the profession as a whole. Every member of the profession passes a varying period as assistant. A large number of assistants are

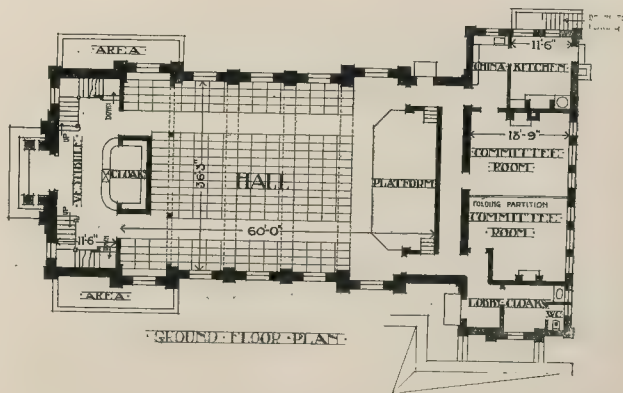
permanently employed as such by Government, municipal, and other corporate bodies. Few are able to hold the position of practitioner continuously and consistently, whilst the experience of many fluctuates between the two positions, which in other cases are held simultaneously. Further, there is the mass of architects' assistants who are unconnected with any professional society, and the fact that about one-third of the students passing through a well-known architectural school find a precarious and lengthy stay in the assistant class.

The Guild of Architects' Assistants believes that the interests it represents are as fundamentally important as any other with which the proposed Bill for the Registration of Architects may deal. Real danger is involved to the younger members of the profession if their interests are not protected. If professional defence is required for maturity, still more is it necessary for immaturity. The profession will stand convicted of neglect for its weaker members if the proposals for registration do not contain, or refer to, a series of protecting clauses to determine the position of the architect's assistant."

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association: Town Planning.

On the 28th ult. Mr. Raymond Unwin delivered an address to the members of the Birmingham Architectural Association on Town Planning. At the outset he suggested answers to the question why architects should take a special interest in the town-planning question. In the first place, the answer was, he thought, that it affected their buildings; in the second, because it was really architectural work on a large scale; and, in the third, because they, as a profession, stood specially for the addition of beauty to useful building. When it came actually to making a plan for the laying-out of buildings the matter got beyond what either the engineer or the surveyor was trained to do. The function of the surveyor was to bring before the town-planner the whole of the facts of the site as it existed, the whole of its conditions, and the whole of the requirements as to the future; and it was his business when the architect had made plans which architecturally satisfied those requirements to criticise them from the useful point of view. The engineer was the structural and executive man; he must tell them the limitations within which they must work. But when it came to making the actual plan the problem became an architectural one, and it was then that the architect should claim his fair share of the work. Town planning consisted of two things. It was not only a plan, but a scheme. It fixed the width of streets and building lines, and the height of buildings in relation to streets. In some it was laid down that no houses should be of more than two stories, and one partly, or wholly, in the roof. Here the interests of the architect were concerned. Then, again, some schemes gave to the local authorities power to



Parish Hall, Roehampton.

Mr. Sydney Tugwell, A.R.I.B.A., Architect.

approve of the laying-out of groups of streets. Here, too, the interests of the architect were concerned. A limit to a certain number of houses in a row had been suggested in some schemes, without regard to whether there should be a wish to build a group of houses or not at the same time. The area of the site which might be covered by buildings was limited, and if this point were not watched it might easily happen they could never have a street corner built up with any sense of closing in, and there would be great gaps even larger than those allowed under present by-laws. All these were matters which could only be arranged by architects who day by day in their calling were brought into contact with them.

The lecturer pointed out the difficulty of framing regulations for the regulation of building so as not to do a lot of injury. It was for architects to watch town-planning schemes carefully, and in order that they should have their proper voice in the matter he thought it was possible for a few of the architects in a district to form a Committee to study the question and become experts who could advise the rest of their body. In regard to the schemes affecting Birmingham, so far as he could make out there had been no architectural help or advice at all. They had only to look at some of the road junctions to see that no one had ever thought how the buildings were going to look where the roads came together. Birmingham's scheme did not go nearly so far in the matter of regulation of details of building as some others did. Still, there were points which might have been arranged by negotiation, and the Local Government Board were disappointed that the scheme had not received more architectural criticism and help. Town planning was going to bulk big in architectural work in the future, and it was also going to have great bearing on the design of individual buildings.

Glasgow Technical College Architectural Craftsmen's Society.

At the fourth meeting of the Society, Mr. A. H. Purdie presiding, Mr. John Allan, jun., delivered a lecture on "The Manufacture and Use of Concrete Blocks in Building." The lecturer outlined the history of concrete and stated that the dome of the Pantheon in Rome was an early example of this method of construction. The modern system of manufacture and building with hollow blocks, first used in America, and introduced in this country at the Letchworth cottage exhibition, was fully dealt with, and comparative costs given proved it to be a cheap and durable method of construction. The lecturer mentioned a few of the difficulties, and a certain amount of prejudice with which local authorities and landowners viewed this method of building, and invited the co-operation of architects to give this material artistic treatment.

Architectural Association of Ireland.

On November 19 Dr. MacDowell Cosgrave, one of the Hon. Secretaries of the Georgian Society, delivered a lecture on "XVIIIth-Century Work in Dublin," at the ordinary meeting of the Architectural Association of Ireland, 15, South Frederick-street, Dublin. Mr. George L. O'Connor, F.R.I.A.I., President, occupied the chair.

Dr. Cosgrave said it was a discussion which took place there that led to the formation of the Georgian Society for making records of the remains of XVIIIth-century art in Dublin. The four volumes already published gave some idea of the great wealth of decorative work that was lavished on Dublin in the XVIIIth century. The expansion in the century was indeed extraordinary. At first this expansion was not so much one of taste as of necessity. The prosperity that followed the unaccustomed condition of peace allowed of the building of larger and finer houses. The last timbered house had been removed by 1813, at the corner of Castle and Werburgh streets. In the first half of the century the gables generally followed the pitch of the roof, but not much was left of the first quarter, although more than 4,000 houses were added to the city during it. The second half of the century showed a complete change, and each contained quarters in a separate entity. The Fire of London, 1666, made room for a large number of buildings in pure Renaissance style. Palladio was the designer of buildings reckoned amongst the masterpieces of this style, and, as his treatises in architecture were translated into English, his designs were often taken as a guide. The public buildings

of the last three-quarters of the century followed this taste, following the façade of the Parliament House, 1735, in true Italian taste. The present front of Trinity College was built in 1759. By the end of the first half a change had come over plaster decoration in Dublin. The architects of large houses were no longer satisfied with the rough decoration of local workmen, but brought over plaster designers and workers from Italy. It would be observed that the plaster-work of this third quarter of the century was not of severe classical design. The Renaissance had taken a long time to cross Europe, and whilst it was slowly travelling over the style was changing in Italy. So whilst their public buildings were following the published designs of Palladio, and were severely classical, the XVIIIth-century decoration done by workmen brought direct from Italy followed the current style with which they were familiar, and the Irishmen learning from them carried on the same style. The Italian style of the period was Rococo, and the plaster freely used in domestic buildings as a medium for decorative work no longer represented structural lines, but was frankly decorative. In the last quarter of the century the plaster-work was from the designs of the Adam Brothers. The lecturer showed a splendid series of slides illustrating the delightful decorative work of the XVIIIth century. It was the happy lot of the Georgian Society to record the Dublin of the past, but it was the happier lot of the A.A.I. to help and create the Dublin of the future.

On the motion of Mr. Orpen, seconded by Mr. O'Callaghan, and supported by Messrs. Beckett, Nicholson, Geoghegan, and Paton, a hearty vote of thanks was passed to the lecturer. The following new members were elected:—Messrs. Harold Langley Phillips, William Henry O'Donnell, William Mortimer Paton, A.R.I.A., William M'Laren. Rejoined:—Messrs. J. Howard Pentland, R.H.A., S. Ashlin, M.R.I.A.I.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY: PRESIDENT'S ADDRESS.

THE opening general meeting and smoking concert of the Leeds and Yorkshire Architectural Society was held at the Queen's Hotel, Leeds, on Thursday evening, November 21.

The President, Mr. A. E. Kirk, occupied the chair, supported by Mr. J. F. Walsh and Mr. G. F. Bowman (Vice-Presidents), and Messrs. J. W. Connon, H. Perkin, W. Carby Hall, H. S. Chorley, S. D. Kitson, and a number of members, associates, and friends.

The proceedings opened with the President's address, followed by a vote of thanks from Mr. S. D. Kitson, seconded by Mr. H. Perkin, and supported by Mr. G. F. Bowman.

The President referred to the valuable work of Mr. W. Whitehead, Hon. Secretary, on behalf of the Society, and in the course of subsequent remarks, he said:—

"The establishment of a British School at Rome is an accomplished fact, the particulars of which have been published. This should be a great incentive to the students to spur them on to gain the highest reward. It is to be regretted that the Architectural School at the School of Arts, Leeds, has not the privilege of nominating a candidate, but it is hoped that some day it may be won by a Leeds student. The Leeds School of Architecture, under the direction of Mr. Coombs, is doing very good work, and a very thorough training is to be gained there. There are rumours in the air that the city contemplates at an early date making provision for all the different departments of the city being housed in one building. Since the Municipal Buildings were built Leeds has increased, and naturally the different departments have expanded, and new ones have been created at the present time they are scattered all over the city, which means not only extra work for the officials, but also great inconvenience to the general public. Many sites have been suggested in the Council, and also in the Press; of course, most of the criticism has been based on the cost, regardless as to the suitability of the site.

Whatever is done should be worthy of the city. Bradford, our next-door neighbour is going in for an extensive scheme of town planning in the very centre of the city, and unless Leeds wakes up it will be left behind. To my mind, and I think you will agree, the only site for such a building is on the south side of Victoria-square; this would give a glorious opportunity

of architecturally treating Victoria-square and making it worthy of the city. If these buildings are put elsewhere I am certain that Victoria-square will be left for all times a desert of cobbles with a small oasis in the centre—Mr. Brook's statue of the late Queen Victoria.

The enlargement of the General Infirmary will do great things by opening up the north side of the Town Hall. Mr. Kitson's plan shows a small square and gardens which promises to be an interesting lay-out. Just a word with regard to the town planning which comes into this large scheme. The plan shows a fine wide street running from Calverley-street in a crescent, joining Fenton-street at Carnaby-street on the south side of the Artillery Barracks; this seems to finish nowhere for a street of such importance. I would suggest that it be carried forward to where Hilliary-street joins Woodhouse-lane, and a circus formed there, then the traffic would be diverted from the tramlines straight into the centre of the city, and I think that better gradients than Woodhouse-lane and Cookridge-street could be obtained. I know this is going beyond the present infirmary scheme, but I think in a piece of town planning of this magnitude there should be some finality shown to a street of this importance.

Registration.

That hardy annual, registration, again occupied an important position in Mr. Blomfield's Presidential address before the Institute, and I think he strikes the very note of registration when he states, 'A sound and thorough professional training is the basis on which any form of registration must be founded. If we are to obtain public and formal recognition of the fact that architecture is not an art that can be practised by Dick, Tom, and Harry with advantage to the community, and that there is a difference in kind between the work of the trainer, designer, and the architectural efforts of the gentleman who combines the practice of architect, auctioneer, and estate agent, we shall see to it not only that our present standard is maintained by all who enter our ranks, but also that it is slowly and surely raised, so that there can be no question as to who is or who is not qualified to undertake the work that legitimately falls on to an architect.'

The Institute is pledged to the policy stated in the report of the Committee of 1897, but very little headway has been made during the last four years; of course, I know the subject bristles with difficulties, but many converts are being made every year. We in the provinces have, perhaps, felt the necessity more than the London men, but I am glad to think they are coming over by degrees. The new Council have appointed a large and carefully selected Committee to consider the whole question, which contains, I am glad to say, a number of representatives from the provinces, and I sincerely trust that their deliberations will bear early fruit.

The Allied Societies.

A circular letter from the Royal Institute of British Architects has been sent to all the allied societies, stating that the Council are anxious that the control and supervision exercised by the allied societies all over the country should be as complete as possible, and that some of the provinces allotted to them are too large, and that their organisation cannot adequately deal with more than a certain area. They also drew attention to the fact that there are a large number of members and Licentiates of the Royal Institute who do not belong to the allied societies, and ask for suggestions to improve this. With regard to our own Society a fair number of Fellows and Associates who reside in our area are members of the Society, but the percentage of Licentiates is not so good. The figures are as follows:—Twenty-five members, five not; Associates, thirty-five members, ten not; Licentiates, sixteen members, sixty-two not. Leeds, I think, is well situated as a centre for the majority of the towns represented. If it is proposed to create additional allied societies I would suggest that Yorkshire should follow the Ridings, which would then be as follows, viz.:—York and North Riding; Hull and East Riding; Leeds and West Riding. To obtain more supervision and influence over the provinces it would seem necessary that all members of the Institute should become members of the allied societies. In the case of Fellows and Associates, I do not think there would be any opposition, because the Royal Institute of British Architects refund their subscriptions. With regard to the Licentiates

There may be opposition, unless the Royal Institute of British Architects can see their way to refund the necessary subscriptions, which I think they most certainly should do. There is a feeling abroad, I know, that most of the provincial members obtain very little benefit from their membership of the Institute, and I think something might be done to allay this feeling—say, by conferring certain grants to the allied societies.

The XXth Century.

Now let us look at the general condition of things in the XXth century. The age of esoptrics is past. Englishmen are never in the attitude likely to live under any more grinding tyranny than the Caucasus. Workmen are no longer slaves, even though they care quite as little or less about their work. The days when the prelates of powerful churches, or the despots of petty kingdoms, could employ the tedious labour of their serfs in carrying out the architect's dreams have gone for ever.

As Mr. Ruskin has said, "For us there can be no more the throne of marble, for us no more the vault of gold; but for us there is the leftier and leveler privilege of bringing the power and the heart within the reach of the humble and the poor; and as the magnificence of the past ages failed by its narrowness and its pride, ours may prevail and continue by its universality and its lowliness." Some few are called upon to do great things, like the Cathedral at Liverpool, or the County Offices, London. But, as a rule, we must be content to do simple things and to do those simple things as well as in lies. Buildings of unlimited cost are now out of the question. Everyone who wishes to build wishes to build with due economy; be our aim to help him to build art also. The time of the workman man means—to put it in a one word—money. We have to provide buildings simple and good. And the importance of the architect who should succeed, of knowing precisely how and when to place rightly every building of expenditure on his building, whether of mouldings or ornament, sculpture or painting, as increased of late a hundred-fold. Unlike the painter, who places his creations at once upon the canvas, or the sculptor, who petrifies his ideas direct into marble, the architect has to reduce his ideas direct on paper and then to efface his materials by the hands of others. We cannot send houses and churches to the Royal Academy, and the Architectural Room here would be a more direct exhibition of architecture if it consisted of photographs of executed buildings. Drawings of some of the best architectural works are sometimes rejected, because not drawn as coloured pictures. I am glad that the Royal Institute has at last taken photographs into consideration for the election of the Fellowship, because, to my mind, there is the great history of illustrating executed work. The great historical knowledge of architecture arising from the increase in the number of books and photographs has given rise to more and more downright copyism, some clumsy adaptation, and a serious amount of architectural muddle in buildings. Rightly used books and photographs ought to produce a greater consensus of knowledge, and should enable man to think more freshly and design more freely.

Art and Payment.

More "eclectic" building, however clever, only renders more conspicuous the absence of design and creative power. If you wish to produce, and intend to produce, good art you must endeavour to understand first of all that you will never get paid for it. The pleasure you have had in it must be to yourself all the reward you will receive. You will, of course, be paid your percentage calculated on the sum which the builder has received for his part of the work, but you will receive this all the same you work with the mind of the two-square and compasses and not in the spirit of the artist. The art in your work depends wholly on the pleasure you have taken in it, and has no market value.

Creative art can never be produced by rules, however necessary. We cannot always be repeating the wisdom of the ancients. Times change. New wants of time arise. The artistic perceptions in relation thereto grow clearer. There is no rule without an exception, and he who has passed into the inner sanctuary behind architectural rules and canons may sometimes break them with advantage.

The future will tell whether the present has architects able truly to write history on

the wall. The palmy days of Greece contrasted the perfect beauty of the Temple in the noblest architecture with the hovel of the present in its lowest squalor.

In this England of ours to-day power is passing from the noblesse to the masses. Art, if any is to be left at all, must belong to the people, powerfully influencing by its universality their homes and lives.

He who succeeds best without affectation in producing simple artistic work fit for the domestic life of England does most to discredit the modern shams and silly, pretty trumpery which meets us on all sides, and best paves the way for a new era in English architecture.

Prizes to successful students in the annual competitions were then distributed. Mr. W. Butler was awarded a 3*l.* 3*s.* consolation prize for measured drawings of Newland Hall, near Wakefield, the silver medal not being awarded.

The first prize of 2*l.* 2*s.* for design was awarded Mr. W. Voelkel, and the second prize to Mr. Douglas Bowman.

The Society's sketching prize of 2*l.* 2*s.* was awarded Mr. C. B. Chadwick, who also received a 1*l.* 1*s.* prize from the Sketching Club.

A concert arranged by Mr. D. Bowman filled up the rest of the evening.

GENERAL NEWS.

Professional Announcements.

Mr. John Borrowman, A.R.I.B.A., announces that he is moving his offices to No. 9, Adam-street, Adelphi, W.C.

Appointments:

H.M.'s Office of Works.

The First Commissioner of Works has appointed Mr. W. A. Robinson, of the Colonial Office, to be Assistant Secretary *vice* Mr. William James Downer, C.M.G., I.S.O., who has just retired after forty years' service. Mr. Downer entered the Office of Works in 1871; he became Principal Clerk in 1901, and in 1909 was appointed Assistant Secretary and Treasurer of St. Peter's (Crown) Chapel, Vere-street, W.

New Commission: City Lieutenantcy.

At the opening on November 29, at the Mansion House, of the new Commission of H.M.'s Lieutenantcy for the City of London Mr. Charles Herbert Shoppee, F.R.I.B.A., F.S.I., was reappointed Surveyor and Architect to the Commission.

The British Fire Prevention Committee.

The various vacancies on the Council of the British Fire Prevention Committee have been filled as follows:—Lord Montagu of Beaulieu, J.P., V.D., D.L., will take the place of the late Major-General Festing, C.B., F.R.S.; Sir Aston Webb, C.V.O., C.B., R.A., will take the place of Sir John Taylor, K.C.B., deceased; Sir Maurice Fitzmaurice, C.M.G., M.Inst.C.E., will replace Mr. Alexander Ross, M.Inst.C.E., retired; Mr. W. Slingo, Engineer-in-Chief, General Post Office, will replace Mr. E. G. Rivers, I.S.O., late Chief Engineer, H.M. Office of Works, retired; and Mr. Hippolyte J. Blanc, R.S.A., F.R.I.B.A., will replace Mr. Spencer Hart, M.Inst.C.E. The Executive as re-elected includes, among others:—Mr. Edwin O. Sachs, F.R.S.Ed., as Chairman; Mr. Horace S. Folker, F.A.I., as Hon. Treasurer; Mr. Ellis Marsland as Gen. Hon. Secretary; Mr. J. W. Restler, M.Inst.C.E. (of the Metropolitan Water Board), Hon. Chief Officer; Mr. J. Herbert Dyer, Mr. Max Clarke, F.R.I.B.A.; and Mr. Percy Collins, J.P.

The Armouries, Tower of London.

The First Commissioner of H.M.'s Office of Works, in whom the charge of the buildings, etc.—the Regalia excepted—in the Tower now vests, has appointed Mr. Charles foulkes, B.Lit., of St. John's College, Oxford, to succeed Viscount Dillon, M.A.Oxon, F.S.A., who will retire at the close of the year from the Curatorship of the Armouries in the Tower, which he has held for fifteen years past. Mr. foulkes, who was educated at Radley and Shrewsbury Schools, and St. John's College, Oxford, is the author of many works relating to arms, armour, and armourers, amongst them being "Arms and Armour in the University of Oxford" and "The Armourer and his Craft" (1912).

Royal Academy Election.

Mr. Henry Herbert La Thangue, A.R.A., of Petworth, Sussex, who was elected an R.A. on November 27, was educated at Dulwich College, in the R.A. Schools, and at the Ecole des Beaux-Arts, Paris. He is an Examiner in Art to the Board of Education. His pictures for the most part consist of landscapes with figures, and frequently have their scenes laid in the South of France.

City Architect's Department, Nottingham.

The Special Committee appointed by Nottingham City Council to deal with the question of the office of City Architect (rendered vacant by the resignation of Mr. F. B. Lewis), and the future of the Architect's Department, report having had before them a letter from the Nottingham Architectural Society, expressing the opinion that in dealing with the Department the advisability of entrusting the design and execution of important public buildings to architects in private practice should be taken into consideration, the selection to be made by competition, or in such other way as may seem best to the Corporation. With regard to the future of the Department, the Committee state that they are of opinion that it should be continued, and recommend that Mr. Arthur Dale (the present Assistant City Architect) be appointed City Architect, at a salary of 450*l.* per annum, the appointment to be subject to termination by one month's notice on either side. In accordance with the authority delegated to them, the Committee have appointed Mr. Lewis as Consulting City Architect, at a retaining salary of 250*l.* per annum. This appointment is also subject to termination by one month's notice on either side.

Church Building Society.

The Incorporated Church Building Society held its usual monthly meeting on the 21st ult., at the Society's House, 7, Dean's-yard, Westminster Abbey, S.W., Mr. George Cowell, F.R.C.S., in the chair. Grants of money were made in aid of the following objects, viz.:—Building new churches at Walsley, 200*l.*; Harrow-on-the-Hill, St. Peter, Middlesex, 200*l.*; and West Shore, Church of Our Saviour, Llandudno, 70*l.* Rebuilding the churches at Gloucester, St. Catherine, 90*l.*; and Milton, St. James, Portsmouth, 180*l.*; and towards enlarging or otherwise improving the accommodation in the churches at Cavenham, St. Andrew, Suffolk, 10*l.*; Christ Church (Forest of Dean), Glos, 10*l.*; Fir Tree, St. Mary-the-Virgin, Co. Durham, 40*l.*; Fitzroy-square, S. John the Evangelist, Middlesex, 40*l.*; Hambleton, St. Peter, Surrey, 10*l.*; Old Ford, St. Paul, Middlesex, 50*l.*; Othry, St. Michael, Somerset, 40*l.*; Radford, St. Nicholas, Coventry, 75*l.*; Redberth, Pembro, 50*l.*; and Hendon, St. Paul, Sunderland, 30*l.* Grants were also made from the Special Mission Buildings Fund towards building Mission Churches at Bridgmar, Hants, 10*l.*, making all 35*l.*; Cleo Hill, St. Peter, Salop, 20*l.*; East Studlad, Kent, 15*l.*; and West Humberstone, Leicester, 40*l.* The following grants were also paid for works completed:—Newfoundpool, St. Augustine, Leicester, 400*l.*, being balance of a grant of 1,900*l.*; Woolacombe, St. Sabinus, Devon, 80*l.*; Slade Green, St. Augustine, Kent, 20*l.*; Caerwent, St. Tathan, Mon, 40*l.*; Bethnal Green, St. Simon Zelotes, Middlesex, 10*l.*; Dimmington, St. Leonard, Yorks, 20*l.*; Woolwich, St. John, Kent, 50*l.*; Walton-on-the-Hill, St. Mary, Liverpool, 70*l.*; Charlestown, St. Thomas, Halifax, 20*l.*; Highgate, All Saints, Middlesex, 50*l.*; Grimsby, St. Augustine, 150*l.*; Welton, St. Mary, Lincoln, 20*l.*; Eastrop, St. Mary, Hants, 40*l.*; Snettinton, St. Stephen, Notts, 100*l.*; Cardiff, St. Stephen, 200*l.*; Pontyates, St. Mary, Carmar, 75*l.*; Luckington, St. Mary and St. Ethelbert, Wilts, 20*l.*; East Hanney, St. James-the-Less, Berks, 10*l.*; Newtown, near Salisbury, 50*l.*; Two Mile Hill, St. Alban, Bristol, 30*l.*; Silfield, St. Helen, Wymondham, Norfolk, 20*l.*; Pontygwydd, St. John the Baptist, North Wales, 10*l.*; Trebanos, SS. Michael and All Angels, Glam, 40*l.*; and Westcliff-on-Sea, SS. Michael and All Angels, Essex, 50*l.* In addition to this the sum of 790*l.* was paid towards the repairs of thirty-two churches from trust funds held by the Society; and sums of money were accepted as repair funds for the churches at Edenbridge, St. Peter and St. Paul, Kent, and Kensal Town, St. Thomas, Middlesex.

Phillips Memorial, Godalming.

The memorial to the late Mr. Phillips, the chief telegraphist (wireless) on board the *Titanic* has been designed, jointly, by Mr. Thackeray Turner and Miss Gertrude Jekyll. The general motif is that of an opened and closed cloister, 120 ft. square, in a plot of land on the main road to Portsmouth, having a small inner garden, and an unbroken cloister on two sides, with the remoter side arched and open to the meadows and hillsides, generally designed after the style of the local farm buildings and homesteads.

Open Spaces and Recreation Grounds.

Sir Spencer Mayon-Wilson, Bart., Lord of the Manor, has presented 32 acres of Charlton Park, abutting upon Charlton-road and Hanging Wood-lane, to the London County Council for purposes of public resort and recreation. A report presented at the last meeting of the Metropolitan Public Gardens Association, held under the presidency of Lord Meath, sets forth that the limit of option granted to Lord Plymouth for purchase of the Crystal Palace and the grounds has been extended to May of next year in order to afford time for the raising of the £10,000, which is needed for that object; the out-of-pocket expenses will amount to from 20,000l. to 30,000l. in addition.

The Cambridge Public Health Series.

The Syndics of the Cambridge University Press have decided to publish a series of volumes dealing with the various subjects connected with public health. The following provisional list of subjects, amongst others, will be treated by experts:—Sewage Disposal; Water Purification; School Hygiene; Physical Education; Ventilation; Soils, Subsoils, and Climate in Relation to Health; Sanitary Law and Practice; Domestic Sanitation.

BOOKS.

The Cathedrals and Churches of Rome and Southern Italy. By T. FRANCIS BUMFUS. (T. Werner Laurie. Price 16s. net.)

BOTH in matter and manner of compilation this book is praiseworthy. It will be best read perhaps beneath the immediate influence of the buildings which it describes, even as it has been written. The author deals carefully and with knowledge of each master of interest connected with them—their history, architecture, monuments, and the ritual of their services. His time has been for the greater part occupied with the Roman survey. There is variety in Roman churches. Indeed, San Stefano and San Clemente are unique, while some of the earlier interiors, like Sta Maria in Cosmedin are not to be matched in their display of a simple dignity and charm. But Renaissance architecture as it developed itself in Rome seems always a little overweighted by a sense of its dignity—of importance, indeed—and by the claim for the respect it considers its due. This quality is expressed in the contrast between S. Peter's and the Duomo in Florence. Michelangelo learned the Roman manner, but he was ever a Florentine at heart, and lies buried in Santa Croce. All who have made the Eternal City their home for any prolonged period submit to her claim. It is so in the author's case, and, although it renders him a most suitable *elezione*, a greater number of illustrations would enable the reader to follow him more critically, and therefore with a greater interest. Indeed, ample illustration is demanded by all books of this descriptive character, and the architect especially looks for ground plans, without which such a book as this cannot be said to fully satisfy him.

Catalogue of the Etched Work of Frank Brangwyn, A.R.A., etc. (London: The Fine Art Society, Ltd. 1912. Price 3s. 6s.)

THIS is the fourth catalogue of modern etching which has recently appeared. The works of Muirhead Bone were treated by Campbell Dodgson in 1909; those of the late Sir Seymour Haden, by H. Nazby Harrington in 1910; and in the early part of the present year D. Y. Cameron was catalogued by Frank Rinder. Mr. Frank

Brangwyn does not approach etching from the standpoint of the artists we have named. He has a method of his own, and has found in the zinc plate a vehicle for the display of his mastery of drawing and composition. His appreciation of mass as an architectural effect is unquestionable, and certainly unrivalled among the exponents of large architectural plates. "A Mosque, Constantinople" (No. 185), and the "Valentré Bridge, Cahors" (No. 178), are typical of this power, and mark a conception of architecture that is far too little indulged. The long list of works possessed by foreign galleries which is given at the close of the book show the appreciation which he receives abroad. Since the artist makes no pretence of being influenced by the English school of etching, this must be accepted as a wholly individual compliment. Two hundred reproductions are given in the catalogue, necessarily very greatly reduced, but from the collector's point of view sufficient for identification. The size of the plate is, stated in both English and Continental measurements.

The Law Relating to Highways. By H. HAMPTON COPPALL. (London: Charles Knight & Co., Ltd. 1912. 8 vo., lxxx., and 786 pp.)

THIS work was first published in 1905, and the success which attended it showed that a concise treatise on the law of highways was much needed. In this second edition the book has been rearranged, and apparently a great deal of it has been rewritten. The introduction of many more headlines and the breaking up of the chapters into concise paragraphs on particular subjects will certainly be appreciated by those for whom the book is primarily intended. The style of the work seems to suggest that it is intended more for the use of laymen and officials than for trained lawyers, and it is really a comprehensive and exhaustive digest of the somewhat uninteresting branch of the law with which it deals. The author in his preface makes his acknowledgments to better known books on highway law and kindred matters, and one cannot but feel that Mr. Coppall has entirely succeeded in his attempts to boil down the vast stores of learning contained in other volumes to a more compendious and useful size. To have accomplished the task of compressing the whole of the law relating to highways into the compass of one comparatively small volume is indeed a notable achievement, and the author is certainly to be congratulated upon having produced a very readable and useful treatise. The general arrangement of the book and the division of the subject matter is in every way excellent and of such a character that any particular point can easily be located. It is not possible within the scope of this review to give anything like a full account of the many and varied matters dealt with in this comprehensive volume, so it must suffice to say that it is encyclopedic in its completeness. The labour involved in preparing such a volume must indeed have been stupendous, and the author is worthy of all praise for the energy and skill he has brought to bear on the undertaking.

In addition to the main portion of the volume, which deals thoroughly in direct and concise language with every conceivable matter in connection with highways, their administration and use, there is also a very good appendix containing an epitome of enactments relating to highway administration arranged in chronological and sectional order, beginning with Magna Charta 1297 (25 Ed. I. c. 15), which, it is interesting to note, enacted in sect. 15 that no town or freeman were to be distrained to build bridges unless they were already by custom bound to do so. The list is brought right up to date by the inclusion of the Motor Car (International Circulation) Amendment Order dated June 24 of this year. Chapter XXXVIII, which deals with light locomotives on highways, will be found to contain a fairly complete account of the law relating to motor-cars. In addition to the table of contents there is an excellent table of statutes and a table of cases, and the book is also furnished with a more than usually good index. We can with the utmost confidence recommend this book not only to highway officials, but to all who are interested in highway administration, either as county councillors or as district councillors or otherwise. Surveyors and architects, too, should find a place for it on their bookshelves.

Butterworth's Workmen's Compensation Cases. Vol. V. (New Series). Edited by His Honour JUDGE RUGGE, K.C., and DOUGLAS KNOCKER, Barrister-at-Law. (London: Butterworth & Co. 1912. Pp. 697.)

THIS volume of these well-known reports, which comprises every case heard in the House of Lords and the Court of Appeal in England, with selected cases heard in the Irish Court of Appeal and the Scotch Court of Session, from October, 1911, to October, 1912, contains all the characteristics of the previous volumes and requires no recommendation in the hands of the reviewer. In addition to the 697 pages devoted to the actual reports of cases there is a table of cases reported in both series of these reports, and besides an index to the subject matter of this volume there is a digest to the volume arranged according to the sections of the Act.

Both the legal profession and the public are indebted to the editors of these reports for the able assistance they receive in mastering this one very special branch of the law, but the jurist contemplating the number of cases that have arisen under this one Act in this single year may well ask himself is legislation which involves such a mass of litigation well conceived? Litigation means a charge on the public purse, and legislation conferring benefits upon a class at the cost of another class should, if possible, be expressed in clear terms, for if litigation ensues the burden of remedial legislation is increased, whilst no corresponding increase in benefit is conferred. Statutes whose intention and meaning are left to be discovered by the Courts are a product of modern times, and it is necessary to point out that less haste in legislation and more time for deliberation on Bills in Parliament would relieve the public of the necessity for vexatious litigation and facilitate business arrangements and insurance.

Urban Land, Traffic and Housing Problems. By A. W. ALDERSON. (London: P. S. King & Son. 1912. Price 6d. net.)

THIS land in relation to town planning and city improvement schemes is a subject to which as time goes on public attention is becoming more seriously directed, but it presents a problem involving questions social, political, even ethical, with which it is not our special province to deal. From the point of view of the technical town-planner the first essential would seem to be a suitable and unrestricted site for his town, and such control over the whole of the land involved as permits his scheme to be properly developed; but how this control should be obtained it is not for him to say. One fundamental difficulty in dealing with this land is usually ascribed to the fact that it is a monopoly, but the author of this pamphlet suggests that the prevailing ideas are wrong, and that land for town improvement is so costly just because it is not a monopoly, as if it were it could be obtained for nothing. To understand the author's drift, it is necessary to realise that by a land monopoly in any district he means ownership by a single person or group of persons whose interests are identical; not, as at present, by a number of individual persons whose interests are conflicting. If London was owned by a syndicate of which the present landowners were shareholders instead of by a thousand different persons, he contends that the syndicate would be able to give up all land required for improvements without any loss of revenue, as so long as people lived somewhere in London the exact position would not matter. They would still pay rent to the syndicate, and the more land given up for parks or open spaces the more the remainder would increase in value, the total of the rent-roll remaining the same.

When referring in a previous number to the advantages that might be derived from extending to the whole of London the system of single control now obtainable on the estates of the great landowners we expressed the opinion, which we see no reason to alter, that public sentiment would never permit any one man or group of men to own the whole of the land of London. But this land problem has to be faced and solved, and this suggestion is an interesting contribution in that direction.

The Arbitration Clause in Engineering and Building Contracts. By E. J. RIMMER. (London: Constable & Co. 1912. 24 pp. 2s. net.)

THIS is an excellent little monograph dealing with the Arbitration Clause in engineering and building contracts, with the object of putting

forward certain suggestions for the modification of such clause in view of recent legal decisions. The author points out that the powers of an engineer under a contract for engineering or building works have been seriously undermined by recent cases in the Court of Appeal and the House of Lords. The object of the author is chiefly to consider the effect of the decisions in four cases, namely, *Freeman v. Chester Rural District Council*; *Aird v. Bristol Corporation*; *Blackwell v. Derby Corporation*, and *Dickman v. Roberts*, so as to warn engineers of the danger which has arisen therefrom, and then to suggest alterations which may be made in engineering contracts, fair to building owner and contractor alike, for the better security of the settlement of disputes by arbitration. The learned author explains the law as it was laid down in the famous judgment of Lord Justice Bowen in *Jackson v. Barry Railway Company* (1893) 1 Ch. p. 238, and gives a very fair and accurate summary of the effects of the cases above mentioned. The broad lesson to be learnt from them is, he contends, that the Arbitration Clause is by no means unassailable, and he suggests, therefore, that if the building owner desires to ensure that an action cannot be maintained in the courts of law he must now make several modifications in the usual contract as it at present stands. The conclusions arrived at by Mr. Rimmer seem to us to be very proper and useful ones. This little essay, therefore, is decidedly worth perusal by all who are in any way interested in engineering or building contracts.

The Materials Used in Sizing. By W. F. A. ERMEN, M.A. (Constable. 6s. net.)

Though sizing is not an operation of great relative importance in building work, there is no doubt that the properties and ingredients of this material might be better known to many who have to deal with it. That the author has confined himself to the sizing materials used in the textile industry is unfortunate from the standpoint of most of our readers, but, though questions connected with the special nature of cloth do not usually concern an enumeration and description of the ingredients of sizes should be of interest to all responsible for decorative work. The book opens with a chapter on the dyes which are carefully differentiated with the aid of diagrams, and this is followed by a short account of the weighing materials employed, and a more detailed account of the softening ingredients which it is essential to use in the case of fabrics. Chapter IV. deals with the antiseptics necessary to prevent mildew and other putrefactive changes, and Chapter V. with the analysis of sized cloth. A short account of the volumetric solutions required by the analyst follows, and the book concludes with an index preceded by thirty pages of tables, chiefly concerned with the density of various solutions. Though containing some matters of lay interest, the work deals chiefly with the actual operations required by the analyst, to whom it should prove useful.

BOOKS RECEIVED.

THE OLD COLLEGES OF OXFORD. By Aymar D'Alancey, F.S.A. (London: B. T. Batsford. 1. 4s. net.)
OLD HOUSES AND VILLAGE BUILDINGS IN EAST ANGLIA. By Basil Oliver. (London: B. T. Batsford. 21s. net.)
LOCAL LEGISLATION. By F. N. Keen. (London: W. Southwood & Co.)

CORRESPONDENCE.

"A Thoroughly Up-to-Date Society."

SIR,—No one recognises more than I do the value and desirability of criticism, inasmuch as it often brings fresh light to bear upon a subject, but it should, in my opinion, be of value be based on the actual observations made, and not on what the person affected is supposed to have said. In your reference to my remarks regarding the Licentiate, the point I raised was that numbers of those who have been admitted appear to have joined the Institute under

the misapprehension that it would be quite easy—in fact, more or less a matter of form—for them to become Fellows of the Institute, but now they find that they have to sit for, and pass, an examination extending over a period of six days in order to qualify as candidates for the Fellowship. I ask how they feel about it, in the actual words you quote in full.

Had you appreciated my reference you would scarcely have been at a loss to understand how I, as a Fellow of the R.I.B.A., or as the mouthpiece of another society, could make a statement which was perfectly clear and justifiable if quoted in full, but which was rendered misleading through your omission of the context.

As for holding out a bait for Licentiatees to join the Society, it may be of interest to you to know that among candidates who have applied for membership of the Society, but who were not successful owing to lacking the necessary qualification, have been a number of Licentiatees.

Regarding my position as mouthpiece of the Society of Architects, I may, in passing, point out that I made it perfectly clear that the views I put forward in my address were personal, and they are not necessarily those of the Society, except where I make reference to the work upon which the Council are actually engaged, such as the education and Registration of architects.

With regard to the Society's proposal to introduce the Beaux-Arts system of architectural ateliers into England, I would refer you to a leading article in the *Builder* of June 4, 1910, headed the "Beaux-Arts in the United States of America," where you pointed out that all the younger architects and architectural students of America received their training either directly or indirectly on Beaux-Arts principles, with the result that the recent architecture in the United States has gained much by the influence of the Beaux-Arts, and that, while it still displays some of the defects so patent in our own, it has progressed far beyond ours owing to the voluntary subjection to the Beaux-Arts scheme under which the American architect has judiciously elected to place himself. You go on to predict that our students will in the near future feel impelled to follow this example, and you suggest that the sooner this decision is arrived at the more rapid will be our progress; and you close by stating that it would not become us, still laggards in this race, to scrutinise too closely the exact stage that this has been reached, except with a view to modelling our own procedure in the future.

It is true as you now remark, that this system has been of slow and natural growth in France, but, if your former leading article is to be trusted, it is equally true that the system has been introduced into America with the most beneficial results to the architecture of that country. Considering also that in a further note you appeared to recognise that there might be a necessity to obtain instructors from abroad, we might have ventured to have hoped for a more sympathetic attitude towards an attempt to carry out the general ideas which your journal itself suggested.

Another point in my address which you criticise is the suggestion that the R.I.B.A. and the Society should work together generally—one looking after the interests of architecture and the other that of architects. If you will refer again to my address you will see that this is purely my personal suggestion, which I put forward as being worthy of consideration not only of the R.I.B.A., but of the Society of Architects, which as a body has not yet considered the matter.

My idea was, and is, that the two societies should work together by mutual arrangement and in perfect harmony. It would then be to the interests of members of the Institute to become members of the Society (the subscriptions of both societies being adjusted accordingly), and what would naturally happen at the first ensuing Council elections would be that the leaders of the profession would seek election on both Councils, and consequently both bodies would be governed by them, and, in my opinion, the present system of overlapping might be entirely avoided.

I trust you will see your way to publish

this letter in your next issue to correct the misapprehension in which you have inadvertently fallen. PRACY B. TUBBS.

** Our best answer to the above charge of misunderstanding Mr. Tubbs is to quote him in full as his remarks appear in our report:—"The Royal Institute of British Architects have succeeded in getting some 2,000 architects to become Licentiatees, but numbers of these appear to have joined under the misapprehension that it would be quite easy—in fact, more or less a matter of form—for them to become Fellows of the Institute. As a matter of fact, only ten have been able to satisfy the examiners and qualify as candidates for election as Fellows at the first examination which has been held. This examination proved not to be a mere matter of form, but a very real test extending over six days. How Licentiatees feel about this I do not know, but possibly some or even many of them would rather be corporate members of a progressive and thoroughly up-to-date Society, making for reform all the time, than merely non-corporate members of the senior body. I, for one, shall watch future developments in this respect with great interest." The italics are our own. Mr. Tubbs's supplementary remarks that some Licentiatees have not been able to qualify for membership of his Society does not, in our opinion, help to make his position in this matter clearer. If Mr. Tubbs cares to search our columns he will find many appreciative references to the Beaux-Arts system of architectural training. There is nothing contradictory in this respect in our criticism of last week. To approve of the principles of a certain system of training is, however, quite another thing from approving of an attempt to transplant one of its isolated phases. So far as the concluding part of the above letter is concerned, it must have struck other readers besides ourselves that a considerable portion of his opening address as President of the Society of Architects was occupied with the affairs of the Royal Institute, whose President a week previously had, possibly with greater authority, covered the ground.—Ed.]

Fire Protection and the London County Council.

SIR,—In your issue of November 29 you did me the honour of printing my letter regarding what I described as the apathy of the London County Council in enforcing the London Building Act Amendment Act of 1905, and in your admirable article on the subject of the Kensington fire, in which you refer to my letter and also to a reply by the Chairman of the Building Act Committee of the London County Council, you express your hope that "prompt measures will be taken to deal with dangerous cases, particularly where premises are occupied in part for dwelling or sleeping purposes."

I now venture to ask for further space in your esteemed columns, firstly, to meet the reply of the Chairman of the Building Act Committee, and, secondly, to make some suggestions as to the prompt measures that should be taken to remedy the present state of affairs.

My first letter arose out of certain queries of the Coroner presiding at the inquest at the Kensington fire, and in that letter I speak of 50,000 buildings that have remained unattended to for seven years, the small number actually put in order by the Council up to June last (June 12 to be exact) having been only 527.

Having regard to the subject I was discussing—i.e., the fire at Messrs. Barker's—I was obviously referring to existing buildings under sect. 9 of the enactment of 1905, and no figures contradictory to mine have so far been produced on behalf of the Council.

Now, Mr. Taylor, of the London County Council, in his desire to show that the County Council has been active under the Building Act Amendment Act, is at pains to point out that the Council has during the past seven years dealt with 1,189 cases of new buildings, and has granted certificates to such new buildings to the extent of 1,043. I concur with Mr. Taylor as to the exactitude of these two figures, but they have nothing to do with my complaint, as my complaint related to existing buildings—i.e., not to buildings "about to be erected." It is obvious that new buildings for which plans have to be deposited, and in which all existing statutes have to be provided for, must be dealt with as matters of ordinary routine.

Again, Mr. Taylor, in wishing to take credit for his Department for having completed 351

cases under sect. 11 and 4,430 applications for exemption, etc., under sect. 10 and 12 of the Building Act Amendment Act as to projecting shops, etc.—again subjects not complained of in my letter—does not really improve the Council's case against my charges of sluggishness, but the reverse. He has overlooked the fact that the Superintending Architect, in giving evidence on the London County Council General Powers Bill in June last, also stated that, as far as these particular sections were concerned (and apparently also sect. 11), 48,566 have been notified to his department as requiring attention. In other words, some 44,000 additional cases, over and above 50,000 I complained of, have now been waiting seven years for the Council's pleasure.

Thus, by Mr. Taylor's own showing, the position is far more serious than I had desired to indicate.

Mr. Taylor, it is true, prides himself on some 23,500 warnings having been sent out regarding the 48,500 cases notified to the Council, but he is silent on the question as to how many of those notices have been really enforced. May I suggest *nil*, for, as I stated with regard to sect. 9, so with the sects. 10 to 12, the Act has been very much of a "dead letter."

Summarised, about 94,000 buildings in all under the Act are now awaiting action since 1905, including the 50,000 under Schedule 9 previously complained of. Surely this is a terrible total.

It is, however, no use complaining of the County Council's sluggishness without indicating some remedy. The remedy, to my mind, is a very simple one; it comprises the following:—

(a) A public announcement (repeated monthly) by the London County Council that it intends to have the whole of the work under the Building Act Amendment Act remedied by January 1, 1918, the public announcement being followed by two circular notices in the 44,000 cases under sects. 10 to 12.

(b) An immediate instruction to the District Surveyors to notify to the Council within six months (as set out in sect. 17) all cases they consider to come under sect. 9—a matter that has been practically neglected during the past seven years—and immediately upon receipt of these notifications an issue of circular notices to owners concerned that the Council are prepared to receive suggestions accompanied by plans with proposals as to convenient dates for carrying out the necessary structural improvements, and are prepared to assist in every possible way applicants who volunteer assistance and offer prompt remedies.

(c) A cancellation of the existing notification to the District Surveyors that they are not to press the execution of work under sects. 10 to 12 in their respective districts, and in place of that notice an instruction that they shall see that the whole of this work is carried out by 1918 or earlier, the instruction to set out certain guiding principles as to remedies and also grounds for exemption. As to exemptions, any recommendation for exemption signed by the local District Surveyor and two adjoining District Surveyors should be accepted *ipso facto* by the Building Act Committee as a *prime facie* case for exemption without further investigation or expense.

(d) The energetic enforcement in 1913 by legal proceedings of at least one case under sect. 9 and one under sect. 10 in each district as an earnest of the Council's intentions.

(e) The formation of several Sub-Committees of three in the Building Act Committee to sit weekly to accelerate the decisions requiring the Committee's attention under the 1905 Act, with the necessary strengthening of Mr. Riley's personal staff and the staff of the Committee Clerk.

(f) The immediate strengthening of Mr. Stransome's staff in the Building Act Department by five managing assistants, twenty senior assistants, twenty junior assistants, and twenty clerks, etc., all on the temporary establishment, the staff to work by areas, and each senior assistant to follow his own case from beginning to end, all modern mechanical equipment to be used to accelerate the work, including photography and mechanical copying instead of tracing.

(g) The publication quarterly of a list of building owners who have complied with the Building Act Amendment Act of 1905.

If the remedy be organised somewhat on these lines the Council will, in the first place, find that much of the necessary work will be done by owners voluntarily at their own time

and in a manner convenient to themselves—i.e., when doing their usual decorative and structural repairs. They will find a vast number of the owners will submit their own plans and suggestions. The Council will be rid of much of the work under sects. 10 to 12, which the District Surveyors are quite capable of handling, and they will find their intentions to carry through this somewhat unpleasant duty of enforcing the Act of 1905 in a business-like way will be appreciated and met in a proper spirit by the majority of building owners and their professional advisers. As to the cost, owners have already had seven years' time to make the necessary reserves.

Given a procedure on these lines, the necessary alterations to existing buildings can be readily completed in five years, and the structural work will not be found to inconvenience the metropolis, as it is mainly internal and less in quantity than what has been done in London in several active building periods of lesser duration.

EDWIN O. SACHS.

Offices of the British Fire Prevention Committee,

8, Waterloo-place, Pall Mall, S.W.

P.S.—Since writing the above I have been given to understand that Mr. Taylor, in the Council Chamber on December 3, has further confused the issue in certain replies to Mr. Jesson by including the number of buildings that have been attended to by the Building Act Department under the old Factory Acts—an entirely different matter—as work done purely in the interests of the 1905 enactment. There are, of course, a number of buildings to which both the Building Act Amendment Act of 1905 and the Factory Acts apply, but the number of factories erected prior to 1906 which had already then fully complied with the current requirements under the Amendment Act of 1905 are not very numerous, so that any slight overlapping in this direction does not affect my primary complaint, whilst those that partially comply cannot well be included as meeting all the requirements under this law.

Similarly, Mr. Taylor's proud record of the number of buildings inspected under the Factory Acts as a matter of ordinary routine, although a creditable instance of regular work done, in no way assists him in finding an acceptable excuse for not dilating on exercising the powers of the Council in respect to the many thousands of structures (about 94,000) awaiting attention as coming under the different sections of the 1905 enactment.—E. O. S.

Should Names of Assessors be Known to Competitors?

SIR,—Mr. Voysey, in his "open letter," does not take any notice of the chief reason for publishing the names of assessors in competitions, which is that the competitors themselves may know that their work will be judged by men possessing the special knowledge required, as well as an impartial spirit.

When the ablest man that can possibly be obtained is appointed assessor there is no question of designing "up or down to the assessor's taste," or of refraining to compete because you "do not sympathise" with his taste. The late Mr. Alfred Waterhouse, R.A., was an admirable assessor, but neither the Cardiff Town Hall and Law Courts nor the Colchester Town Hall bear the least resemblance to his own buildings.

Some experience leads me to think that it is among the unsuccessful designs that one has to look for feeble imitations of the assessor's own "manner" in building. I do not know of a single instance in which the successful design has been markedly based on the judge's particular taste, as seen in his own works. Unless the name of the assessor is known, and is in itself a guarantee of both his fairness and ability to judge, there would be but small response among architects to any competition that might be promoted, however important.

I fear Mr. Voysey will have some difficulty in getting supporters for his complaint, because I believe the grievance is an imaginary one.

H. AUSTEN HALL, A.R.I.B.A.

Ruskin and Pugin "the Younger."

SIR,—In your interesting leader of November 22 on the late Mr. Norman Shaw I notice a chronological slip which may perchance cause perplexity to the future historian.

Speaking of the middle of the last century, you say "Ruskin and his ardent lieutenant, the younger Pugin, were beginning to arouse the imagination of architects." The reference here must, of course, be intended to apply to that great champion of the Gothic Revival, Augustus Welby Pugin. His brilliant crusade, however, began as far back as 1836 with the publication of the "Contrasts," and his unique career closed prematurely in 1852, just sixty years since. Thus his date precluded the possibility of any lieutenantancy with respect to Ruskin, while his qualities must always have made of him a leader and nothing less. And, in point of fact, the two men, though owning a common objective, were far from seeing eye to eye during the brief coincidence of their activities.

The error is no doubt primarily one of family chronology. The "Elder Pugin" known to professional biography was the French refugee of the early century, and Augustus, his son, is correctly termed "the younger." Overlooking the first generation, however, recent writers have constantly applied this differentiation as to the grandson, the late Edward Welby Pugin, whose date, of course, approximates to that indicated in your article, but whose personality and record must by no means be confounded with those of his distinguished father.

W. RANDOLPH.

[** The reference was to the son of the French refugee—to Augustus Welby Pugin. Perhaps it was a little unhappy to refer to Pugin, who was seven years the older, as "lieutenant" in the Gothic movement, but the idea was to suggest that his contribution was secondary to that of Ruskin.—THE WRITER OF THE ARTICLE.]

INTERCOMMUNICATION COLUMN.

A Dictionary of Architecture.

SIR,—Would you kindly, per the *Builder*, give the name and publisher of a good Dictionary of Architecture? P. GUY.

[** Our correspondent gives no indication of the kind of Dictionary he is in need of, and as the range of subjects dealt with in books of this class is very wide—some being stronger on the historical than on the practical side of architecture—we think it well to give a list of the principal reference books in the English language:

(1) The Architectural Publication Society's Dictionary of Architecture. Prepared by the Committee of Architects. 6 Vols. London, 1848-1892. (Price about 5*l.* 10*s.* to 6*l.* 10*s.*) For historical and biographical information this work is still of great value. Its bibliographical lists, which are given at the end of most articles, form a veritable *Index Liborum*, and afford the inquirer the fullest particulars as to the most important sources to be consulted for further information.

(2) "A Dictionary of Architecture and Building: Biographical, Historical, and Descriptive." By Russell Sturgis. 3 Vols., 4to. London and New York: Macmillan, 1901-2. (3*l.* 15*s.* net.)

(3) Atkinson: "Glossary of Terms Used in English Architecture." Small 8vo. Methuen, 1906. (3*s.* 6*d.* net.)

(4) Weale: "Dictionary of Terms Used in Architecture, Building, Engineering, etc." 8vo. London, 1876. (5*s.*)

(5) Passmore: "Handbook of Technical Terms Used in Architecture and Building." 8vo. Scott, Greenwood, 1904. (7*s.* 6*d.* net.)

(6) Parker: "Concise Glossary of Terms Used (chiefly) in Gothic Architecture." Small 8vo. Parker, 1876. (5*s.*)

(7) "Parker's Glossary of Terms." 3 Vols., large 8vo. Fifth and best edition. 1850. (Price about 2*l.* 5*s.*)

All these books may be obtained from Mr. B. T. Batsford, 94, High Holborn, W.C.—Ed.]

WESTMINSTER HALL ROOF.

Mr. Hay Morgan on November 27 asked the representative of the First Commissioner of Works whether the roofing of Westminster Hall was in need of repairs, and Mr. Wedgwood Bann replied that a thorough inspection of the roof was urgently needed, and the First Commissioner proposed at once to erect scaffolding in order to see what repairs were necessary.

ILLUSTRATIONS.

Hostel of the Resurrection, Leeds.



THE plan of the complete scheme is designed in the shape of a semi-quadrangle with front to Springfield Mount, about 170 ft. long, and east and west wings about 77 ft. long. The semi-quadrangle is open to the south except for the dwarf wall shown in the foreground.

The first portion comprises the central tower and half the front to Springfield Mount: the east wing was built about two years ago.

The part already built includes a large hall, common-room, smoking-room, common study, grand staircase under the tower, kitchen offices, servants' quarters, and thirty-two bedrooms. The portion yet to be built includes the chapel and vestries, warden's rooms, and further study and bedroom accommodation.

The contractor is Mr. J. T. Wright, of Skinner Lane, Leeds.

Proposed Church, Finchley, Middlesex.

THE site for this proposed new church at Finchley was a somewhat narrow and sloping one, occupied by a temporary iron church, over and about which it was intended to build the new church, so that the temporary building need not be removed till the new church was completed. The plan consists of a nave, 103 ft. 6 in. long by 38 ft. 6 in. wide, with narrow passage aisles, and having porches and baptistry at the west end, the baptistry being continued up to form a small bell turret or tower. The organ was intended to be placed in a raised position at each side at the east end of the nave. The chancel is 40 ft. 3 in. long by 22 ft. wide, with chapel on the north side and narrow aisle and choir and clergy vestries on the south. The roofs were intended to be constructed with steel principals, so as to avoid thrust, and the interior of the church was to be ceiled with a boarded ceiling as a ground for colour decoration, the walls and piers being white, with a coloured panelled dado against the aisle walls. The seating of the building was for an inclusive total of 760.

The design was prepared by Messrs. Geoffrey Lucas & Arthur Lodge, of Hart-street, Bloomsbury-square, W.C., in conjunction with Mr. John Page, B.A., the perspectives, illustrated herewith, being pencil drawings by Mr. Lucas.

Parliament Buildings, Winnipeg.

IN our issue of November 22 we published the winning design for the Parliament Buildings, Winnipeg, by Mr. F. W. Simon, F.R.I.B.A. In the present issue is illustrated the design of Messrs. Edward & W. S. Maxwell, of Montreal, who were among the five premiated competitors in the final competition, assessed by Mr. Leonard Stokes, F.R.I.B.A. As will be seen, Messrs. Maxwell's design is on similar lines to that of Mr. Simon, which was produced in England, and, although not successful, Messrs. Maxwell are to be congratulated on their fine effort to provide a dignified House. The style of the buildings was left to the discretion of the competitors. They were reminded, however, that "the province is politically within the British Empire, and that this fact should be expressed in its public buildings." We regret that the photographs received from Canada did not show the scale of Messrs. Maxwell's drawings.

MEETINGS.

FRIDAY, DECEMBER 6.

Glasgow Technical College Architectural Craftsmen's Society.—Professor G. Gourlay, B.Sc., on "A Review of Byzantine and Italian Architecture."

SATURDAY, DECEMBER 7.

Aberdeen Architectural Association.—Mr. Thomas Beattie on "Decorative Plasterwork, and the Adaptation of Old Methods to Modern Requirements." Illustrated. 7.30 p.m.

MONDAY, DECEMBER 9.

The Architectural Association.—Joint meeting with the Art Workers' Guild. "The Practice of the Crafts in Modern Building." 8 p.m.

Royal Society of Arts (Gower Lecture).—Mr. C. R. Darling on "Methods of Economising Heat."—II.

Bristol Society of Architects.—Mr. Francis Bond, M.A., F.G.S., on "The Growth of the English Parish Church." 8 p.m.

The Incorporated Clerks of Works' Association (Carpenters' H.R.L. London-veal).—Paper by Mr. John Barnes on "Marble Mosaics and Tiles." 8 p.m.

University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "Gothic Cathedrals of France." 5 p.m.

TUESDAY, DECEMBER 10.

The University of London (British Museum). Mr. Kaines Smith on "Greek Daily Life." 8 p.m.
The Institution of Civil Engineers.—Mr. H. A. Humphrey, M.Inst.C.E., on "The Generation and Distribution of Producer-Gas in South Staffordshire." 8 p.m.

WEDNESDAY, DECEMBER 11.

Royal Society of Arts.—Dr. F. Mollwo Perkins, F.I.C., on "Natural and Synthetic Rubber." 8 p.m.
Northern Architectural Association.—Mr. Lawrence Weaver, F.S.A., on "Small Country Houses of T-Day." 7.30 p.m.
Edinburgh Architectural Association.—Mr. J. Hayes on "Scale of Ornament in Architecture." 8 p.m.

THURSDAY, DECEMBER 12.

Royal Society of Arts (Indian Section).—Sir Bradford Leslie, K.C.I.E., on "Delhi, the Metropolis of India." 4.30 p.m.

Society of Antiquaries.—8.30 p.m.
Leeds and Yorkshire Architectural Society.—Brief description of a tour in Italy and exhibition of drawings by Mr. G. H. Foggit and Mr. Piet De Jong. 6.30 p.m.

Institution of Electrical Engineers.—8 p.m.
Shagfield Society of Architects.—Mr. R. F. Traylen on "Barnack Church, with Parallels from Neighbouring Churches."

The Concrete Institute.—Mr. Robert Cathcart and Mr. Laurence Gidd on "The Effects on Concrete of Acids, Oils, and Fats." 7.30 p.m.

University of London (British Museum).—Mr. Banister Fletcher on "Greek Corinthian Buildings." 4.30 p.m.

The Society of Architects.—Mr. E. W. Harvey Piper (hon. member) on "Salisbury Cathedral." Lantern slides. 8 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 694.

Harrogate School Competition.

The Competitions Committee of the Royal Institute of British Architects have been in correspondence with the promoters of this competition. As a result of the correspondence the conditions have been amended, and are now regarded as satisfactory.

The following addendum to the conditions of the competition has been issued:—"In the event of the buildings being proceeded with the author of the design placed first by the assessor

shall be employed to carry out the work unless the assessor shall be satisfied that there is some valid objection to such employment, or that the lowest tender received for the work is more than 10 per cent. above the author's estimate." The premiums offered are 100l., 50l., and 25l., and designs must be sent in by February 3, 1913.

School at Govan, N.B.

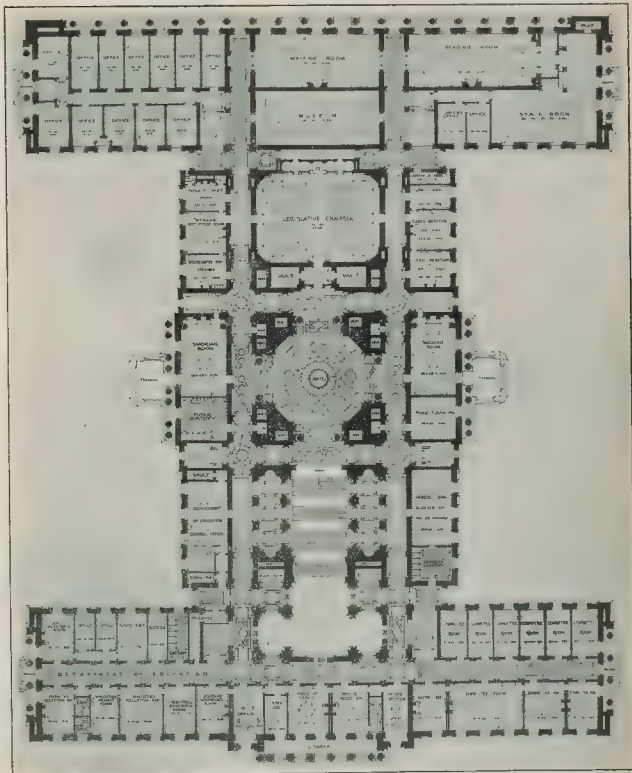
Six architects or firms of architects were invited to send in competitive designs for a new school at Govan, N.B. Mr. Andrew Balfour, F.R.I.B.A., of Glasgow, has been placed first on the list, and his design will be carried out forthwith. Accommodation for 1,200 scholars will be provided, and it is estimated that the buildings will cost about 18,000l.

Competition Assessors.

Reference is made on p. 670 to the question of naming assessors in the early stages of competitions, a point raised by Mr. C. F. A. Voysey in our last week's issue.

VICTORIA AND ALBERT MUSEUM:
RECENT ACQUISITIONS.

SOME important acquisitions have recently been made in the Department of Woodwork in the Victoria and Albert Museum. The earliest is a French casket of the XIVth century, which is stated to have come from the Church of the Holy Trinity at Eu, in Normandy. This casket was presented to the Museum by Mr. Murray Marks; it is of oak, gilt, and elaborately carved with Gothic tracery, the mounts being of gilt copper, and the interior painted with the coronation of the Virgin and the symbols of the four Evangelists (exhibited in Room 51). A pair of oak cupboard doors from Northamptonshire, painted with scenes representing the orders of Angels,



Design for Parliament Buildings, Winnipeg, Manitoba.

By Messrs. Edward & W. S. Maxwell, Montreal.

dating from about 1500, are exhibited in Room 7. Of about the same date is a standing livery cupboard carved with open Gothic tracery; the ostrich feathers which form part of the decoration probably represent the badge of Arthur, Prince of Wales, oldest son of Henry VII. This was found recently in a farmhouse at Burwarton, Shropshire, and was presented by Mr. Robert Mond, F.S.A., through the National Art Collections Fund (Room 6).

A fine piece of panelling, bearing the date 1546, has been purchased from a house known as Beckingham Hall, at Tolleshunt Major, Essex (Room 52). It is carved with decorations in the style of the Renaissance, among which are the Royal arms as borne by Henry VIII. and those of Stephen Beckingham.

The Museum collection of painted wooden roundels (also in Room 52), which were in use in Elizabethan and Jacobean times, has been enriched by an uncommon set consisting of twelve pieces enclosed in a turned case. In Room 55 is shown a cabinet of the period of Charles II., mounted with brass and decorated with raised lacquer in gold and colours on a black ground. In the same room is a Queen Anne writing cabinet, believed to have belonged to Dean Swift.

A gap in the historical sequence of English panelled interiors (Room 56) has been filled by the presentation from the National Art Collections Fund, assisted by a body of subscribers, of a panelled room of about 1730 removed from No. 26, Hatton-garden. The panelling is of pine, with elaborately carved mantelpiece, doorways, and recesses.

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chelysmore, Chairman, presiding.

Loans.—The Finance Committee recommended that loans be made to Borough Councils as follows:—Stepney, 70,000*l.* for electricity undertaking; St. Marylebone, 1,750*l.* for electricity undertaking; Stoke Newington, 2,050*l.* for a street improvement.

Regent's Quadrant.—In a report of the General Purposes Committee it was stated that in connexion with the appointment of a Committee to consider the design to be adopted for completing the rebuilding of the Quadrant, Regent-street, they considered that it devolved upon the Council to do all in its power to assist in securing that the new buildings should add to the amenities of the thoroughfare, and in this connexion the elevation of the buildings is obviously of importance. Except as regards certain matters of detail dealt with in the London Building Acts, the Council has no statutory control over such elevation, and it appeared to them that it would be desirable that

the Council should be represented upon this Committee, and therefore recommended "that H.M. Treasury be requested to approve of the nomination by the Council of a member of the Committee appointed to consider the design to be adopted for completing the rebuilding of the Quadrant, Regent-street."

The Kensington Fire.—The Building Acts Committee in presenting a report of the fire at the premises of Messrs. John Barker & Co., stated that the means of escape from this building had been under the consideration of the Council, and in April, 1912, suggestions for their improvement were sent to the owners, Messrs. Barker, with reference to the whole of the block of premises bounded by High-street, King-street, Ball-street, and Young-street. The suggestions affecting the portion of the building in which the fire occurred were:—To provide a smoke-resisting screen at the head of the open staircase adjoining the staff bedrooms with a self-closing door therein, and to mark clearly the alternative escape by the casement window at the opposite end of the passage. Negotiations followed, and on July 13, 1912, Messrs. Barker were pressed to carry out the Council's suggestions or to submit counter-proposals with a view to their being carried out during the summer recess. Two further interviews took place after that date, at which the owners were again urged to take action. The Committee further stated that if the suggestions put forward by the Council had been carried out they were of the opinion that the screen at the head of the staircase would have kept the smoke from entering the bedroom passage for a sufficient time to enable the staff to escape, and this view was also expressed by independent experts who gave evidence at the inquest. The Committee also reported that they had been informed that a scheme for rebuilding the whole of the premises was being prepared, and that plans for the front portion would be submitted to the Council shortly.

FIFTY YEARS AGO.

From the *Builder* of December 6, 1862.

Save Leicester-square.

It is to be hoped that the inhabitants of the neighbourhood of Leicester-square and the friends of open spaces will organise a proper opposition to the company who threaten to fill the area with a general market. Now that the "globe" is removed, the largeness of the space, which had been forgotten, comes to light again. Thrown open, as we have said before, with trees bordering a few walks, it would be a boon and a blessing. Every inch of open space in the metropolis ought to be fought for—given up only at the sword's point. Leicester-square, first

Leicester-fields, has many stories. In the house of the Earl of Leicester, at one corner died Elizabeth Queen of Bohemia. To this house retired two Princes of Wales in dudgeon. In Savile House Peter the Great was entertained by the Marquis of Carmarthen. *Posee Plastiques* and a *Café Chantant* are the present entertainments there. Sir Joshua Reynolds lived, painted, and died at No. 47 in the square; Hogarth, whose house was on the opposite side, took his regular walk in the enclosure; and after him came the great John Hunter, who formed there that collection which has grown into the noble museum of the College of Surgeons in Lincoln's Inn-fields. However, it is not of the Leicester-square of past times that we would speak, but the Leicester-square of to-day, which we would see improved, beautified, and preserved for to-morrow. The Board of Works, if they have power, should give their aid to prevent the area from being again blocked up.

. The fortunes of this square remained at a low ebb until 1874, when they were placed upon a secure footing through the generosity of Baron Grant. The enclosure was laid out by James Knowles, the architect, and a statue of Shakespeare took the place of George I. on horseback. The figure of this monarch had shared the vicissitudes of his surroundings. It came from "Canons," the seat of the Duke of Chandos, in 1748. It was taken down and buried, upon the site being required to accommodate the Great Globe, which was one of the sights of the town from 1851-62. When this was removed the statue was dug up and replaced in position, minus a leg, and thenceforth served as a cock-shy for the urchins of the neighbourhood. As a final insult the horse was one night painted piebald, and this breach of public decorum aroused the attention of the authorities, and led to negotiations between the Metropolitan Board of Works and the various landowners interested. Ultimately Baron Grant came to the rescue, as stated, while George I. was sold for the sum of 18*l.* The café chantant referred to, standing upon the site of Savile House, has since become the Empire Music Hall, while the Panopticon, a rival to the Polytechnic in its claims upon popular science, has been transformed into the Alhambra. In addition to the names of celebrities above given, once residents in the Square, we may add those of "Athenian" Stuart and John Gwyn, the architect of Magdalen Bridge, Oxford. —Ed.



Design for Parliament Buildings, Winnipeg, Manitoba: Side Elevation.

By Messrs. Edward & W. S. Maxwell, Montreal.



DESIGN FOR PROPOSED CHURCH, FINCHLEY.—MESSRS GEOFFREY LUCAS & ARTHUR LODGE, ARCHITECTS.

HOSTEL OF

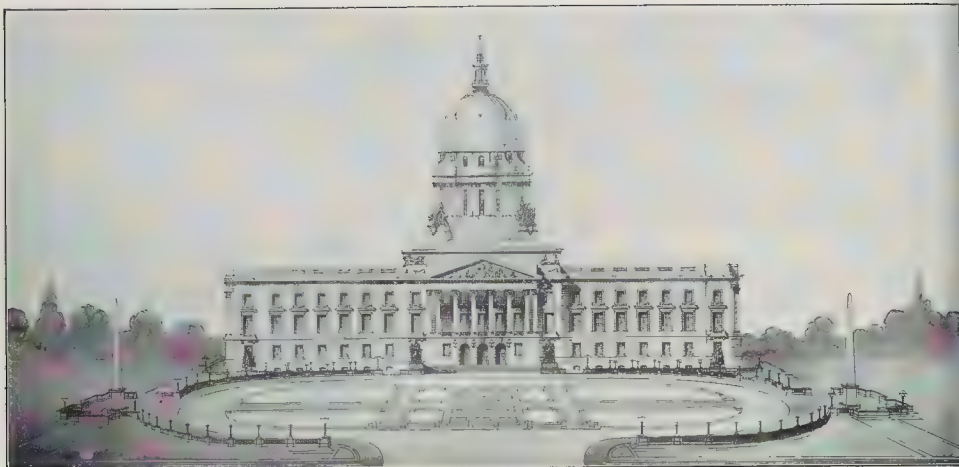


(Royal Academy Exhibition, 1914)

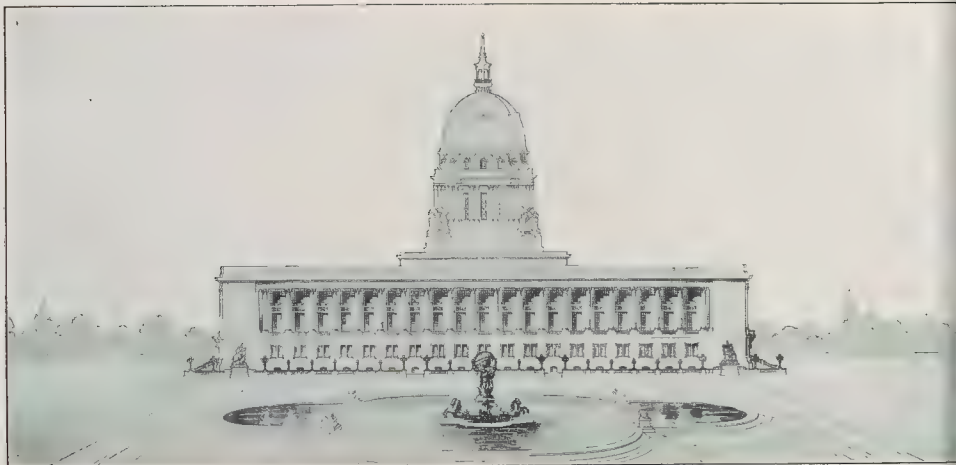
HOSTEL OF THE RESURRECTION

RESURRECTION: LEEDS





FRONT ELEVATION.



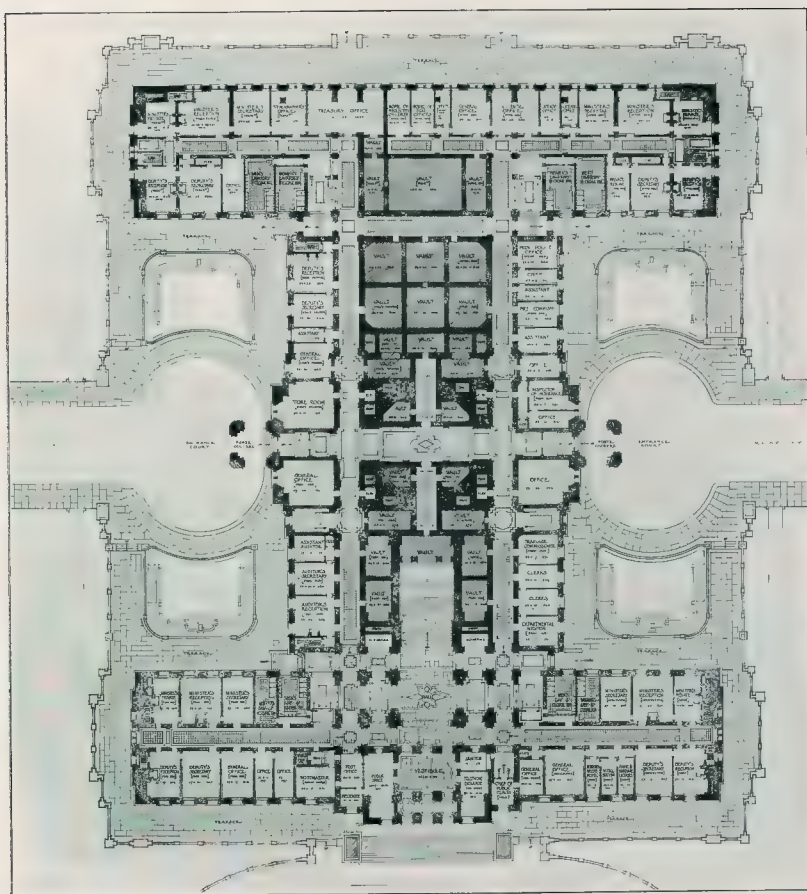
REAR ELEVATION.



LONGITUDINAL SECTION.



PERSPECTIVE VIEW.



GROUND FLOOR PLAN.

Sprague & Co., Ltd., Printers, 69 & 70, Dean St., London, W



AN PHOTO SPRAGUE & CO. 189 & TO DEAN STULEY LOND W

GN FOR PROPOSED CHURCH, FINCHLEY. MESSRS GEOFFREY LUCAS & ARTHUR LODGE, ARCHITECTS.

MONTHLY REVIEW · of · CIVIC DESIGN.



Office Building for Messrs. Berry Brothers, Detroit.

Messrs. George D. Mason and F. S. Swales, Architects.

ARCHITECTURE AT DETROIT.

S regards architecture in North America it may well be said that much water has run under the bridges during the past twenty years.

illustrating the changes which have taken place within that time we reproduce some of the works of a leading "firm" or "association" of architects which may be named among the pioneer architects of the "middle west" of the United States. As far as twelve or fifteen years ago the work of a few men in that part of the country was conspicuously above the level of all others and heralded the approach of a new era of art—Messrs. Burnham & Root, of Chicago; Messrs. Eames & Young, of St. Paul; Mr. Cass Gilbert, of St. Paul; and Messrs. Mason & Rice, of Detroit, were the first to adopt architecture properly speaking; they were the first to insist upon beauty of design as part of their duty to their clients and to their own reputations.

It is impossible for us in England to realize the difficulties which these men had to overcome in attempting to educate the masses of art the usually *nouveau riche* of the country in the Mississippi valley; but the varying popular taste of the time, as in Detroit, it existed is interestingly reflected in the architecture of the times, and the general improvement is indicated.

The echo of the work H. H. Richardson was doing in the Eastern States is noticeable in the First Presbyterian Church, built in 1884, and in the Masonic Temple, erected in 1894. The log cabin at Palmer Park (1882) and the police station at Belle Isle mark back for inspiration to the days of the frontiersman and the early French of Detroit. The residence of Mrs. W. H. Wood, built in 1895, is touched by the grace of the Italian Renaissance style, and the Joseph Morrell Wells, of McKim, White, and White, had so successfully introduced to New York, in his designs for the Century Club and the Villard (afterwards

Mr. Whitelaw Reid's) residence. The works above mentioned are by Messrs. Mason & Rice.

In 1898 Mr. Mason associated with himself Francis Swales, one of the earliest of the pupils of the Society of Beaux-Arts architects of New York, and the work of the following few years is in the modern Renaissance style developed by the French system of training and study of Classic and Renaissance styles.

Berry Brothers' office building (on this page) was probably the first design of the kind produced in the "middle west."

The Temple Theatre (p. 682) and the Elks Building (p. 683), by J. M. Wood and F. S. Swales, and the Jewish Temple Beth El, by Messrs. Mason & Kahn, assisted by Mr. Swales, were built in between 1898 and 1901. The Woodward-avenue Apartment House, built in 1902, was produced while the



Vestibule in Messrs. Berry's Office Building, Detroit.

Messrs. George D. Mason and F. S. Swales, Architects.



Log Cabin, Palmer Park, Detroit.

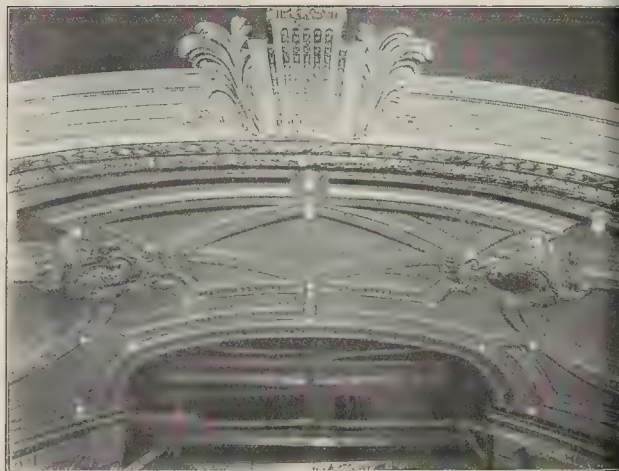
Messrs. Mason & Rice, Architects.

Jacobean style was for a time "fashionable." Since that time most of the public and commercial buildings have been based upon Classic and Renaissance precedents, and the residences upon French Renaissance and the so-called "Colonial," and upon the conditions of climate and use of new kinds of materials, such as concrete and hollow terra-cotta blocks.

The examples selected are intended to convey some idea of the "local colour" of the architecture of Detroit.

For an American town Detroit is an "old" place, having been founded more than two hundred years ago. It was formerly the "capital" or seat of the Governor of the Louisiana territory.

The plan of the town was designed by Major Pierre Charles L'Enfant (also planner of the city of Washington), and is among the most excellent town plans in America. Detroit is a city of nearly half a million inhabitants, and is notable for its cleanliness, broad, well-paved, and well-lighted streets and avenues lined with large trees. The houses are not fenced in, but stand back some distance from the street pavements, and the effect of the principal avenues thus created is as of a park with houses in it rather than of a roadway bordered with buildings. A number of old French customs and old French families still survive in



Proscenium Arch, Temple Theatre, Detroit.

Messrs. J. M. Wood and F. S. Swales, Architects.



Residence of Mrs. S. F. Angus, Detroit.

Messrs. Mason & Rice, Architects.

Detroit, and have perhaps something to do with the fact uppermost in the mind of every Detroiters that it is "the city where life is worth living."

HOUSING OF THE WORKING CLASSES ACTS, 1890 TO 1900

UNDER date of November 5, 1912, the Law Government Board for Scotland issues Memorandum with respect to the provision and arrangement of houses for the working classes.

We extract from this Memorandum the paragraphs dealing with the arrangement and construction of the houses, which should be of more immediate interest to those concerned with the technical side of the question:—

(2) Standard of Construction.

In designing houses for the working classes the first consideration is that they shall meet the reasonable needs of the class of persons whom it is proposed to accommodate; and while it is desirable that simplicity of design and economy in construction and general arrangements should be aimed at, it would well to bear in mind that houses erected by a local authority ought generally to be as well as will be a model or standard for houses of the working classes which may be erected by private persons.

(5) Types of Houses Most Suitable

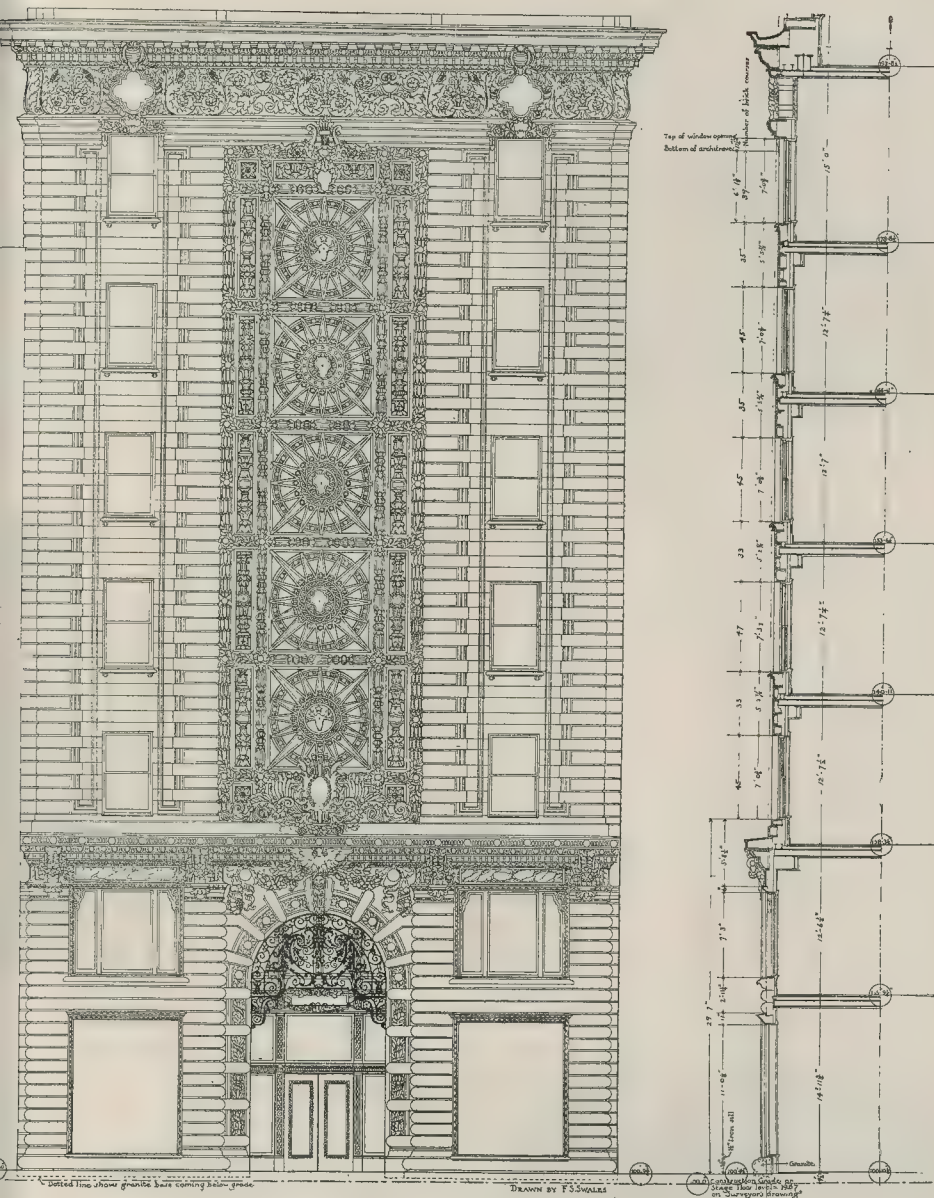
The types of houses that may perhaps be regarded as the most suitable in ordinary circumstances for buildings on new sites are cottages, whether semi-detached or in rows, or

(2) two-story houses, whether semi-detached or in rows, with separate dwellings on each floor.

(6) Number and Arrangement of Buildings on the Site.

(a) Generally.—The arrangement of houses on the site and to some extent the design of the houses will depend upon the size, situation and character of the land, but the site should be so utilised as to secure ample open spaces in connexion with the houses and the best possible aspect for the living-rooms. Overcrowding of houses on a site should be avoided, and must, of course, be taken to comply with any town-planning requirements, by-laws, other local provisions in force in regard to new streets or open spaces in connexion with buildings.

On the question of the number of houses to be erected on a site, the local authority should doubtless consider it necessary to have regard to the cost of the site and the extent to which street works will be necessary; but it would be well to bear in mind that the annual saving in respect of a loan for the land, spread over



Elks Building, Detroit.

Messrs. J. M. Wood and F. S. Swales, Architects.

maximum period of eighty years, would in cases constitute a comparatively small portion of the total annual cost of providing houses. On the basis of ten houses to acre and land at 100*l.* per acre, the loan charges per house for land-purchase would be less than 2*d.* a week. If the land cost 500*l.* per acre the loan charges per house would be less than 9*d.* a week.

Building in Rows: Back Streets.—Where houses are built in rows, it is desirable that should be set back from the street line, to allow small gardens or forecourts to intervene between the houses and the street.

is undesirable that long rows of houses
ut a break should be constructed; and,
rule, the number of houses in a continuous

row should not exceed eight to ten. Long rows are open to objection, not only because overcrowding of houses on the site may be the result, but also because they give a monotonous and depressing appearance and prevent easy intercommunication between streets.

It is advisable where cottages are erected in rows to have the gardens placed back to back without any back street intervening, except in cases where there are no water-closets or daily removal of household refuse.

In the case of houses of more than one story, the system of entering from balconies has many advantages, provided that these are so arranged as not to interfere with the lighting of the rooms.

(c) *Semi-detached Cottages.* -In areas where

land is less costly the dwellings will with advantage be built in pairs or singly, so as to secure better light and ventilation and larger gardens. Larger ground area and frontage will, as a rule, be more often possible in rural areas than in urban areas, and where large gardens are provided and a slightly increased rent is charged the tenants should be able to secure some return in the form of garden

(d) *Other Arrangements of Houses on Site.*—Where the statutes and by-laws admit, it may be desirable to consider other arrangements of streets and buildings which may reduce the expenditure on land and on street construction—e.g. (1) the formation of groups of houses on back land, access to the houses being either

from comparatively narrow streets if the houses are set well back from the street line and if the streets are not intended or likely to become important thoroughfares, or from streets of full width of which portions might be turfed or planted with trees; and (2) the grouping of a number of houses round an open space which would serve as a recreation ground for the occupants of the houses (see sect. 11 of the Housing of the Working Classes Act, 1903).

Note.—Under sect. 44 of the Housing, Town Planning, etc., Act, 1909, the Board have power to revoke any by-laws as to new streets or buildings that they consider may unreasonably impede the erection of dwellings for the working classes.

(e) *Frontage of Houses.*—In the laying-out and development of sites for building the execution of the necessary street works is frequently a source of heavy expense, and there is a tendency, especially where the streets are wide and of costly construction, to make the greatest use of the frontage. As a result, houses are sometimes built with an unduly narrow frontage, the necessary internal space being obtained by making the houses deep from front to back or with projections at the back. These methods of construction interfere with the due access of light and air to the rooms, and in order to avoid these objections the frontages should not be unduly restricted.

(7) Accommodation to be Provided and Arrangement of Interior and Outbuildings.

(a) *Generally.*—The house, as previously stated, should be designed to meet the reasonable needs of the prospective occupants, and the internal arrangements will no doubt be influenced to some extent by custom of the locality and by the habits of the population. Although the actual arrangement of the rooms may not lend itself to any great variety of planning, the dimensions of the rooms and the arrangement of doors, windows, fireplaces, etc., need careful attention, and some suggestions in regard to these matters are made under the appropriate headings below. Where cottages containing more than three rooms are to be provided it will usually be found more economical to place the extra room or rooms on an attic floor.

(b) *Simple Type of House.*—Houses for the poorer working classes should contain at least a kitchen, a bedroom, a scullery, a large press for food, a water-closet, and a coal cellar. In such a house the ordinary necessities would be met by the following arrangements—

Kitchen.—This is the living-room used by all the family in common and ought to be as large and commodious as possible. It should contain a large press for food ventilated from the outside, and a range with a boiler for hot-water supply.

Scullery.—The scullery should have a washing boiler and a sink.

Bedrooms.—A bedroom should be as large and airy as practicable, and should be provided with

a fireplace. The door, window, and fireplace should be arranged so as to secure convenient space for bed and furniture and to ensure the freest circulation of air. If the bedroom is at the front of the house, a passage should be formed alongside for direct access from the front entrance to the kitchen. In this way the bedroom will not be used as a passage room.

Height of Rooms.—Sect. 172 of the Burgh Police (Scotland) Act, 1892, provides that in new houses the height of rooms on the ground floor shall be at least 9 ft. 6 in. and on the other floors, except attics, at least 9 ft. For working-class houses these heights may be considered too liberal, and burghal local authorities may with advantage consider the discretionary powers afforded by sect. 39 of the Burgh Police (Scotland) Act, 1903, to secure a relaxation of these requirements. The advantage of such a relaxation will be either a reduction in the cost of the building, or, as is frequently more desirable, an increase in floor space.

Water-Closet Accommodation.—Water-closet accommodation should be provided for each house, and the entrance to it should be preferable from the inside of the house.

Bath.—Where practicable the water-closet apartment should be made large enough to accommodate a bath.

Coal Cellar.—A coal cellar should be provided either inside or outside the house.

Windows.—Sect. 173 of the Burgh Police (Scotland) Act, 1892, provides that the window area of each room shall be not less than one-tenth of the floor area of the room—unless in any case the Town Council otherwise determine. The windows should be made to open at top and bottom, and should be placed not more than 12 in. from the ceiling in order that the upper as well as the lower portion of the room may be ventilated. At the same time, windows should be sufficiently low to enable children to see out of them.

(8) Materials, Walls, Floors, Doors.

The materials of which the houses should be constructed will vary according to the locality. Brickwork covered externally with harling or cement is an economical form of construction. A cheap wall can be formed of two 4½-in. bricks with a 2½-in. space between, and tied together with iron cramps at intervals. The outside face of the wall should be harled, and the inside face of the wall plastered directly on the brick.

The floors of kitchens and bedrooms should be constructed of wood flooring—those of sculleries and outbuildings being of concrete finished in cement.

Strongly framed and lined doors are preferable to panelled doors of inferior quality.

(9) Standardisation.

In order that the cost of construction may be reduced as much as possible, special attention should be paid to arrangement of planning,

detail of construction, and type of fitting in order that these may be standardised the whole scheme.

THE WORKING OF THE IRISH LABOURERS' ACT.

THE National Housing and Town-Planning Council, having decided to urge upon the Government the desirability of giving financial assistance to local authorities to enable them to build houses for rural labourers and the poor in our towns who are not able to pay an economic rent, decided to investigate the working of similar legislation in Ireland. They appointed a deputation to visit Ireland for this purpose, consisting of the Chairman, Mr. William Thompson of Richmond; the Treasurer, Mr. W. Wilkins, of Derby; the Secretary, Mr. Henry Aldridge; and three other members. The deputation appears to have been well received and put in the way of obtaining reliable information from every point of view. After visiting three typical districts in Leinster, Munster, and Ulster—provinces presenting conditions parallel to those obtaining in the poorest English districts—the deputation presents its conclusions in a Report of great interest and value, which tells us that the inquiries made in Ireland have deepened the conviction of the deputation as to the wisdom and justice of adopting similar policy in Great Britain.

As there was no incentive for private enterprise to make provision for the poorest class, the Irish Labourers' Act was passed in 1883 to do with the situation. Little was done, however, till 1891, since which time the Acts have been extended and amended. Under their provisions 211 out of 213 Rural District Councils have built cottages, 20,534 being erected under the Acts passed between 1883 and 1906. Since then 18,607 have been built, and, in addition, there were on March 31, 1912, 3,439 in process of construction, making a total of 42,680. The amount already sanctioned by the Local Government Board for this purpose was, on March last, 7,906,273*l.* This provided 39,200 cottages built and 3,439 in course of erection.

The cost, not including land and roads, has been from 128*l.* to 200*l.* per cottage. The average total cost, including land and roads, has been in Ulster, 196*l.*; in Leinster, 186*l.*; in Munster, 176*l.*; and in Connaught, 211*l.* per cottage. Land has been obtained at about 25 per cent. above its agricultural value, and at prices ranging from 25*l.* to 60*l.* per acre, though in some cases near towns this has risen to 100*l.*

The rents, which did not appear to have any relation to the cost of the cottages, but rather to the amount it was possible for the tenant to pay, vary considerably. In Ulster the rent varies from 9*l.* 4*s.* to 2*s.* 4*d.* per week, in Munster from 4*d.* to 1*s.* 2*d.*, in Leinster from 6*d.* to 2*s.* 9*d.*, and in Connaught from 4*d.* to 1*s.*



Condemned Cottage : Kilrush Rural District (Co. Clare).



New Cottage : Ennistymon Rural District (Co. Clare).



Condemned Cottage: Lismore Rural District.



New Cottage: Lismore Rural District.

few cottages, however, are let at 4d. or the average throughout Ireland being 1d. per week. These rents include from 1/2 to 1 acre of land to each cottage. The rents vary from 10s. to 22s. per annum, and are paid by the tenants themselves, an arrangement which the deputation refers to be "in every way admirable." Few exceptions anyone working for wages rural district is eligible as a tenant, provided the wage does not exceed 2s. 6d. per day. No lodgers nor overcrowding are permitted, though it was found that these regulations are always strictly observed. The tenants appear to be well satisfied with the cottages and to appreciate the improvement of their situation.

The deputation considers that, as a general rule, the cottages are well built and are good value for the money spent, though it notes some exceptions. These may perhaps be accounted for by the fact that it appears difficult to get work done in some parts of the country. It can well be understood, when it is realised that many of the cottages are built far away from villages in isolated places to which access is difficult. In consequence of this better-class cottages do not care to tender for work done in remote places, and it has to be done by unskilled and unqualified persons. Also the difficulty of properly superintending such work is at once realised.

Most of the cottages are detached and of one story only, as the Irish labourers seem to prefer a house without a staircase. Others, however, are of the two-story semi-detached type, but some of the tenants have not become accustomed to them, and complain that the rooms are hot in summer and cold in winter; this has generally been where the bedrooms are open to the rafters and without ceilings. The deputation reports that it does not consider the single-story type suitable to English requirements, and appears to consider there is some element of superiority in a two-storied building, as the Irish will appreciate, as they get accustomed to it. No doubt the two-storied building should be more economical than the bungalows, and for this reason alone preferable for similar work in England.

The usual cottage provided in Ireland consists of one large living-room, part of which is screened off by a partition to form a bedroom, and two other bedrooms entered out of the living-room, thus giving the accommodation prescribed by the regulations of the Local Government Board. These regulations require eight of the rooms on the ground floor to be not less than one-half the area of the ceiling to be 8 ft. 6 in. in the roof. They also fix the cubic contents of living-rooms at not less than 1,200 ft. 3 in., and of one bedroom at 600. No bedroom is less than 600. They give power to adapting houses to the standard of new ones, and in practice this has been found to cost more than building new ones.

The land seems to have been selected by Committees appointed by the Rural District Councils concerned. These Committees would have to consider the following points emphasised by the regulations of the Local Government Board: Good land, easy access and drainage, good aspect to north or east for cottages, convenient water supply, economy in fencing by using existing fences, and minimum damage to owner and occupier of land.

We gather from the Report that these points have, as a rule, been well considered, the position of the cottages being generally satisfactory, though in some cases the position of the house or the quality of the soil left room for improvement.

An important point that should not be overlooked is that the active administration of the Acts, whereby so large a number of cottages has been built, is primarily due to the power of representation possessed by the labourers themselves. That is to say, any three agricultural labourers may, by signing a form issued by the Local Government Board, set the necessary machinery in motion.

With regard to the general effect of these Acts the deputation found that "there is a general agreement that a marked improvement in all respects has been effected in the habits and standards of life of the people," even though those standards are still lower than those in rural England. During the period over which the erection of cottages has extended wages have everywhere increased, but in view of the many economic prices operating the deputation is only prepared to say that the building of these cottages has had no adverse influence upon wages. In this connexion it is pointed out that the tenants of the new cottages are in a more independent position in negotiating terms of employment; many of them having come from the "tied" houses of the employer, the reason for this is obvious.

Again, there seems to have been a general consensus of opinion that the building of these cottages has been a distinct success from the point of view of health. All available figures point in this direction, general vitality is increased, and zymotic disease diminished. This will be understood when it is realised that many of the tenants come from mud cabins without either chimney or window. This old type has, thanks to the Act, largely disappeared, and a few more years' energetic administration should result in its total abolition. Indirectly the Act has had the effect of causing owners to improve their property in order to escape condemnation, and it is satisfactory to learn that, as a rule, neither landlords nor farmers are hostile to the administration of the Acts.

In their final general observations the deputation point out that where so much State aid is given it would be well if better inspection of the cottages and reports upon the way in which the Rural Councils are administering the Acts could be secured. They suggest that a

little extra expense at first in such matters as better bricks for chimneys, better footings, cement skirtings, and more extensive use of cement for rough-cast would prove economical in the long run. Although the deputation considers that "the architecture of the later cottages is, on the whole, not unpleasing," the examples we give, if typical, show that it still leaves something to be desired. The use of good materials, in every way an economy, would seem to be the legitimate method by which this object could be promoted.

After expressing their warm appreciation of the admirable work done by the Local Government Board for Ireland, the deputation, in conclusion, express their conviction that the passing of these special Irish Acts has been abundantly justified in the results achieved. "The supreme merit of the work thus accomplished in Ireland rests in the fact that thereby local authorities have been enabled to clear away the hovels which existed in all parts, and to build up new houses and a new people in a way which no other method has accomplished elsewhere."

They also point out that "no other practical remedy has yet been suggested by which British local authorities may be adequately assisted to perform the difficult task of clearing away unfit houses, and providing homes in which the poorest families can be reared in decency and comfort," though they expressly disclaim the intention of bringing forward any definite and detailed proposals as to the manner in which the example of Ireland might be followed in Great Britain.

The illustrations of cottages which accompany this article appear in the Report of the National Housing and Town Planning Council, to whom we are indebted for the loan of the blocks.

PROPOSED NEW ROAD, SURREY.

At a recent meeting of the Surrey County Council the Highways Committee reported that the County Surveyor had prepared plans and sections for a new road to form a loop on the Portsmouth-road, between Beverley Brook Bridge and the village of Esher, showing the route, which, after numerous trials, surveys and consultations with the Traffic Branch of the Board of Trade and with the local authorities, appeared to be the most desirable from the point of view of the main purpose, which has been to find an alternative route for an entirely new road between the above-mentioned points, so as to afford better ingress and egress to London from the south-west. The Committee have given instructions for the scheme to be forwarded to the Road Board for their consideration. Mr. C. T. Giles, K.C., speaking on the Report, stated that he dissented from the statement that the plan "appeared to be the most desirable from the point of view of the main

purpose." Efforts had recently been made by a considerable body of people to acquire a large amount of land in order to preserve the view from Wimbledon Common; but the plan of this proposed new road showed that a wide detour was to be made, so that the owners might have a double building frontage, and the probability was that buildings would be erected on both sides of the road where it skirted the land to which he referred, spoiling the very view which they were so anxious to preserve. Alderman Pain, Chairman of the Board, said that Mr. Giles's proposition was that the building frontage on the Wimbledon side should be done away with. He pointed out that the Chairman of the Road Board was a member, if not the Chairman, of the Committee for the extension of Wimbledon Common, and he had spoken to the County Surveyor on the subject, and was as anxious as Mr. Giles himself that the fairest route should be carried out. This could not be adopted, because the road at the present moment followed the course of a town-planning scheme adopted by the local authority. In the result, a motion by Mr. Giles—"That the Council approve the opinion expressed by the Chairman of the Highways and Bridges Committee, that it would be a great public advantage if the new arterial road were to be bounded by open spaces adjoining Wimbledon Common"—was passed.

CIVIC DESIGN NOTES.

Whose Work is Town Planning?

WITH reference to the article under this heading in our last Review of Civic Design, a correspondent sends us the following:—

"More important than acquaintance either with a levelling-staff or with 'styles' and 'Orders' is the possession of the imaginative sense. The town-planner's imagination must be able to see in the lines and symbols of a map the valleys and hills, the brooks and boundaries, the sky-lines and distant views which exist on the ground. And he must be able to grasp, from a few rough lines called an elevation, the effect of placing a building in the middle of this natural framework. With a pencil and a few pieces of flat paper he must visualise the scene as it will be, and reject or accept with true artistic insight what exists as yet only in his imagination. And along with all this there must be a sound knowledge of constructional work in buildings, of maximum gradients and of suitable widths of roads.

Modern requirements are thus resulting in a new type, the town-planning specialist, who, whatever his previous training has been, as architect, engineer, or surveyor, must, above all, in this practical age still be a visionary. If he is an old man he must dream dreams, and if he is a young man he must see visions. To-day there is an opening for the dreamer."

Sussex Road Scheme.

THE Roads and Bridges Committee of the East Sussex County Council suggest an improvement of the Lewes to Newhaven road, the cost of which is estimated at 27,744. This will provide a highway 30 ft. wide from bank to bank, with macadam 18 ft. wide. The Road Board will contribute 11,700, the Newhaven Rural Council 8,000, and the East Sussex County Council the remaining 8,044.

Town Planning in Rural Districts.

THE Royal Sanitary Institute at Doncaster held a sessional meeting at which the subject of town planning in relation to the development of the South Yorkshire coalfield. It was stated that thirteen new collieries were being or were about to be sunk near Doncaster, and that there would be a population of 120,000 people in the near future directly dependent upon mining. It was pointed out that if it was a sound investment for the Government to spend 500,000 upon the development of Uganda it could spend 200,000 upon developing South Yorkshire. It was a national question, and if they failed to do what was necessary to-day they would be compelled to do it twenty-five or thirty years hence at a far greater cost.

The conference carried a resolution in favour of such measures as might facilitate the putting into operation immediately of the Town Planning Act in the Doncaster rural district.

Although town planning in the country may seem a contradiction in terms, this resolution calls attention to the necessity of considering the ordered arrangement of the whole of the country. We have already referred to this

question in a leading article on country planning, more in connexion, however, with the growth of motor traffic and the small holding and "back to the land" movement. There seems every reasonable probability that in so thickly populated a country this question must ultimately arise and the Town Planning Act become the Town and Country Planning Act. In the meanwhile any application of its present powers in districts which may technically be considered rural is to be welcomed. There certainly appears a *prima facie* case for town planning in the Doncaster rural district.

The Australian made by the Commonwealth Federal City.

A power plant, a railway, and brickwork are the first visible signs of the city that is to be. The district contains several kinds of stone, some soft, some hard, besides shale and clay. This softer stone will probably be used in the manufacture of Portland cement, whilst the harder variety is likely to prove useful as ashlar. It is estimated that some ninety millions of bricks will be required for official purposes alone, and Government kilns are to be erected capable of producing fifteen million bricks a year. The clay that has been found in the territory—the River Molonglo flows through the area—is said to be suitable for brickmaking, and it is claimed that the bricks can be made and delivered at 11. 6s. per 1,000. The Government are undertaking the manufacture of their own bricks, as bricks have been high in price of late, and supplies have been low. Both the New South Wales Government and the Victorian Government have established State brickworks. A central power-house is to be built at a cost of about 20,000, capable of supplying electricity for the whole district where power will be required during building operations. A reservoir and dam are to be erected costing about 90,000, the water supply being by gravitation to the whole of the city area as completely planned.

New Houses and Streets.

THE Commissioner of Police in his annual Report, just presented to Parliament, gives the following particulars as to the number of houses built, streets formed, etc., in the Metropolitan Police District during the last ten years:—

Year.	New Houses Built.	No. of New Streets.	Length of New Streets and Squares.
1902	25,480	301	61 764
1903	26,420	320	68 944
1904	23,239	374	74 139
1905	21,570	300	69 406
1906	21,415	285	64 917
1907	19,211	264	62 172
1908	13,377	257	51 1,658
1909	13,243	217	48 378
1910	11,757	172	28 1,456
1911	10,027	90	15 733

The number of new houses being built on December 31, 1911, was 2,009.

Central Area foot for the remodelling of the Improvements.

IMPORTANT schemes are on the foot for the remodelling of the central area of several of the large provincial towns. At Bradford the building of the Midland through line has led to a suggestion that advantage be taken of the opportunity to replace an area of narrow streets and poor property. At Dundee an improvement scheme dealing with the Overgate and the area behind the Town House, after meeting with some opposition, till further information was made public, was finally agreed to at a recent meeting of the Town Council, and a Provisional Order was promoted to obtain power to schedule the areas affected. At Manchester a private syndicate proposes to acquire land on both sides of the Irwell for an additional Exchange and other buildings, which will greatly enhance the commercial facilities of the city. At Birmingham the widening of Broad-street at the cost of 40,000, instead of the relief road suggested in 1907, should get rid of the bottle-neck which has been so dangerous to traffic at this spot, and proposals have been brought forward for the reconstruction of the Witton-road Bridge, near Witton Railway Station, and for the construction of some 200 yds. of the Salford Bridge-road between Wheelwright-road and Bronford-lane, being the last section of the road as originally planned.

Town-Planning the Birkenhead Town Council Schemes.

SIR W. LEVER has offered the Brocklebank Estate, 1,500 acres in the Wir district, which he recently purchased from late Sir Thomas Brocklebank's executors. The property, equal to nearly one-half the of Birkenhead, comprises many townships. Stoneton Hall was formerly a seat of Stanleys. With the exception of small areas to be used by Lever Brothers, the whole of the land is offered at the same price which William Lever paid for it. The area will be used for town planning, of which a central road 120 ft. wide, for quick and slow traffic, and boulevards for pedestrians will form a feature. The Croydon Town Council have just resolved to formulate a scheme in respect of the road of country, some 600 acres between Wadd and Russell Hill, and near to the proposed by-pass road to the west and south of Croydon from Thornton Heath to Purley.

The Local Government Board have lately received two schemes from the Birmingham Corporation, and one from Rochdale, and, it is understood, have authorised a further scheme prepared by Stoke-on-Trent Corporation of 85 acres in the borough.

Open Spaces and Recreation Grounds.

THE Valentines Park Extension Council ask for contributions, before the end of the year, to an aggregate amount of 800, to enable them to acquire 23 acres, with the mansion-house, fruit-garden, and rosery of Valentines to the existing park at Ilford, Essex. The Local Government Board have signified their sanction to the Malden and Coombe Urban District Council borrowing 3,600, to purchase lands as an open space in Kingston Vale, as part of the Wimbledon and Putney Commons Extension scheme.

Engineers' Town Planning Competition.

A SPECIAL interest attaches to the Town Planning Competition recently announced by the Institution of Municipal and County Engineers. Being confined to members and students of the Institution, architects are presumably excluded. But, curiously enough, whether intentionally or not, the subject chosen is one into which the aesthetic element enters to a rather unusual degree. A seaside pleasure resort should express something of the festive or decorative side of life. Its general layout should give the keynote and should perhaps more entirely dominated by aesthetic considerations than would be permissible in a factory town; while, with the exception of a sea wall protecting the front, there seems to be nothing which marks this subject as one that involves any engineering problem out of the common. Municipal and county engineers will have an opportunity to produce a characteristic lay-out in harmony with the prevailing sentiment of such a town, and the result cannot fail to be instructive.

Plymouth Hoe affecting the amenities Improvement.

AN important improvement affecting the amenities of Plymouth Hoe is foreshadowed by the recommendation that the Corporation should acquire those portions of the West Hoe Estate not yet developed. The land in question overlooks the Hoe, from which it is separated by a high cliff, and has a frontage of 362 ft. to the Grand Parade-road on the sea front. It lies between West Hoe terrace and the land under the control of the Plymouth Promenade Pier. The site is suitable for winter gardens and baths, and the cliff lends itself to a lay-out in terrace walks and gardens. The Corporation already owns the foreshore to the west, and the present purchase is in a line with their settled policy of acquiring the whole of the foreshore to the Hoe, and so preserving its amenities.

Municipal Ownership at Parliament for the purpose of Eastbourne.

THE Town Council of Eastbourne is to promote a Bill in Parliament for the purpose of acquiring the Devonshire Park and Baths for the sum of 100,000. The Duke of Devonshire, who is a large shareholder in the company, will mark the occasion by a gift to the town of 10,000, with further financial advantages should the Town Council agree to maintain a good orchestra. This extension of municipal control, we think, be advantageous to Eastbourne, and enable the Town Council to still further increase its attractions.

THE BUILDING TRADE.

WATER SUPPLIED TO BUILDERS.

THE case of Metropolitan Water Board v. Johnson & Co., in which judgment was deferred, has resulted, as is too the case where this Private Act regulating water supply by the Metropolitan Water Board is under consideration, in a difference of opinion, and, as the Divisional was constituted of two judges, the result is that the judgment of the County judge as against the builders stands untroubled. The defendants in the case are a firm of builders who, under contract with the War Office, were engaged in carrying on time to time necessary work at the Barracks. The War Office had a contract with the Metropolitan Water Board for supply of water for domestic and non-domestic uses, and the War Office, as part of their contract with the builders, agreed to supply with the water necessary for the building operations. Notwithstanding this, the Water Board, under sect. 17 of the Water Board (1907), made a claim upon the builders in respect of the water used by them in building operations, and the County judge decided in favour of the Water Board.

Sect. 17 provides that any builder being engaged to erect any building or part of a building shall require a supply of water for that purpose shall be deemed to be the occupier of the premises within the meaning and for the purposes of sect. 16, provided that, if the County judge determines, they may instead of affording the required supply by measure, afford the same at a rate not exceeding 7s. per 1000, of probable total cost after making such allowance as the Board may think reasonable for the use of water. By a general resolution passed in 1907 the Board had resolved that no builder should be entitled to pay by meter, but to pay on the 7s. scale.

Before the Water Board Charges Act, 1908, was passed it had been held in the case of Metropolitan Water Board v. Paine (the Builders' case), 17, 1906, under the East London Waterworks Act, 1853, that a person carrying out building operations on a site bare of buildings was not the owner or occupier of "premises" under sect. 79 of that Act, so as to be entitled to demand a supply of water by meter.

In Johnson's case Mr. Justice Channell, who was sitting on the judgment of the County judge, considered that the builders were not persons who "require a water supply" within sect. 17, as desiring to become customers of the Board. He pointed out that if they had sunk a well and obtained a supply of water the Board could not have called them to become customers, and so the defendants were concerned, their position was much the same in obtaining the supply from the War Office, although questions might arise between the War Office and the Board as to the use the water was put to. The judgment of Mr. Justice Channell was that sect. 17 was directed to enable builders to demand a supply in circumstances in which the decision of the County judge's case applied to deprive them of such a supply.

Justice Avory, who upheld the decision of the County judge, interpreted the word "require" in sect. 17 as "having need of," and held that if a builder needed water for building operations he must make a request under sect. 16 and pay the charge under sect. 17, and what is the effect of these judgments? It appears to be that if a builder requires water for building operation, and the only source available is the water of the Board, then the Board has a statutory right to charge the builder at the rate specified in sect. 17. If a builder has any other supply independent of the Board's, then the section may not apply; but if the builder does not require a supply of water, this point is left in some doubt. If the Board's supply is required, no contractual agreement between the builder and another person drawing from that supply will relieve the builder from liability.

In the case in question there was also a difference of judicial opinion whether the War Office, having agreed for water for domestic or non-domestic purposes, could supply or use water for building purposes; but the point is not important because in future the Board no doubt will schedule the supply as "not for building purposes."

Builders must note that where Board's water is used at all they will have to pay for it, and they must provide in their contracts for any recoupment of this statutory charge laid upon them. We have frequently commented upon the necessity of an amendment and simplification of this Private Act of the Water Board, which has not only caused endless litigation, but has also been found by the Courts extremely difficult of interpretation.

CHANGES IN RATES OF WAGES.

THE Labour Department of the Board of Trade has recently issued the nineteenth Report on Changes in Rates of Wages and Hours of Labour for the year 1911.

The year was one, the second in succession, of improving wages, 507,207 workpeople, exclusive of agricultural labourers, seamen, and railway servants, receiving increases, the net result of all changes showing an increase of 34,578s. a week.

There is an interesting table in the Report, from which it can be seen that there is a direct relationship between the labour market and exports and imports. In years of increasing imports and exports the rates of wages were higher and the percentage of unemployment lower, and *vice-versa* where imports and exports declined. It would appear from this how dependent is the labour market on the general trade of the country, and therefore how disastrous strikes which affect that trade must be to the working classes. If it be argued that 1910 and 1911, both strike years, have shown increases in wages, it may be pointed out that in 1907, the year in which the imports and exports were the highest, with the exception of the last two years, the increase in wages was not, as in 1911, 34,578s., but 200,912s. In 1907 the loss of working days due to strikes was 1,678,670, but in 1910 the loss of working days was 9,846,831, and in 1911 7,552,100. With the prosperous conditions prevailing in 1910-11 it is obvious that in all probability the increase in rates of wages would have been considerably larger had not conditions of trade been so disturbed by trade disputes. A reference to the Report will also show that changes in rates of wages are, in the large majority of cases, effected without a stoppage of work. Thus, in 1910, 538,663 workpeople had their rates varied without stoppage, and 10,275 after stoppage, whilst in 1911 the figures are 767,259 without stoppage, and 149,107 after stoppage. Surely from these figures the deduction should be drawn that strikes injure the prosperity of the nation, and consequently lessen the wage bill in all trades, and that they should only be resorted to as a last resource.

In the building trade the net effect of the changes in rates of wages was an increase of 1,609s. per week, as compared with an increase of 377s. per week in 1910, and a decrease of 713s. in 1909. But 47 per cent. of this increase was in the rates of wages of carpenters and joiners. In this trade it may, however, be noted that the changes in the rates of wages of 15,316 workpeople were arranged without strike, and of only 1,575 workpeople after strike.

STAFF DINNER.

ON Saturday last week, the first annual staff dinner of Messrs. Bovis, Ltd., was held at the Victoria Mansions Restaurant, when a large company assembled. In response to the toast of "The Directors," the Chairman referred to the progress made by the company, and said that, whereas they had commenced trading only three years ago with a total staff of about six hands, they were now responsible for the wages and welfare of nearly a thousand men of all trades, this development being largely due to the efforts of the staff as a whole.

The dinner was described, in an amusing manner, as a "specification of the dinner," and followed the same lines as an ordinary specification. A concert followed.

WOOD PAVEMENT v. ASPHALT.

THE Third Commission of the Municipal Council, having come to the conclusion that it was time to consider a plan for harmonising the Parisian thoroughfares, Mr. Adrien Oudin was instructed to prepare, in his own name, a report upon the matter. The Council, after having passed in review the different coverings employed up to the present, indicates the advantages and disadvantages of each, and pronounces himself, says *Le Editeur*, in favour of asphalt. Conformably with the conclusions arrived at in Mr. A. Oudin's Report, the administration, in concert with the representatives of the eighty districts of Paris, drew up a long list of the thoroughfares which ought to be asphalted. These works of transportation, which interest more particularly the centre districts, are proposed to be completed within seven years, at the rate of about 100,000 metres per annum, the Municipal Councilors reserving the right to indicate to the administration the most urgent operations and to come to an understanding with them as to the proper regulation of the works.

BUILDING TRADES AMALGAMATION.

MR. W. THORNE, M.P., presided at a Conference of representatives of a number of Unions in the building trade on the 3rd inst. at the offices of the Parliamentary Committee of the Trade Union Congress, London. The Conference was called to consider a scheme for a central fighting fund to be controlled by an Executive Committee representative of the subscribing societies, and leaving complete autonomy to each Union as far as its friendly benefits are concerned. A vote was recently taken on the question of amalgamation by Unions containing a total membership of 117,370, and in the ballot 31,541 supported the scheme, while 12,156 voted against it. The support given to the amalgamation scheme was not sufficient to allow the promoters to carry it into effect. The discussion of the question was not concluded at the sitting, and the Conference adjourned.

GENERAL BUILDING NEWS.

CULLUMPTON'S NEW CHAPEL.

THE new Unitarian chapel at Cullumpton is being erected at a cost of about 1,000l. from the designs of Mr. R. M. Challice, architect, of Exeter. The building will provide accommodation for 120 people.

JESUIT SCHOOLS, LIVERPOOL.

THESE new schools for St. Francis Xavier's have been erected at a cost of 13,000l. from the designs of Mr. A. Homan, A.R.I.B.A. The materials used in the building are thin red Ruabon bricks set in white mortar with Portland stone dressings, and with Kentmere silver-grey slates for the roof. The building is heated by radiators and lighted by electricity, and accommodation is provided for 650 boys. The contractors for the work were Messrs. L. Marr & Sons.

AGRICULTURAL COLLEGE, NEAR NEWTON ABBOT.

THE Seale-Hayne Agricultural College is being erected from the designs of Messrs. Mitchell, Son, & Gutteridge, architects, of Southampton, and the cost of erection is estimated at 22,000l. The buildings will be erected on a site 350 ft. above the sea level and will form three sides of a quadrangle. The northern block will contain the technical buildings, agricultural, botany, chemistry, and science rooms, with laboratories. The western block will include residential quarters for the staff and students, and the eastern block will be comprised of the dining hall, common-rooms, kitchens, etc. The electric lighting will be from power generated on the site, and the heating will be by hot-water pipes.

NEW BUILDINGS IN EDINBURGH.

THE new tuberculosis dispensary buildings have been erected at a cost of about 8,500l., and the buildings include administrative and educational departments. On the east side are the drug dispensary, two research laboratories, and an X-ray room. Other rooms include a board-room, museum, lecture hall, etc. The architects for the work are Messrs. Sydney Mitchell & Wilson.

PUBLIC HALL, NEWTONMORE.

MR. Alexander Cattannach, of Kingussie, is the architect for this new public hall, which

Glasgow.—Seven houses, Rowenshall-road, Shawlands; Messrs. W. Wallace & Sons, builders, 3, Rowenshall-road, Shawlands, Glasgow. Adaptation of church buildings into dwellings.

* See also our list of Competitions, Contracts etc., on another page.

and erection of new church at Crownpoint, Mile End, for the Trustees, Christ Church, Glasgow. Six houses, Auchinairn-park; Messrs John Marshall & Sons, builders, Bishopbriggs, Glasgow. Additions to works, 17, London-road, Parkhead, for Messrs. John Walker & Sons (Glasgow), Ltd., cabinet-makers. Addition to works, Broadstreet, Mile End, for Messrs. Mayor & Coulson, electrical engineers. Picture theatre, Hillstreet, Shettleston; Mr. George Urie Scott, 69, Gallowgate, Glasgow.

Glenburn (near Prestwick).—One hundred and eighty-four houses (20,000L.), for Messrs. William Baird & Co., Ltd., ironmasters, 168, West George-street, Glasgow.

Goble.—Alterations and additions to workhouse (4,115L.); Messrs. Jackson & Oates, builders, Goble.

Halifax.—Buildings (2,000L.); Secretary, West End Golf Club, Halifax.

Higher Bebbington (Birkenhead).—School (9,345L.); Messrs. J. Lee & Sons, 28 and 30, Village-road, Bebbington.

Ipwich, Offices, Prince's-street: Mr. E. Thomas Johns, architect, Lower Brook-street, Ipswich.

Kendal.—Extensions to vagrant ward (400L.); Mr. M. G. Shaw, architect, 45, Highgate, Kendal.

Kidderminster.—Additions to premises, Hurst street, for Messrs. Tomkinson & Adam, carpet manufacturers; additions to Caldwell foundry, for Messrs. Bradley & Thurton, Ltd., ironfounders.

Kettering.—Disinfecting-station; Mr. T. R. Smith, Surveyor, Town Hall, Kettering.

Lancaster.—Proposed sanatorium; Mr. J. C. Mount, Town Hall, Lancaster.

Lancs.—Schools, Fleetwood, Horwich, Waterloo, and Whitworth; Mr. H. Littler, architect, 16, Ribblesdale place, Preston.

Leeds.—Proposed church schools (9,000L.); (car, St. George's Church, Leeds).

Leith.—Warehouses, corner of Shore and road Wynd, for Messrs. R. & D. Slimon, ironmongers, Shore, Leith.

Lisburn (Co. Antrim).—Theatre; Mr. T. Houston, architect, 17, Wellington place, Belfast.

Little Mill (Mon).—Reformatory; Mr. J. Ains, Architect, Shire Hall, Newport.

Liverpool.—Proposed baths at Pierhead (for W. R. Court, Baths Engineer, Town Hall, Liverpool).

Llanelli.—Proposed fifty houses; Mr. George Jones, Surveyor, Urban District Council Offices, Llanelli.

Malby.—Churches at South Elmsall and Malby (5,000L.), for the Yorks Congregational Union.

Malvern Link (Worc).—Enlargement of school (700L.); Messrs. Pritchard & Pritchard, architects, Bank chambers, Kidderminster.

Manchester.—Parochial hall and classrooms; ex. C. P. R. Muir, The Priory, Victoria Park, Manchester.

Margate.—Ten houses (about 700L.), for the Margate Philanthropic Home; Mr. W. J. Evers, architect, 12, Marine-terrace, Margate.

Meltham.—Extensions to hospital (1,500L.); Mr. F. Dearnley, Surveyor, Urban District Council Offices, Meltham.

Middlebrough.—Tower to church (4,000L.); Messrs. J. Sainsbury & Sons, architects, 1, Morrison.—Open-air swimming-bath at Morrison Park; Mr. G. Ball, Engineer, Town Hall, Swansea.

Mytholmroyd.—Sixty-two houses, New House estate, for Messrs. Helliwell & Shaw, Sowerby ridge.

Neath.—Locomotive shed for the Great Western Railway Company; Messrs. C. H. Hunt & Sons, builders, Station Works, High Wycombe.

Newburn.—Proposed remodelling of works for Messrs. J. Spencer & Co., Ltd.

New Mills.—School (250 places); Mr. A. E. Iwards, Clerk to the Governors of New Mills and District Secondary Schools, Spring Bank.

Newry.—Additions to Town Hall; Mr. Charles Blayney, Surveyor, Town Hall, Newry.

Northampton.—Workmen's dwellings, Beeve Estate (8,946L.); Mr. J. W. Goswage, Elder, care of the Clerk, Town Hall, Northampton. Additions to Far Cotton School (71L.); Mr. G. J. Fisher, builder, 6, Castilian-terrace, Northampton. The following plans have been passed:—Motor garage, Weston chaff, Weston street, for the Northampton Brewery Company, Ltd.; additions to factory, Giles's-terrace, for Mr. S. S. James; additions to Nos. 56 and 57, Kingsthorpe-road, for J. R. Newcomen; additions to factory, Waver-road, for Messrs. G. M. Tebbutt & Co., Ltd.

Norton (L.W.).—Additions to St. Andrew's church, for the Vicar.

Oldham.—Proposed enlargement of Water-Addings Wesleyan Church Schools (1,000L.), for the Trustees.

Paisley.—Additions to No. 54, High-street and No. 104, George-street, for the Paisley Provident Co-operative Society, Ltd.

Portsmouth.—Stores at Camber (8,837L.); Messrs. McLaughlin & Harvey, Ltd., builders, 15, Brecknock-road, N.W. Boatswain's office, etc. (Flahou (540L.); Messrs. Jones & Sons, builders, Portsmouth.

Prossell.—Additions to garage for the Knot Motor Company.

Preston.—St. Cuthbert's Church; Mr. T. Moore, architect, Well-walk, Hampstead, N.W. Ramsbottom.—Proposed institute; Vicar, St. Paul's Church, Ramsbottom.

Ravenshall.—Alterations at Constable Works for the Cotton Celulose Company, Ltd.

Richmond-on-Thames.—Cookery centre, corner of Halford and Paradise streets; Mr. H. Sagar, Education Offices, Richmond.

Ridder.—Proposed workmen's dwellings; Mr. A. B. McDonald, Engineer, City Hall, Glasgow.

Rossendale.—Rebuilding Sunday-school (2,000L.); Trustees, Waterbarn Baptist Church, Rotherham. Alterations to Badesley Moor-lane Sanatorium; Mr. W. C. Harrison, Clerk, Guardians' Offices, Rotherham.

St. Albans.—Sunday school and institute; Vicar, St. Paul's Church.

St. Austell.—Proposed additions at work-house; Mr. John Stephens, Clerk, Guardians' Offices, St. Austell.

Salford.—Plans have been passed for alterations and additions to four warehouses in Clegg's-court, and alterations and additions to "Victoria Inn," Ordsall lane.

Sedgefield.—Hospital (700L.); Mr. J. W. Lodge, Clerk, Guardians' Offices, Sedgefield.

Sheffield.—Mission hall, Bath-street (1,250L.), for the Trustees, St. Andrew's Presbyterian Church; Rev. W. Marcus, Pastor, 19, Victoria-road, Sheffield.

Skelton.—Dispensary; Mr. A. Burton, Surveyor, Town Hall, Skelton.

Southampton.—Erection of Regent's Park School (15,164L.); Messrs. Jenkins & Sons, Ltd., builders, 149, Above Bar, Southampton.

Stafford.—Headquarters, Bailey-street, for the 6th Staffs Battery R.F.A. and Staffs Yeomanry.

Stirchley.—Central premises for the Ten Acres and Stirchley Co-operative Society.

Sutton.—Proposed girls' school; Mr. Ramsay Nares, County Education Offices, Kingston.

Swadincote.—Proposed Roman Catholic Church for Trustees, St. Edward's Church, Newhall.

Trowbridge.—Extensions to offices (12,000L.); Mr. J. G. Powell, Surveyor, County Hall, Trowbridge.

Truro.—Hostel; Mr. F. L. Pearson, Ashley place, Westminster, S.W.

Waddington.—Proposed restoration of Parish Church (1,000L.), for the Vicar.

Warrington.—Proposed extension to car sheds; Mr. J. Telfer, Tramways Manager, Town Hall, Warrington. Plans have been passed for extensions of works in Vernon-street for the Vernon-street Tanning Company, Ltd., and for additions to St. Elphin's Church for the Trustees.

Weardale.—Church (5,000L.); Messrs. Clark & Moscrop, architects, Feetham, Darlington.

Weymouth.—New bakeries, etc., for the Weymouth Co-operative Society.

Whitley Bay.—Hall, Grosvenor Estate, for the Vicar, Parish Church, Whitley Bay.

Wigan.—Church; Vicar, St. Paul's Church, Goose Green, Wigan.

Wolverhampton.—Proposed completion of the reconstruction of Wolverhampton and Staffs General Hospital (54,100L.), for the Governors.

Woburn Green.—School; Mr. W. Riley, Architect, County Hall, Aylesbury.

Worcestershire.—Proposed school (300 places), Bromsgrove, and school (400 places), Catshill; Mr. A. W. Priestley, County Education Offices, 37, Foregate, Worcester.

Yarmouth.—A plan has been passed for ten houses, Hamilton-road, for Mr. J. S. Read.

York (Glasgow).—Additions to works for Messrs. Bull's Metal and Melloid Company.

FOREIGN AND COLONIAL.

Rebuilding of Hankow.

In his Trade Report for the year 1911 the Commissioner of Maritime Customs at Hankow states that, as a result of the revolution in China, the once rich and prosperous native city of Hankow is a heap of charred ruins—an area of 2 square miles, formerly occupied by a network of streets full of fine shops and teeming go-downs, having been utterly destroyed. To attempt to assess the damage would be futile—100 million taels or 500 million taels might equally be near the mark. The blotting-out of the city has been the cause of untold misery to thousands of its

former inhabitants; but the cloud is not without some silver lining. The city consisted of a congested mass of buildings of all sizes, with the usual narrow lanes and insanitary conditions, and only its destruction would ever have made possible the city on modern lines which is absolutely required for the proper development of the port. Much raising of the land behind will be necessary before the new city can be built, but plans are being drawn up to utilise the old site with a view to future extension. With local desolation and general disturbance, it is hard to prophesy when Hankow will recover. An old experienced Chinese merchant holds that not less than thirty years will be required; the writer, with eight years' experience of its growth under great difficulties, expects that the third year of a settled government will see its trade greater than ever. Immense sums will have to be spent on the new city, but it is only reasonable to suppose that China as a whole will come to the aid of the place which has been destroyed in establishing the Republic. The local leaders have shown wisdom throughout, and may be expected to rebuild the city properly. The old site is too small; the new city should be planned with a view to using the triangle between the railway and the rivers entirely for business purposes, and driving both the residential and poor quarters to the other side of the railway. An excellent thing for Wuhan would be an electric tube under the river, the power plant also lighting Wuchang and driving trackless cars; it appears to offer few difficulties, and a double line would cost under 1,000,000L., perhaps only 700,000L. It would provide the needed medium of communication both for the present and when the Canton Railway reaches Wuhan, and would relieve the congestion at Hankow by the waste hills and lands on the Wuchang bank of the river being taken into residential occupation, the enhanced price for which the Government could sell such land going far to pay the cost of laying the line. Such a tube would be far more effective than the constantly mooted bridge, which a competent foreign engineer has estimated to cost 6,000,000L., apart from cost of land approaches, and which would cost a large sum for upkeep.

Building, etc., Straits Settlements.

The Registrar of Imports and Exports at Singapore (Mr. A. Stuart) reports that the Budget of the Straits Settlements for 1913, subject to possible modifications before final approval, makes provision for the expenditure of the sums named on the following public works, viz.:

Singapore.—New District Court, 48,000 dollars; offices at Government House, 60,000 dollars; extensions to printing office, 64,000 dollars; additions and alterations to the general hospital, including electric lighting, about 335,000 dollars; installation of water carriage sewerage system at hospitals, gaols, and asylums, 90,000 dollars; new lunatic asylum (total estimated cost of 750,000 dollars), 100,000 dollars; new school, 60,000 dollars; kitchen including boilers, rice steamers, light rails, and trucks at Quarantine Station, 21,350 dollars; lining part of banks of Rocher Canal with concrete (total cost of 225,500 dollars), 37,500 dollars; river improvement works, 40,000 dollars.

Penang.—Improvements to Fort Cornwallis light (total estimated cost of 170,000 dollars), 60,000 dollars; new school, 49,000 dollars; hill railway, 100,000 dollars; installation of reservoir filtering apparatus at Bukit Panchor, 95,000 dollars.

Malacca.—New hospital at Jasin, 70,000 dollars; reclamation wall to reclamation, 25,000 dollars; a bridge over the Kesang River, 20,000 dollars; purchase of three 6-ton road rollers, 13,000 dollars. (Dollar equals 2s. 4d.)

Builders' Supplies, Canada.

H. M. Trade Commissioner for Canada reports that a firm at Montreal, who state that they have business connexions with architects and builders in that city, are desirous of obtaining agencies to cover Montreal and Quebec of British manufacturers of builders' supplies, such as architectural terra-cotta, fire-bricks, tiles, steel window-sashes, etc. The name and address of the firm may be obtained by British manufacturers on application to the Commercial Intelligence Branch, 73, Basinghall-street, London, E.C.

Medical Laboratory Equipment, South Africa.

H. M. Trade Commissioner for South Africa reports that the Union Government have given a site on Hospital-hill, Johannesburg, for a new institute for medical research. The Witwatersrand Native-Labour Association is stated to be contributing 40,000L. towards the building and equipment. The institute will be maintained conjointly by the Government, the Witwatersrand Association, and the Provincial Council.

THE CONCRETE INSTITUTE: BILLS OF QUANTITIES FOR REINFORCED CONCRETE.

MR. E. P. WELLS (President) took the chair at an ordinary general meeting of the Concrete Institute held at Denison House, Vauxhall Bridge-road, on November 28, when Mr. John M. Theobald read a paper on "Bills of Quantities for Reinforced Concrete Work."

Mr. Theobald said he made no reflection upon the quantities supplied by the specialists under the present system either upon the score of inaccuracy or otherwise; his criticism was solely directed against the system and not against its exponents. Reinforced concrete, from the point of view of the quantity surveyor, had but recently emerged from a healthy infancy, but now that its employment was being adopted on all sides there was a feeling, not confined to members of his own profession, that the specialist contractor should receive the same treatment as the builder, and it was with the grounds of that opinion that he proposed to deal. In advocating the claims of the quantity surveyor in connexion with reinforced concrete he knew he would be told that time did not admit of his employment and that until the details were complete he would be unable to commence his work, and the delay entailed thereby might be considerable. He admitted the objection, and his reply was that the client must wait. There might, of course, be cases in which rapidity of construction was everything, and under those circumstances he said at once that the preparation of bills of quantities by a quantity surveyor was impracticable. He might still, however, be advantageously employed in the preparation of a schedule of prices and subsequent measurement. Under the present system the quantities issued by the concrete specialists by their own showing were prepared before the working details were complete. He believed that under the present régime their correctness was not guaranteed, which, assuming for the sake of argument that the drawings from which the building was subsequently erected differed from those from which the quantities were prepared, would seem to press unduly upon the contractor. He urged even more emphatically the employment of a fully qualified quantity surveyor for the preparation of quantities for reinforced concrete when they arrived at the question of variations. Dealing with the point of method of measurement, he said he had in his office a bill of quantities prepared by a firm of specialists in reinforced concrete for a building the cost of which ran into five figures. It consisted of three items—concrete, centering, and reinforcement. With the greatest respect, he said that no contractor, however experienced, could price that bill with any degree of accuracy, and he did not see how he could be expected to do so. Contractors, they all knew, would price anything, and this particular job had no doubt been priced on the "what I lose on the swings I gain on the roundabout" principle, at a covering price to include all the cuttings, circular work, etc., that had not been measured. The time, however, had now arrived when bills of quantities for reinforced concrete should justify their existence, and be, in fact, such as would enable the contractor to form an accurate idea of the work involved, which, in his opinion, he could not do under the present system. Mr. Theobald proceeded to make a number of suggestions as to the method of measurement, not with the idea of laying down any hard or fast rules, but with the object of obtaining the views of others. In the first place, he thought all concrete and centering should be kept separate on the various floors. The concrete in walls, floors, beams, stanchions, stairs, etc., should also be separated, but he did not consider it necessary to further subdivide the concrete. The prices of concrete and reinforcement were easily arrived at, and varied but little. From his point of view the centering was by far the most difficult item for a contractor to price, and it was therefore absolutely necessary that the description should be as full as possible and every variation and labour either measured or described. Commencing with wall centering, if circular it should be so described, and the radius given. Then, with regard to the vexed question of deduction for openings, he believed, unless very large, it had hitherto been the custom to assume the centering went across the openings, and, consequently, to ignore them. These openings should be deducted, and a numbered item taken of centering to openings

of various widths and heights—averaged where similar in size, but not otherwise. This item he had seen measured per foot run, but, as the chief cost was that of maintaining the supports of the wall centering in which the openings occur, it was essential that the contractor should have the actual sizes—an average of the same would be incorrect because misleading. Floor centering needed no discussion. He would only mention that all raking or circular cutting and waste should be measured. The centering to beams should be measured per foot super—circular being, of course, kept separate—including all cutting at angles, etc. If the beams were played on bottom edge, he would measure either "Extra labour forming splay blank width on edge of beam casing"; "Angle fillet blank width and fixing on edge of beam casing to form splay"; or, take the item "Including all splayed edges"; the latter, however, he considered unsatisfactory. If the beams were irregular or unusual in shape, he would keep the centering separate and give a sketch.

The centering to small beams, say, 18 in. girth and under, he would measure per foot run. The centering to columns and stanchions should be measured per foot super, every variation in the shape being kept separate and fully described. He preferred to include all cutting in the description, but it could, of course, be measured separately, though he saw no object in doing so. All extra labour, such as from octagonal to square, he should number as "Extra over centering for —," giving a full description. Centering to stairs should be measured per foot super, as "Centering to sloping soffit of stairs." If "fleving," it should be measured separately. All edges of concrete floors, well-holes, sides of steps, etc., should be measured per foot run, giving the thickness, but if 12 in. thick or over, per foot super. All centering should include for all necessary strutting up from floor below or otherwise supporting.

The steel reinforcement being only of light bar it was not necessary to separate the various weights on each floor. Bends, hooked ends, etc., when forged, should be numbered. Stirrups and ties should be numbered, giving the diameter and length of the wire.

Sir Henry Tanner wrote that he quite agreed with the principles of the author. The practice of inviting design and tenders in open competition was, in his opinion, unsatisfactory. It led to cutting down of the most vigorous mind, although the design might be within the limit laid down. The quantities prepared by specialists were generally based on the French system, which was very comprehensive in the details. It was not usual to find a staircase put down as one item, whether of stone or wood. This was not what they were accustomed to in England, and the results were difficulty in adjusting variations, and, he presumed, in the majority of cases the building owner suffered. Another matter having very serious results on the progress of the work was the multiplication of sections differing by $\frac{1}{2}$ in. in diameter. The mills could not be got to put in rolls for the small quantities involved, whereas there would be no difficulty if pains were taken to add a little to some and take off a trifle from others and adjusting distances apart. Under the present system the delays that took place at the commencement were appalling. The drawings showing the plans and sections and generally the positions of the beams and stanchions were prepared by the architect and, together with a specification and conditions of contract, were supplied to persons desiring to tender. This labour would be appreciated by architects, and added considerably to their expenses. With the tenders were supplied some calculations and a few typical details, and, the contract having been secured after examination of these details, they were at the tender mercy of the specialist, and he suited himself or the contingencies of his business as to the supply of the rest. It was the builder who was answerable to the building owner, and the specialist could generally shuffle out of any responsibility. The consequence was that the ordering of steel was delayed and the time allowed to the mills was altogether insufficient in normal times. In his opinion the specialist, like the architect, should always be ready with the whole of his drawings, and the quantities should be properly prepared by a surveyor in the English system. If reinforced concrete building was to become popular it must be made as simple as possible, which meant economy, and generally was entirely advantageous.

Mr. W. E. H. Burton (West Riding of Yorkshire) wrote that if the paper resulted in a quantity surveyor becoming duly recognised as a necessary agent in the carrying out of work on reinforced concrete it would inaugurate a new era that would be hailed with delight by architects and contractors alike. Under the present system it was wellnigh impossible to secure satisfactory competitive tenders.

Mr. Alban H. Scott said, if it were not serious the attitude which architects took towards so-called specialists would be humorous. The architect lost all caste by dealing with them the way many of them did. The architect threw the whole responsibility on to them, but, of course, could not get rid of his legal responsibility. Foreign specialists came over and secured the builders by getting them to pay large sums for licences, and that was why builders were willing to put up with the inconveniences and losses they did.

Mr. T. A. Watson thought at the present time there was too much haste in the preparation of reinforced concrete schemes. If the author's scheme were carried out the architect or building owner would have to decide on a firm of reinforced concrete specialists to carry out the work and on the engineer who should design the work. Under the present state of affairs a contractor was asked to tender at four or five different schemes.

Mr. A. G. Cross generally agreed with the author, but did not think the benefit which would follow to the building owner by the employment of a quantity surveyor had been sufficiently emphasised.

Mr. S. Bylander considered that the thing should be made as simple as possible, as pointed out how he would measure.

Mr. T. E. Bare pointed out that one of the difficulties of the quantity surveyor would be the question of steel, and he suggested, with regard to that, they should have provisions quantities calculated from constants, then the would not be in a difficulty with regard to the detailed drawings not being prepared in time. A fair estimate of the amount of steel which would be required could be arrived at in that way.

Mr. W. G. Perkins (Holborn) remarked that what it really came to was that the architect should learn a little more about reinforced concrete, and should be able to design his floors, beams, and stanchions in such a way that he was able to show on his drawings approximately the number of bars, their arrangement and diameter, and so on. The quantity surveyor would thus be able to measure them and put it into his bill. That would give the builder something to price and give a basis on which to measure extras and omissions.

Mr. R. M. Kearns did not agree with the author as to the method of measurement. He considered that labour items should be included as far as possible, as they were liable to be overpriced, particularly as regarded centering.

Mr. W. E. Davis thought that the author's suggestions as to measuring would meet with general approval. One point he had always had a doubt about was the re-use of centering. They might get a warehouse with five or six floors, and it made a great difference as to the number of times it could be used on the same building. Any suggestion as to how that could be dealt with in the bill of quantities would be useful.

Mr. G. Cordery believed with the numerous systems of reinforced concrete it was impossible to lay down any one system of measurement. The trained mind of the surveyor must be applied to the circumstances before him, and he must produce a bill of quantities which would present in an ordered form the varieties of work which had to be done, having due regard to the methods of construction which would be employed in connexion with the particular system which it was anticipated would be used. He thought the time was coming when engineers would design in reinforced concrete as in other materials, but he did not think the materials would be largely used in domestic or civil architecture.

Mr. W. R. Wood suggested that it was time that the 'Surveyors' Institution should call a meeting with the Quantity Surveyors' Association, and, with the assistance of the ferro concrete specialists, formulate a system of measurement which would be generally adopted.

The President, having demonstrated on the blackboard how he himself took out quantities for reinforced concrete, further discussion was adjourned till December 12.

THE INSURANCE ACT.

It is becoming day by day more apparent that the decision by Departments as to the cases of persons who do or do not fall within the terms of an Act of Parliament is not a satisfactory method of procedure nor a good substitute for the practice hitherto in force of referring such questions to be decided in the Courts. Under the Insurance Act the Insurance Commissioners in the first instance decide whether a person is an insured person under Part I. of the Act, whilst under Part II. of the Act relating to unemployment the decisions of the Unemployment Commission are final. The Unemployment Commission number over 1,000. Yet it is open to doubt whether, in the light of all these decisions, the public is in the least better informed as to what classes fall within the Insurance Act. The reason for this is that the principle can be deduced from the provisions of the Act that the Insurance Commissioners are to decide upon the facts of each case, and, as they multiply, confusion is worse confounded, as a multitudinous number of decisions laying down no general principles are absolutely useless in securing a uniform interpretation of any Act of Parliament. We can illustrate these observations by a reference to one or two of the cases recently decided by the Commissioners. On October 21 inquiry was held as to the status of certain persons working for local authorities. One case was that of a stone-breaker who verbally contracted to break stones, having occasional engagements on account, but not being entitled to the payment of the whole sum until his contract was completed. It was stated that the man had not been dismissed until the work contracted was done, and that the only supervision he was subjected to was that of a surveyor who saw that the work was properly done. There were other cases as to men engaged in road repairs, digging, etc., under similar conditions of service. In the *Times* of November 19 the decision on these cases was announced as follows:—"The Commissioners hold that the persons contracting for labour under the Local Government and Rural District Councils under conditions detailed at the hearing on October 21 not liable to be insured in respect of such occupations. This decision is given on the grounds of the particular cases submitted at the hearing, and it will not necessarily apply to all persons who contract to do work for local authorities." Now, had these cases come before the Courts for decision some principle would have been laid down which would have been a guide in all cases of a like nature. The principle is not hard to find because, by reference to the decisions under other Acts of Parliament, it will be seen that the above persons were not employed "under a contract of service" within the definition contained in Schedule I. of the Insurance Act, but were independent contractors. A contract of service creates the relationship of master and servant, and in determining whether such a relationship has been created the two most important points to consider are whether the work contracted for is to be done under the direction and control of the person for whom it is being carried out, and his power of dismissal. In the above cases these elements were absent, and thus the persons were independent contractors and not servants.

In the case of such persons must not be confused with those who are employed by one person, but are engaged in the business of some employer. Under the Insurance Act in certain circumstances the employer in whose business they are engaged is then deemed to be the employer of such persons, although no contract of service exists between them, but they are working under contracts of service with an immediate employer, although the Act does not place the burden in the first instance to the employer. The independent contractor is working under no contract of service with anyone.

LEGAL COLUMN.

Metropolitan Water Board : Recovery of Rates. Without going into the legal technicalities involved in the case *Metropolitan Water Board v. Dunn* we may draw the attention of readers to the conclusion arrived at by a Divisional Court. The Water Board were owing for eight quarters' water rate, and more than six months had elapsed since the last quarter's rate had accrued due. The first six quarters were supplied under the statutes

relating to the old Lambeth Water Company, but this did not affect the decision, which was to the effect that under the Metropolitan Water Board Charges Act, 1907, read in connexion with other statutes, the limitation of six months within which proceedings must be taken only applies where summary proceedings are taken before justices, and has no application to proceedings in the County Court.

Damage to Plate-Glass Windows.

The decision of a Judge of the High Court in the case *London and Manchester, etc. Insurance Company, Ltd., v. Heath*, that the damage done by Suffragettes to plate-glass windows was not caused "directly by or arising from civil commotion" within the meaning of a policy of reinsurance, is one of considerable importance to the public. The advocates of female suffrage, to forward their political views, have committed a series of outrages against certain members of the public who have no direct interest in their political propaganda.

In certain policies of insurance damage from riots and civil commotion is expressly excepted, and had an action been brought upon such a policy the defence would, no doubt, have been raised that wanton damage done for an alleged political purpose came within that exception. It now appears that such a defence would not hold good, but it behoves all owners of property to examine their policies to see if they are protected from the modern attentions of the gentler sex! No doubt in many policies the words referring to "civil commotion" have been deemed sufficient to cover the class of damage now sustained; but although the above decision shows that this is not the case, it does not follow that the policies contain general words covering this class of damage, and, therefore, the result may be that many persons are practically uninsured. Owners of premises liable to such damage will be well advised to take legal advice on the terms to be used in such policies.

Under the Trade Disputes Act, as we showed last week, no civil action will lie against a trade union for any tort, and yet political powers are being conferred upon them. If at times of excitement at elections damage is done to property by or on behalf of trade unions this might equally not be "civil commotion," and, even if it were, access to the Courts for any civil remedy is closed.

It is clear that insurance policies should contain a special clause relating to damage done "in contemplation or furtherance of political opinions."

LAW REPORTS.

KING'S BENCH DIVISIONAL COURT.

(Before Mr. Justice AVORY.)

Metropolitan Water Board v. Johnson & Co.

In the absence of Mr. Justice Channell the judgment of the Court in this case was delivered by Mr. Justice Avory. The case came up from the Westminster County Court on an appeal by Messrs. Johnson & Co. (builders) against a decision in favour of the Water Board. Some time ago the builders carried out certain work at Hounslow Barracks. Under their contract with the War Office they said they were to have the necessary water free. The War Office had a supply by meter for domestic and non-domestic purposes, and it was now urged by Messrs. Johnson & Co. that the Water Board were not entitled to charge them, in addition, at the rate of 7s. per cent, on the probable cost of the work. The County Court Judge allowed the claim of the Water Board, and his Honour's decision was now upheld by the Divisional Court.

Mr. Justice Channell, in the course of his judgment (which was read by Mr. Justice Avory), said, in his opinion, the appeal of the builders ought to be allowed, but as Mr. Justice Avory agreed with the decision of the County Court Judge the appeal would be dismissed. He thought this was a proper course to follow in circumstances where two judges heard an appeal and held different views on the matter. The account sued for was only 15s., but the question involved in the case was of great importance. Therefore there would be leave to take the case to the Court of Appeal. In his opinion, the wording of sect. 17 of the Act meant "persons who desired to become customers of the Board for their water." The supply of water was a matter of statutory contract, and if the War Office were breaking their contract by using the water passing through their meter for building purposes they might, no doubt, be proceeded against. He did not, however, think this case differed from that of a person supplied with water by meter who under-let part of his premises and arranged that his under-

tenant should use the water. His Lordship saw no ground for saying the statute was intended to give the Board power to charge builders a higher rate than other persons, and if the Board wanted to prevent this sort of thing he thought they should embody in the schedule of their agreements the words "non-domestic, otherwise than for building operations," or something to that effect.

Mr. Justice Avory, delivering his own judgment, said he thought the appeal should be dismissed. It appeared to him that sect. 17 of the Act must be read as ancillary or supplementary to sect. 15, and that the effect and meaning of sect. 17 was that a builder who had need of a supply of the builder's water for the purposes of his building operations must make a request for such supply and pay the special charge. He did not think a builder could be heard to say he did not require the water because he had succeeded in obtaining it without making a request to the Board under sect. 16.

The appeal was dismissed with costs, and leave to appeal further was granted on an application by the builders.

Mrs. W. O. Danckwerts, K.C., and Mr. Mickelthwait were for the builders; and Mr. Clavell Salter, K.C., and Mr. Goodland represented the Water Board.

OFFICIAL REFEREE'S COURT.

(Before Mr. EDWARD POLLOCK.)

Contractors' Heavy Claim :

Pethick Brothers v. Metropolitan Water Board.

THE hearing was begun on December 2 of an action by Messrs. Pethick Brothers, contractors, of Plymouth and London, against the Metropolitan Water Board, from whom plaintiffs claimed 16,121l. 7s. 4d., balance of an account in respect to the construction of filter-beds, a reservoir, etc., at Long Ditton, Surrey.

The plaintiffs' case was that by a contract dated December 28, 1906, they undertook to carry out the works in question for the defendant Board at a total cost to the latter of 54,783l. The plaintiffs alleged that they had been permitted to go on with the work until October, 1907, when defendants had wrongfully declined to allow them to finish the work, dismissed them from the site, and unjustifiably used their tools, materials, and plant.

The defendants admitted the contract, but pleaded that it was a term thereof that the work should be finished within a certain specified date. They said that there were two clauses, the first of which stated that the contractor should finish and deliver up to the Metropolitan Water Board the whole of the works and should complete the removal of all temporary works within a period of eighteen months; that three of the filter-beds and so much of the pipe-lines, and other outfall works, as might be necessary for their proper and efficient working, should be completed within a period of six months from the date of the Engineer's certificate to commence the work, the whole of the works to be delivered up and complete in every respect and in a good and proper condition. The other clause stated that should the contractors during the continuance of the work in the opinion of the Engineer fail to proceed with the work with such diligence as to ensure its completion within the specified time the Board might determine the contract, take possession of the works, plaintiffs' tools and materials, and use or sell them as the absolute property of the Board. On January 7, 1907, the plaintiffs were ordered by the Engineer to begin work, and the defendant Board alleged that in October of that year the whole of the work was greatly in arrear, with the result that the Engineer gave his certificate to the Works and Stores Committee of the defendant Board, certifying that in his opinion the contractors had not and were not proceeding with the work with that diligence that would bring about its completion within the stipulated period. The Board determined the contract, as they claimed they had a right to, and took possession of plaintiffs' tools, materials, and plant then upon the site. The Board admitted that plaintiffs had not yet been paid the balance of the value of the work carried out by them before the determination of the contract, but they denied that there was a sum of 16,121l. 7s. 4d. due to the plaintiffs. The defendants counter-claimed for 1,394l. 6s. 6d., which they alleged was due to them as the result of plaintiffs' non-compliance with the contract. Owing to the delays and the necessity to determine the contract the Board had had to employ other contractors to complete the work, involving charges to the Board of 13,617l. They admitted, on the other hand, that plaintiffs should have credit for a sum

of 12,223l., which defendants claimed to retain against the 13,617l. That left 1,394l. as the amount counter-claimed for by defendants.

The plaintiffs raised numerous defences to the counter-claim. They alleged, amongst other things, that on October 2, 1907, the Engineer withheld necessary instructions and directions as to the method of carrying out the works, and that he was not competent to give the certificate. The plaintiffs further alleged that in purporting to give this certificate the Engineer did not exercise his judgment. Plaintiffs denied that they were responsible for any delay, or that they were guilty of any lack of diligence. In regard to the counter-claim, they claimed that the Engineer had no power to authorise the defendants to deduct any sums which would otherwise become due to the plaintiffs. Nor was a certificate of April 23, 1911, a further certificate as required by Clause 35 of the contract.

Mr. A. Hudson, K.C., and Mr. Arnold Inman (instructed by Law & Worsam, agents for Bond & Pearce, of Plymouth) appeared for the plaintiffs, and Mr. Holman Gregory, K.C., and Mr. J. Goodland (instructed by Walter Moon) represented the defendants.

Evidence was called on behalf of the plaintiffs' case, the first witnesses being Mr. Arthur Henry Pechick, partner of the plaintiff firm. The hearing was continued on the 3rd, and on December 4 when Mr. Pollock took his seat Mr. Hudson said that under the circumstances he must withdraw certain parts of his clients' reply and defence to the defence and counter-claim. He could not proceed with the suggestions that the Board's Engineer had failed to give directions; that he was not competent to give the certificate; and that in giving the certificate he did not exercise his judgment.

Mr. Frank Pollock, who was in charge of the work at Long Ditton, gave evidence, and eventually Mr. Ernest Selby, of Messrs. Selby & Sanders, quantity surveyors, of Caxton House, Westminster, was called. Mr. Selby stated that they were employed by plaintiffs to measure up this work. They completed the measuring-up of the work and submitted draft accounts to December, 1907, and early in 1908 they effected a total up to a certain point. That was to say that they agreed upon a total for the value of the work done, but not for the plant, and they did not agree for any amount that the Board might claim against their clients. When they were measuring with another firm they were aware that a counter-claim was being made. The witness added that the agreed figure was 13,948l. 7s. 6d. for the value of the work done, after making deductions in respect to materials supplied by the Board and allowances in respect to the value of materials on the site.

Mr. Holman Gregory contended that his points had been proved by the evidence called for the plaintiffs.

[Mr. Hudson was advancing legal points when we went to press.]

OFFICIAL REFEREE'S COURT.

(Before Mr. EDWARD POLLOCK.)

The Erection and Removal of a Tudor House : Tibbenham v. Gill.

THE further hearing of this claim by the plaintiff, Mr. Frederick Tibbenham, of Lower Brook-street, Ipswich, for the recovery of 1,687l. balance of an account from the defendant, Mr. John Hamblet Gill, of Oxford-street, London, in respect to work done and materials supplied in the removal of a Tudor house at Hawstead, near Bury St. Edmund's, and its re-erection at Clacton-on-Sea, for which furniture was supplied, was to have taken place on Mr. Pollock's return from the country, where he had been engaged, since the adjournment, in trying another action.

On Friday, November 23, the case of Tibbenham v. Gill came before Mr. Pollock in town by way of summons.

We understand that the case has been settled on terms agreed between the parties.

The defendant had raised various defences in the pleadings, and a summarised report of the plaintiff's examination and cross-examination was published in the *Builder*.

CHANCERY DIVISION.

(Before Mr. JUSTICE PARKER.)

Action By and Against Contractors : J. Aird and Co. v. the Tanjong Pagar Dock Board.

THE hearing was continued this week of the cross-claims in the action, the plaintiffs claim being against the defendants for 500,000l. as damages for alleged breach of contract in connexion with the construction of a wet dock at Singapore. Plaintiffs, the well-

known contractors, allege that the defendants misrepresented the conditions under which the contract was to be carried out, and therefore that they were justified in repudiating the contract. Defendants denied these allegations, and served a notice on the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiff firm and a party to the contract, making a claim against his estate of about 1,000,000l. as damages for alleged breach of contract by the plaintiff firm. Mr. Upjohn, K.C., Mr. Macnaghten, K.C., and Mr. Schwann appeared for the plaintiffs; and Sir R. Finlay, K.C., Mr. George Cave, K.C., Mr. Romer, K.C., Sir Hugh Fort, Mr. Mathews, and Mr. Hull for the defendants. [The case was proceeding as we went to press.]

LONDON COUNCILS.

Barnes.—The Local Government Board is to be petitioned to issue an order authorising the Council to purchase compulsorily lands and premises necessary for carrying out improvements at Barnes High-street.

Bernersley.—Plans have been passed for Messrs. Enthoven & Son, Ltd., Upper Ordnance Wharf, Rotherhithe, S.E., for additions to lead smelting works in Rotherhithe-street; as have also plans by Messrs. Stephens & Son, 55, Hill-street, Woolwich, S.E., for the erection of additions to No. 251, Southwark Park-road, for Mr. Thomas Bernard, 1, Rotherhithe New-road.

Bethnal Green.—The General Purposes Committee of the Borough Council have decided to adopt the Public Libraries Acts, and they have authorised the Town Clerk to communicate with Mr. Andrew Carnegie with a view to obtain his assistance in the matter of the cost to be incurred by the Council in erecting a library.

Camberwell. Plans and estimates by the Borough Engineer have been approved for paving Pickwick-road as a new street. The estimated cost is put at 875l. Plans have been passed for Messrs. Hichison & Co., Messrs. Ashhead & Ramsey, and Messrs. Watson & Kilwood, for the erection of a picture palace at the corner of Well-street and Blackbridge-street; a building in Peckham-road; and a garage at the Grove Hotel, Dulwich Common-road, respectively.

Croydon.—Application is to be made to the Local Government Board for sanction to borrow 6,000l. for the erection of a firestation at Thornton Heath. The tender of Mr. G. Lewin, Croydon, at 274l., has been accepted for erecting a shop and stores at Waterworks-yard, Surrey-street. The Roads Committee report that the Improvements Committee of the London County Council propose to recommend that a widening of the tramway terminus at Norbury be proceeded with. The scheme provides for the widening of Hermitage Bridge at a cost of 380l. The Housing Committee have been authorised to prepare a scheme under the Housing and Town Planning, etc., Act, 1909, dealing with land between Waddon and Russell-hill. Tenders are to be invited for the erection of a branch library at Thornton Heath. The following plans have been passed:—Mr. E. J. Saunders, 48, Wellesley-road, mission hall, Boston-road; Mr. R. B. Manser, Beddington, three houses, Teevan-road; Mr. J. E. Trimble, Kilmarin-avenue, six houses, Strathroy-avenue; Messrs. W. Smith & Sons, London-road, vicarage, Elmwood-road; Messrs. Luscombe & Son, Paddington, tower to St. Michael and All Angels Church, Poplar-walk; Mr. W. T. Taylor, Stamford-road, additions to Whitgift-street Hall; Mr. C. H. Gibson, 42, Park-lane, three houses, Clyde-road; Mr. P. Richardson, 30, Addiscombe-avenue, three houses, Woodside Green; Messrs. W. Aston & Co., Thornton Heath, twelve houses, Ederline-avenue; Messrs. Berner & Son, 104, Forge-street, extensions to Gas Company's offices, Katherine-street; Mr. C. Taylor, 9, Bingham-road, seven houses and shops, Lower Addiscombe-road; Mr. O. Gray, 39-41, New Bond-street, six houses, Pollards-hill West.

Deptford.—A portion of Whitepost-lane is to be made up and paved as a new street. The following plans have been passed:—Messrs. C. Miskin & Sons, Ltd., additions to St. Mary's Church, Erlam-road; Mr. J. H. Forbes, buildings, New King-street, for Messrs. Vornberger & Co., Ltd.; Messrs. Wright & Co., three blocks of flats, Brookmill-road; Mr. F. Danby Smith has lodged plans with the London County Council for the erection of additions to the Electric Palace in High-street.

East Ham.—The Borough Engineer has been directed to prepare plans and estimates for making up Beauford-road. Messrs. Reddon & Co. have had plans passed for the erection of eight houses in Chesley-gardens.

Edmonton.—At the last meeting of the Guardians it was decided to provide a receiving home for one hundred children.

Hamwell.—At the next meeting of the Urban District Council a motion is to be put forward to the effect that the Baths and Washhouses Act be adopted for the district.

Hendon.—At the last meeting of the Education Committee the Works Sub-Committee submitted a recommendation to the effect that instructions be given the Architect, Mr. Wilson, to draw up plans for the new school on the Hamilton-road site. Mr. Page moved that the matter be referred back for consideration, as he was of opinion that the matter should remain in abeyance for about a month, and a fresh competition instituted. The Chairman, in reply to a question, said that if the amendment was not carried it would not entitle Mr. Wilson to any further architectural work for an indefinite period. Mr. Cartwright said he would prefer to see an open competition for a school of the proposed magnitude. Mr. Poulton said that open competition had been held in the cases of the Hyde School and the Garden Suburb School, and Mr. Wilson had been successful in both instances. The Chairman said that in connexion with the competition for the Garden Suburb School an agreement had been entered into with Mr. Wilson whereby they should appoint him to carry out any new work within the period of the erection of the new school and up to one month of the occupation of such school. So far as he could see, there was no reason why the Committee should back out of an agreement entered into after full consideration. Councillor Ford said that, in view of this agreement, they were in a position that, until the handing over of the new school, Mr. Wilson was entitled to any work without any restriction as to cost. They were compelled, if they started before January, to have Mr. Wilson's plans, and Mr. Wilson's price. The Chairman replied in the negative, stating that the Committee was the sole judge of the plans, and might refer them back often as they pleased. Councillor Ford said that, if the Committee referred the plans back they would be in the same position as regards time as if they waited a month and had an open competition. This was not the time of the year when building operations could be carried out apace, and a delay of a month or six weeks would not appreciably retard the opening of the school. If Mr. Wilson got the work in open competition it would spur him on to give the best value for money. After further discussion the Sub-Committee's recommendation was approved.

Holborn.—The application of the Prudential Assurance Company, Ltd., for permission to construct a subway under Brooke-street, has been granted, subject to protective conditions. **Hornsey.**—Sanction has been received from the Local Government Board to the borrowing of 2,400l. for the erection and furnishing of a temporary school at Muswell-hill. Messrs. Herbert & Co., Rookfield-avenue, Muswell-hill, have had plans passed for the erection of two houses in St. James's-lane.

Huddersfield.—Plans have been passed as follows:—Mr. E. T. Dunn, on behalf of Lord Rowallan, sixteen houses, Goodmayes-lane, and eight in Allot-gardens, Abbotsford-road; Messrs. W. P. Griggs & Co., five houses, The Drive; Messrs. Rawlins, Culver, & Co., seven houses, Charlbury-gardens; Mr. J. E. Achy, on behalf of the London General Omnibus Company, motor bus garage, High-road, Seven Kings; Mr. E. G. Faunoh, on behalf of Mr. J. W. Cornforth, motor garage, Holcombe-road; Mr. J. G. F. Meaden, extensions to school, Village Homes.

Lambeth.—Plans lodged by Mr. G. Hitchings, on behalf of Mr. Leopold S. Rogers, have been approved for carrying out drainage works to six houses proposed to be erected on the east side of Tulsemead-road; as have also plans lodged by Mr. James Parsons, on behalf of the Duchy of Cornwall, to drain three blocks of eighteen flats proposed to be erected on the north side of Chester-street, Kennington-road. Plans have been lodged with the London County Council by Mr. A. Dixon, on behalf of Messrs. W. Whitbread & Co., Ltd., for the re-erection of the "Engineers' Arms" public-house, Waverley-road; as have also plans by Messrs. W. Jones & Sons for the erection of a motor garage on the site of Nos. 2, 2a, 4, and 6, Kennington Park-road.

Leyton.—The Surveyor has prepared an estimate amounting to 150l. for increasing the dressing accommodation at the second-class swimming-bath. Tenders are invited for supplying the Cann Hall Estate sewers, for which the Local Government Board have sanctioned the raising of a loan of 1,600l. The following plans have been passed:—Mr. A. Radcliffe, twelve houses, Grove Green-road; the New Model Laundries, Ltd., additions to laundry,

place: Mr. W. Hendon Winder, fifteen years, St. Helier-road; Messrs. J. Jarvis & Co., Ltd., cinema, corner of Kirkdale-road; Church-lane; Mr. P. Cornish, twelve years, High-road, Leytonstone.

Children and Coombe.—For making up, etc., at 525 ft. of Dickerage-lane (exclusive of way paving) the tender of Messrs. J. J. J. & Co., Ltd., Grosvenor-road, Westminster, S.W., has been accepted at 608*l*. The tender of Messrs. J. Wainwright & Co., Ltd., Upton Mallet, has also been accepted, at for paving the footways in Dickerage-

Widdles.—The County Engineer and Surveyor has been authorised to construct a tarred footpath on the west side of Cowley, Widdles, at an estimated cost of 220*l*. Tenders are to be invited for substituting "grass" paving for macadam on the margins of a portion of the Uxbridge-road, Southall, for providing an efficient surface-water drainage. The approximate cost is put at 1*l*. It has been decided to purchase certain land in Beaconsfield-road, Southall, for the erection of a new school. The North-West School, Southall, is to be enlarged by 400 places. Repairs are to be carried out to Walton Bridge, which is in a dangerous condition. Steel is to be substituted for the existing timber decking, and tenders are invited for carrying out the work, which is estimated to cost 3,000*l*.

Handsworth.—Plans have been passed for E. J. Ward for alterations and additions to Messrs. Laundry, Merton-road, Southfields; for Mr. J. Copp, for thirty-six houses in Upton-avenue, Streatham; and for Messrs. J. Evans & Sons for four houses, Nightingale-lane, Balham.

West Ham.—The Education Committee have decided to invite fresh tenders for the erection of a new handicraft centre at Upton-lane pool.

OBITUARY.

Mr. F. E. Robertson, M.Inst.C.E.
Mr. Frederick Ewart Robertson, who died at his residence, No. 32, Courtfield-gardens, London, a few days ago, aged sixty-five years, was a partner of Sir A. M. Rendel, Robert Rendel, of Dartmouth-street, S.W., consulting engineers. After practising for years in England as a civil engineer he joined (1868) the Indian Public Works Department; as Chief Civil Engineer to the Western State Railway he constructed cantilever bridge at Sukkur, across the Indus, for which and other services he was elected C.I.E., 1892. In 1890-7 he was Chief Engineer, East Indian Railway, and President, Indian Railway Board, in 1897-8. He then joined Sir Alexander Rendel in partnership, became a member of Council, Inst.C.E., and published "A Practical Treatise upon Building" and an "Arabic Vocabulary of Egypt," and was the author of numerous technical articles and papers.

Mr. S. C. Smith, R.H.A.
The death last week is announced of Mr. Catterson Smith, of No. 42, St. Stephen's-gate, Dublin, aged sixty-three years. He was the son of the late S. Catterson Smith, President of the Royal Hibernian Academy, and for twenty years was Secretary, R.H.A. He painted a large number of pictures and portraits, including those of the late Duke of Devonshire in the Dublin Castle Gallery and Queen Victoria in the Royal College of Surgeons, Dublin.

PATENTS.

APPLICATIONS PUBLISHED.*

1,765 of 1911.—Samuel Elliott: Process of appliances for drying or seasoning timber.
1,032 of 1911.—Maurice Joseph Poulain: Pipes and the like.

1,432 of 1911.—Henry Frank Berry: Apparatus for heating and drying stone and for materials for use on roads and like surfaces.

1,585 of 1911.—William Croydon Edwards: Reinforced concrete structures.
1,927 of 1911.—William Joseph Dibdin: Filtration tanks for treatment of sewage and other foul waters.

1,077 of 1911.—George Wilkinson, Adam Wilson and Joseph Finney: Building bricks and blocks.

1,159 of 1912.—John MacNoull Wilson: Apparatus for removing paint and varnish.

All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

5,306 of 1912.—Allgemeine Tiefbohr und Schachtbau Aktiengesellschaft: Process for sinking shafts or driving tunnels and the like.

5,913 of 1912.—James Dammel Prior: Boilers of domestic firebricks.

5,925 of 1912.—Johann Walzel and Johann Petho: Domestic smokeless stoves.

9,156 of 1912.—Emil Henry Rieter-Bedmor: Fibrous cement plates.

9,801 of 1912.—Henry Frank Berry: Heating and drying of stone and other materials for use on roads and like surfaces.

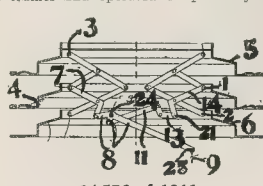
12,637 of 1912.—Ralf Lees and William Lees: Wood tensioning machines.

13,967 of 1912.—George Robertson Hislop: Kitchen ranges and other solid-fuel burning stoves.

SELECTED PATENTS.

14,576 of 1911.—Otto Hermann: Roof-lights.

This relates to roof-lights, the frames of which consist of a number of superposed louvered frames carried by systems of lazy-tongs levers. The frames 4, 5, 6 are carried by four sets of lazy-tongs pivoted at 1, 2, 3 to the frames and operated in pairs by three-

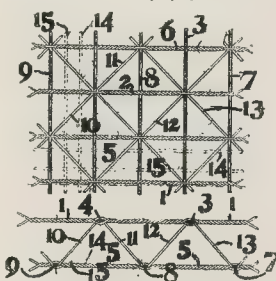


14,576 of 1911.

armed levers 8 pivoted at 24 to the frame 6, and having their longer arms connected by a crossbar 25, to which is attached a chain 9. The two shorter arms of the levers 8 are connected, one directly to the cranked end of the lever 7, the other by means of a link 11 and bell-crank 13 to the cranked end of the lever 14.

14,915 of 1911.—Harry August Stockmann: Reinforced concrete construction.

This relates to reinforced concrete wherein the tension members 5, 6, upper or compression members 1, 2, and transverse members 3, 4, connect the upper series and alternate with similar members 7, 8, 9, which connect



14,915 of 1911.

the lower series, and the inclined zigzag or truss members 10, 11, 12, 13. The longitudinal members consist each of two wires twisted together, the twists being reversed at the loops which embrace the transverse members. Extra rods 14, 15, may be added.

14,948 of 1911.—Raimund Janesch and Anton Schnell: Walls, partitions.

This relates to a hollow wall or partition which is formed of blocks or is cast *in situ* so that the inner face is permeable to air and the outer face is impermeable. The blocks are hollow, the inner portion being



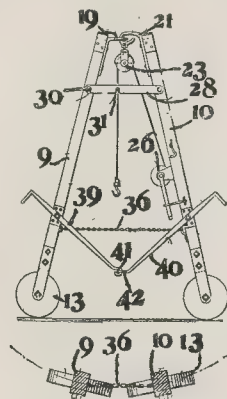
14,948 of 1911.

formed of asbestos, concrete, or charcoal concrete, and the webs and outer portion *b* of ordinary concrete; the hollows *d* form ventilating passage and communicate with the outer

air through passages *f* or otherwise; they may also communicate with each other through passages *e*. A similar wall is cast *in situ*, and other forms are built up of L, U, or T shaped blocks.

15,013 of 1911.—Emil Abraham Kling: Portable derricks and shear legs.

This relates to a portable derrick which comprises a pair of posts swivelled together and adapted to be folded to different angles as required. The posts 9, 10, mounted on wheels 13, are connected together by swivel members 19, 21, and also by levers 39, 40 pivoted one to each post and connected by a hook and eye at 41, 42. A sheave 23 is hung from the member 21, and a rope passes over



15,013 of 1911.

the sheaves to a hand winch 25. A bar 28 hinged to the post 10 is provided with notches 30, 31, which engage a pin on the post 9, so that the posts may be worked at either a large or small angle; or, if greater flexibility is desired, a chain 36 suffices to prevent the legs being forced apart. The derrick may be turned, if required, so as to work round corners of waggons and the like.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 1*l* 5*s* per annum, with delivery by Friday Morning's Post in London and to subscribers elsewhere by special delivery, 2*l* 5*s* per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 3*l* 5*s* per annum. Subscriptions payable to J. MORRAN should be addressed to "The Builder," 1, Catherine-street, W.C.

SOME RECENT SALES OF PROPERTY

ESTATE EXCHANGE REPORT.

November 8.—By LINNETT, LANE, & BETT- RIDGE.	
Bushey, Herts.—Bushey-gr. Estate, twenty- three plots, f.	22,685
November 12.—By SHERMAN & SHERMAN. Shepherd's Bush.—67 and 71, Sedgford-rd., u.t. 81 yrs., g.r. 13 <i>l</i> , v.r. 80 <i>l</i>	650
Wanstead.—Spratt Hall-rd., freehold bungalow By N. EASTON & SON. Skeffling, Yorks.—Wansletts Farm, 180 acres, f. By WALKER & KING. Southampton.—Lymington-av.	100 2,700
232 <i>l</i> . 7 <i>s</i>	5,168
By ERNEST JENNINGS. Thaxted, Essex.—Part of Sampford Hall Estate, 1,010 acres, f.	14,490
November 13.—By DENN, SOMER, & COVER- DALE.	
Holloway.—7, Huddleston-rd., u.t. 54 yrs., g.r. 9 <i>l</i> , p.	580
By ROBERTS, CHAPMAN, & THORNTON. Fulham.—128 to 138 (even), Balford-rd., u.t. 60 yrs., g.r. 10 <i>l</i> , v.r. 128 <i>l</i> , 148 <i>l</i>	280
Chelsea.—510 and 512, King's-rd., u.t. 16 yrs., g.r. 13 <i>l</i> , y. and g.r. 10 <i>l</i>	305
By MADDOCK, MILES, & MADDOCK. Yarmouth.—53, St. George's-rd., f.	285
16, South Howard-st., f.	175
By DUDLEY W. HARRIS & CO. Feltham, Middlesex.—45, Teobrook-rd., f., a.r. 20 <i>l</i>	300
By HANCOCK & SONS. St. Wendron, Cornwall.—Viscount Clifden's Estate, 2,067 acres, f.	43,219

RECENT SALES—continued on page 696.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number; Competitions, —; Contracts, iv. vi. vii. x.; Public Appointments, xix.; Auction Sales, xxvi. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

. It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

DECEMBER 7. — **Rome.** — **BRITISH SCHOOL AT ROME.** SCHOLARSHIP IN ARCHITECTURE.—200l. per annum for three years. Particulars from Mr. Evelyn Shaw, 54, Victoria-street, S.W.
DECEMBER 20. — **R.I.B.A. Competitions.**—All work for the Scholarships and Prizes, 1913, must be delivered before 5 P.M. at 3, Conduit-street, W.
JANUARY 1, 1913. — **Belfast.** — **DWELLING-HOUSES.** — Premiums of 25l., 15l., and 10l. Particulars from the City Surveyor, Belfast (11. 1s.).
JANUARY 1, 1913. — **Dublin.** — **MUNICIPAL BUILDINGS.**—Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin. Deposit, 2l. 2s.
JANUARY 31, 1913. — **Jamaica.** — **MUNICIPAL BUILDINGS.**—To cost 9,000l. Premium 100l. Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2s.).
FEBRUARY 3, 1913. — **Harrogate.** — **SCHOOL.**—The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.
FEBRUARY 22, 1913. — **Jordanhill, Glasgow.** — **PROPOSED TRAINING COLLEGE.**—Limited to six firms, named in "Competition News," December 1, page 635.
MARCH 1, 1913. — **Rangoon.** — **MUNICIPAL BUILDINGS.**—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300l., 200l., and 100l. respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.
MARCH 1, 1913. — **Sofia.** — **DESIGNS FOR A ROYAL PALACE AND LAW COURTS.**—Particulars from the Commercial Intelligence Branch of the Board of Trade, Beaufort-street, E.C. (see page 173, August 9, and page 350, September 27).
MARCH 1, 1913. — **Winnipeg.** — **CITY HALL.**—Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.
JULY 10, 1913. — **TOWN PLANNING SCHEME.**—Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.
NO DATE. — **Dursley.** — **WORKMEN'S DWELLINGS.**—The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in issue of October 25 for further particulars.
NO DATE. — **Folkestone.** — **PROPOSED KURSAL.**—Cost not to exceed 20,000l. Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8.
NO DATE. — **Motherwell.** — **HIGH SCHOOL.**—Dr. Burnet, assessor. Premiums 50l., 30l., and 20l.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.
DECEMBER 6. — **Grantown.** — **HALL.**—For erection of new hall at Grantown United Free Church. Plans and specifications with Mr. J. White, architect, Elgin.
DECEMBER 7. — **Pensilva.** — **SCHOOL.**—For the erection of a new Council school at Pensilva. Plans and specification with Mr. B. C. Andrew, Architect to the Committee, Biddick's Court, St. Austell.
DECEMBER 9. — **Goole.** — **HOUSE.**—For the erection of a house at Hock-road, Goole. Plans seen, and quantities from Mr. E. S. Jackson, F.R.I.B.A., Bowalley-lane, Hull.
DECEMBER 9. — **Llanelli.** — **THEATRE.**—For the erection of an electric theatre at New Dock-road, Llanelli. Plans and specification and quantities from Mr. O. P. Byvan, P.A.S.I., architect and surveyor, Express-chambers, Merthyr Tydfil.
DECEMBER 9. — **Sheffield.** — **ALTERATIONS.**—For alterations, additions, etc., to Tinsley Council school, Plumbers-road, and Tinsley temporary school, Shepcote-lane. Drawings and conditions of contract seen, and quantities and forms of tender from the City Architect, Town Hall, Sheffield.
DECEMBER 9. — **Tarporey.** — **ALTERATIONS, ETC.**—For alterations and additions to Tarporey Council school. Plans and specifications with Mr. H. Bewick, F.R.I.B.A., County Architect, Newgate-street, Chester. Quantities on deposit of 1l.

DECEMBER 10. — **Aberavon.** — **REBUILDING.**—For the rebuilding of the Templeton Fashion. Plans and specification seen, and quantities from Mr. F. H. Smith, architect and surveyor, St. Oswald's-chambers, Port Talbot.
DECEMBER 10. — **Barton.** — **ALTERATIONS, ETC.**—The Governors of the King's School, Barton, invite tenders for alterations and additions to the new house. Plans and specification seen. Quantities, on deposit of 1l. 1s., from Mr. Arthur J. Pictor, A.R.I.B.A., architect, Barton, Somerset.
DECEMBER 10. — **Durham.** — **IMPROVEMENTS, ETC.**—For alterations and improvements at Wheatley-hill Council School. Plans, specification, and general conditions of contract seen, and quantities at the office of Mr. N. Richey, Shire Hall, Durham.
DECEMBER 10. — **Eastington.** — **BUILDINGS.**—The North-Eastern Railway invite tenders for the erection of station buildings and warehouse at Eastington, between Hartlepool and Sunderland. Plans and specification seen, and quantities and information from Mr. William Bell, the Company's Architect, Westgate-road, Newcastle-on-Tyne.
DECEMBER 10. — **Keighley.** — **FOUNDRY.**—For erection of a foundry and engineering plant in Woodhouse-road. Drawings seen, and quantities from Messrs. Moore & Crabtree, architects, York-chambers, Keighley.
DECEMBER 10. — **Loughborough.** — **ALTERATIONS.**—For additions to the Wesleyan Methodist Sunday-school, Leicester-road. Drawing seen, and quantities from Messrs. Barrowcliff & Allcock, architects, Town Hall-chambers.
DECEMBER 11. — **Leeds.** — **ALTERATIONS.**—For the alterations to Park-lane Council School. Quantities and forms of tender from the Education Department (Architect's Section), Calverley-street, Leeds.
DECEMBER 12. — **Dewsbury.** — **EXTENSIONS.**—For extension of dining-room at the Workhouse. Plans seen, and specification and quantities from Messrs. Hanstock & Son, architects, Batley.
DECEMBER 12. — **Saddleworth.** — **HALL.**—Erection of a picture hall at Upper-street, Saddleworth. Plans seen, and quantities from Messrs. Lunn & Kaye, architects and surveyors, Milne-bridge.
DECEMBER 13. — **Hersham.** — **HALL.**—For erection of new drill hall premises at Hersham. Drawings, specifications, and conditions and form of tender with Messrs. Jarvis & Richards, Architects to the Association, 10, Queen Anne's-gate, Westminster, S.W. Quantities and forms of tender from Messrs. Robinson & Soods, quantity surveyors, 37, Bedford-row, W.C., on deposit of 1l. 1s.
DECEMBER 14. — **Pontypridd.** — **RANGE, ETC.**—For the erection of a miniature rifle range, wagonshed, and the providing and fixing of fencing at the Pontypridd Drill Hall. Plans and specification seen, and quantities, on deposit of 1l. 1s., from Messrs. A. O. Evans, Williams, & Evans, architects, Pontypridd.
DECEMBER 16. — **Aberystwyth.** — **SCHOOL.**—Erection of a higher elementary school at Aberystwyth, Mon. Plans and specification seen, and quantities from Mr. John Bain, F.R.I.B.A., C.C. Offices, Newport, on deposit of 2l. 2s.
DECEMBER 16. — **Abertillery.** — **EXTENSION.**—For the construction of a small extension to the generating station at Abertillery, U.D.C. Quantities and form of tender by Mr. Hamilton H. Turner seen with consulting engineer, Mr. H. E. Nitchell, A.M.Inst.C.E., M.Inst.E.E., 5, Victoria-street, Westminster, S.W., on deposit of 1l. 1s.
* DECEMBER 16. — **Beckenham.** — **ALTERATIONS TO INSTITUTE.**—The Kent Education Committee invite tenders for alterations to Technical Institute. See advertisement in this issue for further particulars.
DECEMBER 16. — **Felixstowe.** — **ENLARGEMENT.**—For the enlargement of the public convenience in Sea-road, near Station-road. Quantities and specification with Mr. H. Clegg, A.M.Inst.C.E., Surveyor, Town Hall, Felixstowe. Deposit of 10s.
DECEMBER 16. — **Leeds.** — **SANATORIUM.**—Erection of a sanatorium at the Workhouse, Beckett-street, Leeds. Plans, specifications, and quantities with the architect, Messrs. J. Harper Bakes & Son, Calverley-chambers, Victoria-square, Leeds.
DECEMBER 16. — **Souththorpe.** — **HALL.**—For erection of a new meadow hall at Souththorpe. Plans and specifications seen, and forms of tender from Mr. A. M. Cobban, architect and surveyor, Home-street, Souththorpe.

DECEMBER 16. — **Stockport.** — **EXTENSIONS.**—The erection of extensions to the Stockport Technical School. Quantities on deposit 2l. 2s., from Mr. Arthur Lawton, Secretary Education Committee, Town Hall, Stockport.
DECEMBER 17. — **Denton.** — **SEWAGE.**—For alterations to existing tanks, construction of a sewage tanks, and erection of engine and pumping house, and other works in connexion therewith. Plans seen, and general conditions of contract seen, and quantities and information from Mr. John B. Cooke, Engineer of the Council, To Hall, Denton, near Manchester, on deposit 3l.
DECEMBER 17. — **Dinas Powis.** — **GATES.**—For pair of iron entrance gates for the approach to the school. Tender forms and specifications from Mr. John J. Jackson, Secretary, Education Office, City Hall, Cardiff.
DECEMBER 17. — **Llandovery.** — **ROOMS, ETC.**—For the erection of laboratories and classroom at Llandovery College. Plans and specifications with Mr. L. J. Banks Price, architect, Deldment, Lampeter.
DECEMBER 18. — **Hensworth.** — **BUILDINGS.**—Erection of new buildings at the Workhouse, Hensworth, near Wakefield. Architect, A. T. H. Richardson, Hensworth.
DECEMBER 19. — **Margate.** — **ALTERATIONS.**—For alterations and additions to domestic service at Convalescent Home, Northumberland-road, Margate. Plans and specification and quantities on deposit of 1l. from Mr. Thomas Smith, Clerk, Board room, Union road, Leyton, N.E.
DECEMBER 19. — **Swansea.** — **COTTAGE.**—Erection of a lock-keeper's cottage at the eastern end of the Prince of Wales Dock. Plans and specifications at the office of the Port Engineer, Mr. A. O. Schenk, M.Inst.C.E., Harbour Office, Swansea.
* DECEMBER 30. — **Bingley.** — **POST-OFFICE.**—The Commissioners of H.M. Works and Public Buildings invite tenders for new post-office. See advertisement in this issue for further particulars.
DECEMBER 20. — **Watford.** — **VICARAGE.**—For erection of a new vicarage for Christ Church, St. Albans. Drawings and specifications seen, and quantities from Mr. R. B. A. Gray's Inn-square, London. Quantities from Mr. J. W. H. Smith, Northcote, Neighbour, 33, High Holborn, W.C., on deposit of 1l.
* DECEMBER 23. — **Bristol.** — **SORTING OFFICE.**—The Commissioners of H.M. Works and Public Buildings invite tenders for new sorting-office. See advertisement in this issue for further particulars.
DECEMBER 23. — **Cardiff.** — **HOUSES, ETC.**—For erection of 150 houses and roads and sewerage works at Cardiff. Specifications and quantities, Mr. T. M. Williams, City-chambers, Cardiff.
DECEMBER 23. — **Exeter.** — **EXTENSION.**—For extension of the Exeter Isolation Hospital, Whidpon, near Exeter. Specification and form of tender seen, and quantities from Mr. Thomas Moulding, M.Inst.C.E., City Engineer and Surveyor, 7, Southemby West, Exeter, on deposit of 1l. 1s.
DECEMBER 23. — **Bulgaria.** — **WORKS.**—Tenders are invited by the Minister of Railways for construction of various harbour works. Particulars from the Ministry of Railways, Sofia.
DECEMBER 31. — **Pieternaritzburg.** — **BUILDINGS.**—Tenders are invited by the South African Railways Administration for the supply and erection of a steel-framed building to form a section of the machine shop at Pieternaritzburg. Specifications, quantities, and form of tender, set of six drawings, at the Commercial Intelligence Branch of the Board of Trade, 73, Beaufort-street, E.C.
JANUARY 6, 1913. — **Glasgow.** — **BUILDINGS.**—The Caledonian Railway Company invite tenders for the construction of new station buildings and related works at Port-Glasgow. Drawings at the office of the Company's Engineer, Buchanan-street Station, Glasgow. Specification and schedule on deposit of 2l. 2s.
JANUARY 9, 1913. — **Swansea.** — **SHEDS.**—For erection of nine sheds and braced double storied extension of the grain shed at the Prince of Wales Dock, with sides and roof covered with galvanised corrugated sheeting; two framed steel sheds, each 100 ft. long, with sides and roof covered with galvanised corrugated sheeting. Forms of tender, contract, specifications and conditions, and drawings, on deposit of 3l. 3s., from Mr. Talfourd Strick, Clerk Harbour Office, Swansea.

BUILDING—continued.

the date given at the commencement of each paragraph is the latest date when the tender, or names of those willing to submit tenders, be sent in.

0 DATE. **Banbury.**—COTTAGES.—Erection of quadrangle of nine cottages on the High Town Estate. Plans and specifications and form of tender, on deposit of 1l. 1s. from Mr. Frederick P. D. Castleford, High-street, Banbury.

0 DATE. **Burnley.**—DEMOLITION.—For the erection of the administrative block at the Barracks, Burnley, and removal of materials. Particulars and form of tender in the Commanding Royal Engineer, Royal Engineer Office, 14, Elliot-street, Liverpool.

0 DATE. **Castledore.**—HOUSE, ETC.—For a new house, sheds, etc., at Castledore, Sutherland. Plans and specifications with Mr. C. A. architect and surveyor, Bank-st., Castledore.

0 DATE. **Glass Houghton.** STORES, ETC.—Branch stores warehouse, etc.; seven dwellings at Ashton-road; and seven dwellings off Ashton-road. Messrs. Gardie & Pennington, architects, surveyors, etc., Pontefract.

0 DATE. **Leeds.**—PREMISES.—Erection of new premises, New York-street, Leeds, for Mr. C. A. Wilkinson and Mr. W. M. Mason, R.I. architect, 4, Aire-dale-terrace, Skipton.

0 DATE. **Margate.**—PARTITIONS.—For the erection of wood partitions to provide cubicles for nurses at Convalescent Home, Northumberland, Margate. Form of tender, with specifications, on deposit of 1l. from Mr. Thomas H. Clerk, Clerk of Office, Board-room, Union, Leytonstone, N.E.

0 DATE. **South Kirkby.**—HOUSES.—For the erection of eight dwellings in Mill-lane, South Kirkby. Messrs. Gardie & Pennington, architects, surveyors, etc., Pontefract.

0 DATE. **Stoke Ferry.**—HOUSE, ETC.—For the erection of a new shop, house, and bakery at Stoke Ferry. Messrs. Wm. Jarvis & Co., architects, Paradise-parade, King's Lynn.

ENGINEERING, IRON, AND STEEL.

0 DATE. **Beckenham.** METERS.—For the supply of electricity meters. Specifications and form of tender, on deposit of 2l. from Mr. J. E. Electrical Engineer, 45, High-street, London.

0 DATE. **Pembroke.** DESTROYER.—For construction of a refuse destructor at Electric Works, South Leith-road. Plans, specifications, and form of tender, with conditions of contract, at the Town Hall, Ballsbridge, Co. D., on payment of 10s.

0 DATE. **Fennar.**—WIDENING.—The Western Railway Company invite tenders for the widening of a portion of the Fennar Railway, Monmouthshire. Plans and specifications, and form of tender, and particulars at the office of the Fennar Works near Paddington Station, London.

0 DATE. **Manchester.**—CONDENSERS.—Erection of a set of reversible water-tube condensers at Rochdale-road station. Specifications and form of tender from Mr. F. A. Price, Assistant, Gas Department, Town Hall, Manchester.

0 DATE. **Chelmsford.**—BORHOLES.—For the sinking of a 12-in. borehole on land adjoining railway, Chelmsford. Specification form of tender from the Borough Surveyor, London-road.

0 DATE. **Ramsbottom.**—WORK.—For the erection of overhead electrical work for about 5 miles of route. Drawings at the offices of the Ramsbottom. Deposit of 5l. 5s.

0 DATE. **Caterham.**—ENGINE, ETC.—The installation of a new steam engine and mechanical appliances in kitchen at Caterham, Caterham, Surrey. Drawing and specifications by Mr. W. T. Hatch, M.Inst.C.E., Caterham, Surrey. Engineer-in-Chief, may be in at the office of the Board, Embankment, London, E.C. Deposit of 1l.

0 DATE. **Dundee.**—PLANT, ETC.—For the erection of a 5,000-k.w. steam turbine and alternating condensing plant; 500-k.w. rotary condensing plant with transformer. Specification, drawings, and general conditions of contract from Mr. H. Richardson, M.Inst.E.E., Dundee, Dundee, Engineer, Electricity Department, Dundee. Deposit of 1l. 1s.

0 DATE. **Reading.**—PLANT, ETC.—For the erection of pumps, etc., for waterworks at Stratford, near Reading. Particulars and specifications at the office of the Council, with Mr. H. Howard Humphreys, of 28, Abchurch-lane, Westminster. Deposit of 3l. 3s.

0 DATE. **Hambleton.** RESERVOIR.—For the construction of a reservoir to contain 100 gallons on Black Down, Lurgashall, Lurgashall, and specification seen, and quantities

and forms of tender from Messrs. R. B. Grantham & Son, 20, Little College-street, Westminster Abbey, S.W., on deposit of 3l. 3s.

0 DATE. **Walbottle.**—STEEL.—For the supply of the necessary steelwork for the renewal of the superstructure of bridge No. 14 on the Scotswood, Newburn, and Wylam Branch, near Walbottle, for the North-Eastern Railway. Plans seen, and specification, quantities, and form of tender from Mr. Chas. Watson, the Company's District Engineer, at Newcastle.

0 DATE. **January 10, 1913.**—COVENTRY.—HEATING AND VENTILATION.—The Corporation of Coventry invite tenders for heating and ventilation and hot-water service apparatus at new Municipal Buildings. See advertisement in this issue for further particulars.

0 DATE. **January 11, 1913.**—STRETFORD.—BRIDGE.—For reconstructing in reinforced concrete the Longford Bridge over the Bridgewater Canal, and the highway over the canal. Drawings seen, and form of tender, with specification and particulars, from Mr. Ernest Worrall, the Council's Surveyor. Deposit of 5l. 5s.

FURNITURE, PAINTING, MATERIALS, ETC.

0 DATE. **Newport.**—PIPES.—For supply of about 130 tons of 20-in. and 24-in. of 12-in. cast-iron water pipes, also about 3 tons of special pipes. Specification and form of tender at the office of Mr. C. Ashton, Manager, Town Hall.

0 DATE. **Ashington-under-Lyme.**—PAINTING.—For painting, etc., at St. Peter's Victoria-street school, St. Peter's Wellbeck-street School, and the house at the vicarage. Specifications and form of tender at the Education Office.

0 DATE. **Castlebar.**—GATES.—For supply of twenty-five gates for entrances to artisans' dwellings. Plans and specification by Mr. O'Boyle, architect, Court-house, Castlebar. Deposit of 1l.

0 DATE. **Sheffield.**—PAINTING.—For painting and whitewashing at the nursery block at the Workhouse on Fir Vale. Specification seen and particulars at the Workhouse.

0 DATE. **Bromley.**—PAINTING.—For interior painting, distemping, etc., at the Valley School. Specification and form of tender at the Education Office. Deposit of 10s.

0 DATE. **Crossness, Kent.**—REMOVAL OF ASHES.—The London C.C. invite tenders for the removal and disposal of about 6,800 cubic yds. of furnace ashes, clinker, dust, etc., from main drainage outfall works. See advertisement in this issue for further particulars.

0 DATE. **Durban, Natal.**—PIPES.—For the supply of 2 miles of 12-in. cast-iron pipes. Specifications, on deposit of 2l. 2s. from Messrs. Webster Steel & Co., Agents to the Durban Corporation, 5, East India-avenue, Leadenhall-street, E.C.

0 DATE. **Hampstead.**—REMOVAL OF SLOP.—The Hampstead C.C. invite tenders for the removal of slop from roads and gullies in the Eastern District. See advertisement in this issue for further particulars.

0 DATE. **Blackburn.**—PAINTING.—For painting at Belper-street Baths and at Harrison Gymnasium. Specification and form of tender from Mr. W. Stubbs, M.Inst.C.E., Borough Engineer, Municipal Offices, Blackburn, on deposit of 10s.

0 DATE. **Rhondda.**—TIMBER.—For the supply of timber for the woodwork classes. Mr. T. W. Berry, Director of Education, Council Offices, Pentre, Rhondda.

0 DATE. **Durban, Natal.**—RAILS.—For the supply of 3 miles of steel girder tramrails of British standard section No. 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

ROADS, SANITARY AND WATER WORKS.

0 DATE. **Marytavy.**—SUPPLY.—For the construction of works of water supply in Marytavy. Plans and specifications, with quantities, from Mr. T. H. Harris, 1, Millbrook-place, Tavistock.

0 DATE. **Tynemouth.**—PAVING.—For taking-up and relaying wood-block pavement. Specifications and form of tender from Mr. John F. Smilie, Borough Surveyor, Tynemouth.

0 DATE. **Berwick-on-Tweed.**—METAL.—For leading and breaking about 2,000 yds of road metal. Specification and schedule from Mr. R. Dickinson, Borough Surveyor, Wallace-green, Berwick-upon-Tweed.

0 DATE. **Leeds.**—ROADS.—For the paving and flagging of Seaford-road and Beck Strathmore-drive. Drawings at the City Engineer's Office, Municipal buildings.

0 DATE. **Mansfield.**—STREETS.—For the making-up of Stella-street, Belper-street, and Hardwick-street. Specification and drawings seen, and quantities from Mr. T. P. Collins, A.M.Inst.C.E., Borough Engineer and Surveyor, Exchange-row, Mansfield.

0 DATE. **Cookham.**—DRAIN.—For laying a 12-in. socket-pipe drain, with the necessary manholes, gullies, etc., from Cookham-riar to Cookham-moor. Specifications and plans at the Council Offices, Queen-street-chambers, Maidenhead.

0 DATE. **Sheppey.**—FILTER, ETC.—For the construction of a filter, 25 ft. diameter, with screen chamber, settling tank, etc., the laying of about 90 yds of 6-in. stoneware pipes. Plan seen, and specification, quantities, and form of tender at the Workhouse, Minster, near Sheerness. Deposit of 10s.

0 DATE. **Inverness.**—SETTS.—For supply of 300 tons of 5-in. by 4-in. granite setts. Specification from the Burgh Surveyor.

0 DATE. **Larne.**—EXTENSION.—Plans, specification, and quantities with the Engineer, Mr. T. J. O'Neill, C.E., Ballycastle. Deposit of 10s. 6d.

0 DATE. **Wakefield.**—PAVING.—For paving with granite and gut service (about 1,100 super. yds. approximately) the roadway over and on the approaches to Keighley or Low Bridge. General conditions, specification, quantities, etc., on deposit of 1l. from Mr. F. G. Carpenter, West Riding Surveyor, County Hall, Wakefield.

0 DATE. **Reading.**—MATERIALS.—For supply of broken road materials, gravel, and sand. Particulars from Mr. J. Fred Hawkins, County Surveyor.

0 DATE. **Worthing.**—GRANITE.—For the supply of about 800 tons of broken granite, 3-in. granite chippings and granite dust. Specifications and form of tender from the Borough Surveyor, Municipal Offices, Worthing.

0 DATE. **Finchley.**—COATING.—For coating of about 2,000 super. yds. of carriage-way. Specifications and form of tender from Mr. C. J. Jenkin, M.Inst.C.E., Council Offices, Church End, Finchley. Deposit of 2l.

0 DATE. **Manchester.**—MAIN DRAINAGE.—The Manchester Corporation invite tenders for new intercepting sewer, Wilmslow-road to Croccroft Park. See advertisement in this issue for further particulars.

0 DATE. **Willesden.**—ROAD-MAKING AND PAVING.—The Willesden E.C. invite tenders for road-making and paving works. See advertisement in this issue for further particulars.

0 DATE. **Guildford.**—DRAIN.—For the construction of about 972 yds. of 18-in. and 12-in. surface-water drain in Woking and Woodlands roads, Guildford, with necessary manholes, gullies, and connections. Plans and sections seen, and specification, quantities, and form of tender from Mr. C. G. Mason, A.M.Inst.C.E., Borough Engineer and Surveyor, Bridge-street, Guildford. Deposit of 2l. 5s.

0 DATE. **Margate.**—ROADS.—For the making-up of Westcliffe-road, Windsor-avenue, Dane Park-road, Dapensmead-terrace, passage between Ramsgate and Gidlington roads, Nashbrook (part only), and Lynton-avenue. Plans and specification at the Borough Surveyor's Office, 13, Grosvenor-place, Margate. Deposit of 5l.

0 DATE. **Boyaland.**—SEWER.—For the construction of about 5,000 yds. of cast-iron and stoneware pipe sewers. Plans seen, and form of tender at the offices of Mr. Fred Gordon, Engineer, Clifton, Enghusen.

0 DATE. **Radcliffe.**—WORKS.—Construction of sewerage works in the Bank Top portion of the district. Drawings and specifications with Mr. W. L. Bellwell, Engineer to the Council. Quantities, with specification and form of tender, on deposit of 2l. 2s.

0 DATE. **Woking.**—SEWER.—For the construction of about three miles of 8-in. and 9-in. stoneware and cast-iron pipe sewers, and thirty-nine manholes. Drawings, conditions of contract, specification, and quantities at the offices of Mr. G. J. Woodbridge, the Engineer to the Council, Council Offices, Woking. Deposit of 5l.

0 DATE. **January 1, 1913.**—LIANTISANT. ROADS.—For the completion of the new Ely Valley-road and branch roads, all 36 ft. in width. Plans and specification seen, and quantities and forms of tenders, on deposit of 5l. from Messrs. Gomer S. Morgan & Thomas Saunders, engineers, School-street, Pontyclun, Glam.

Public Appointments.

Nature of Appointment,	By whom Advertised,	Salary.	Application to be in
CHIEF SURVEYOR AND INSPECTOR OF NUISANCES	Ludlow Town Council	200l. per annum	Dec. 21
CHIEF SURVEYOR	St. Bartholomew's Hospital	Not stated	Dec. 21
CHIEF SURVEYOR	Warrington Corporation	200l. per annum	Dec. 23

WOOD (Continued).

JOINERS' WOOD (Continued)—		Per square.	
Prepared Flooring, etc.—	£ s. d.	£ s. d.	
1 in. by 7 in. white, planed and matched.....	0 12 6	...	0 15 0
1½ in. by 7 in. white, planed and matched.....	0 15 0	...	0 16 6
¾ in. by 7 in. yellow, matched, rounded or V-jointed brds.	1 11 0	...	0 13 6
1 in. by 7 in. " " "	1 14 0	...	0 18 6
1 in. by 7 in. white " " "	1 10 0	...	11 0
1 in. by 7 in. " " "	1 12 9	...	0 15 0
6 in. at 6d. to 9d. per square less than 7 in.			

JOISTS, GIRDEES, &c.		In London, or delivered Railway Vans, per ton.	
		£ s. d.	£ s. d.
Roll'd Steel Joists, ordinary sections		8 10 0	9 13 0
Compound Girders, ordinary sections		10 0 0	11 0 0
Steel Compound Stanchions		11 10 0	12 10 0
Angles, Tees, and Channels, ordi- nary sections		10 0 0	11 0 0
Plitch Plates		10 0 0	11 0 0
Cast Iron Columns, Stanchions, including ordinary patterns		8 0 0	8 10 0

METALS.		Per ton, in London.	
IRON—	£ s. d.	£ s. d.	
Common Bars	9 0 0	...	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	...	9 15 0
Staffordshire "Marked Bars" ..	11 0 0	...	—
Mild Steel Bars	9 5 0	...	9 15 0
Hoop Iron, basis price	10 0 0	...	—
Galvanised	17 10 0	...	—

(*And upwards, according to size and gauge).

Sheet Iron Black—				
Ordinary sizes to 30 g.	10	5	0	—
" " 24 g.	11	5	0	—
" " 36 g.	12	15	0	—
Sheet Iron, Galvalised, ordinary quality—				
Ordinary sizes, 6 ft. by 2 ft. to				
3 ft. to 30 g.	15	10	0	—
Ordinary sizes to 32 g. and 24 g.	16	0	0	—
" " 28 g.	17	0	0	—
Sheet Iron, Galvalised, flat, best quality—				
Ordinary sizes to 30 g.	15	0	0	—
" " 28 g. and 24 g.	19	0	0	—
" " 26 g.	20	0	0	—
Galvalised Corrugated Sheets—				
Ordinary sizes, 6ft. to 8ft. 20 g.	15	0	0	—
" " 22 g. and 24 g.	15	0	0	—
" " 26 g.	16	15	0	—

Best Soft Steel Sheets, 5 ft. by 2 ft.					
to 3 ft. to 20 g. and thicker.....	12	10	0	..	—
Best Soft Steel Sheets, 2 g. & 2½ g.	13	10	0	..	—
" " " " 26 g.....	15	10	0	..	(
Cut Nails, 3 in. to 6 in.....	11	0	0	..	11 10
(Under 3 in., usual trade extras.)					

Delivered in London.

		s.	d.	
LEAD—Shoot, English, 4lb. and up	21	8	6	—
Pipe in coils	25	7	6	—
Soft pipe	25	7	6	—
Compo pipe	25	7	6	—
ZINC—Shoot—	In casks of 10 cwt.			
Vielle Montagne	33	15	0	—
Silesian	33	10	0	—
	Zinc, in bundles, 1s. per cwt. extra.			
COPPER—				
Strong Sheet	per lb.	0	1	1
Thin Sheet	per lb.	0	1	2
Copper nails	per lb.	0	1	0
Copper wire	per lb.	0	1	0
BRASS—				
Sheet	per lb.	0	1	0
Thin	per lb.	0	1	0
TIN—English Ingots	per lb.	0	2	3
SOLDERS—Plumbers'	per lb.	0	0	11
Sheet	per lb.	0	1	2
Blowpipe	per lb.	0	1	4

ENGLISH SHEET GLASS IN CRATES OF
STOCK SIZES.*

Per Ft., Delivered.			
15 oz. thirds	24d.	26 oz. fourths	4d.
" fourths	21.	32 oz. thirds	5d.
21 oz. thirds	34d.	" fourths	3 1/2
" fourths	31.	Fluted Sheet, 15 oz. 3d.	
28 oz. thirds	44d.	" 21 oz. 4d.	

ENGLISH ROLLED PLATE IN CRATES OF
STOCK SIZES.

STOCK SIZES.		Per Ft., Delivered.	
$\frac{1}{8}$ Rolled plate	2 $\frac{1}{2}$ d.	Figured Rolled, Ox-	
$\frac{1}{8}$ Rough rolled and		ford Rolled, Oce-	
rough cast plate..	2 $\frac{1}{2}$ d.	anic, Arctic, Muffled,	
$\frac{1}{4}$ Rough rolled and		and Rolled Cathed-	
rough cast plate..	3d.	ral, white.....	3 $\frac{1}{2}$ d.
		Ditto, tinted.....	5d.

* Not less than two crates.

OILS, &c.

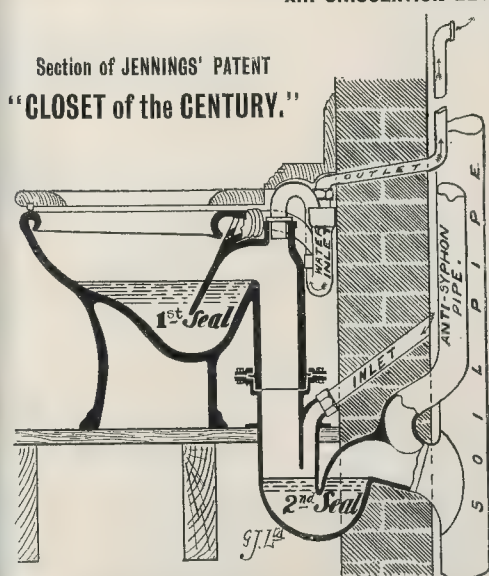
Raw Linseed Oil in pipes	per gallon	0 2 5
" " " in barrels	"	0 2 6
" " " in drums	"	0 2 6
Boiled " " in barrels	"	0 2 7
" " " in drums	"	0 2 10
Turpentine in barrels	"	0 2 5
" " in drums	"	0 2 7
Genuine Ground English White Lead, per ton 30 5		
(In not less than 5 cwt. lots)		
Red Lead, Dry	"	26 12 6
Best Linseed Oil Putty	per cwt.	0 10 6
Stockholm Tar	per barrel	1 12

VARNISHES, &c.

	#	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0

H. P. Boulnois, Esq., M.I.C.E., in summarising the long discussion on this matter at the ROYAL SANITARY INSTITUTE Nov. 12 and 19, 1912 EMPHATICALLY advocated "That the water-closet MUST be doubly sealed."

Section of JENNINGS' PATENT
"CLOSET of the CENTURY."



GEORGE JENNINGS

SANITARY ENGINEERS

***By Special Appointment to
His Majesty the King,***

**63 to 67, LAMBETH PALACE ROAD,
WESTMINSTER BRIDGE,
LONDON, S.E.**

NEW WEST-END SHOWROOMS

(to be opened in DECEMBER):

46, DOVER ST., PICCADILLY
(opposite Tube Station).

THE "CLOSET OF THE CENTURY"

can be seen in action at the above, or at the

Parke's Museum.

ROYAL SANITARY INSTITUTE,

90, Buckingham Palace Road, S.W.

VARNISHES, &c. (Continued). Per gallon.

Superfine Hard-drying Oak, for seats of Churches	£ s. d.
.....	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knocking	0 10 9
French and Brush Polish	0 10 6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than 6 p.m. on Wednesday. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100, unless in some exceptional cases and for special reasons.]

* Denotes accepted. † Denotes provisionally accepted.

PARKING.—For the execution of private street works in Devon-road, for the Borough Council:—
D. T. Jackson £455 19 0 W. J. Jackson, £392 15 1
G. P. Drentham 456 0 0 Parsons & 385 11 10
W. Wanders 418 18 5
E. Free & Sons 409 1 5

RICESTER.—For alterations and additions to house and stables, and erection of cottage at Willaston, near Bicester. Mr. C. M. C. Armstrong, architect, 5, High-street, Warwick:—
T. Grimsley £2,023 10 0 G. F. Smith & £2,729 0 0
H. Martin, Ltd. 2,890 0 0 Sons 2,653 0 0
W. H. Bloxham 2,792 0 0 Bentfield & Loxley 2,653 0 0
J. H. Kingierlee 2,735 0 0 J. S. Kimberley, Banbury 2,602 0 0

COCKERMOUTH.—For sixteen miles water main scraping. Mr. J. B. Wilson, A.M.Inst.C.E., 11, Main-street, Cockermouth:—
Brickman & Co. £1,590 0 0
W. & J. Glossop 1,569 0 0
Leeds Metal Co. 1,600 0 0
The Eric Water Main Supply Co., Chepstow* 1,223 18 6

EASTBOURNE.—For Whitely-road Primitive Methodist Church. Messrs. George Baines & Son, architects, 5, Clement's-inn, W.C.:—

Estimate "A."

F. W. Alcock	£5,676 3 0	Battley, Sons, & Holmes	£1,694 0 0
M. Hookham	4,668 0 0	Norman & Burd	4,046 0 0
J. Bodle	4,430 10 6	Son 3,962 0 0	
M. Martin & Sons	4,344 0 0	Longley & Co.	3,978 0 0
Bainbridge & Son	4,267 0 0	Dorey & Co.	3,900 0 0
P. & H. F. Higgs	4,200 0 0	Johnson & Co., Ltd.	3,789 0 0
J. W. Jerram	4,165 0 0	nis, & Co.	3,623 0 0
Godard & Sons	4,154 0 0		
Smith & Sons, Ltd.	4,100 0 0		

† Accepted with modifications in omitting tower, etc., making the total amount 2,750l.

MANSFIELD.—For Nottingham-road United Methodist Church and Schools, etc. Messrs. G. Baines & Son, architects, 5, Clement's-inn, Strand, London, W.C.:—

Estimates—	A.	B.	C.	D.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Boat & Sons	6,759 0 0	40 0 0	15 0 0	20 0 0
A. J. Forsdyke	6,720 0 0	154 9 0	26 18 0	9 15 0
W. Smith	6,200 0 0	40 0 0	26 0 0	3 10 0
Longdon & Son	6,180 0 0	37 0 0	30 0 0	4 0 3
Maud & Co.	6,175 0 0	40 0 0	28 0 0	3 10 0
Furnell & Son	6,105 0 0	36 5 0	27 6 7	1 15 6
Barlow & Co.	6,100 0 0	30 0 0	28 0 0	3 15 0
J. G. Short	6,090 0 0	33 0 0	27 0 0	4 0 0
J. Wright	6,075 0 0	30 5 0	24 0 7	3 0 3
Fish & Sons	5,966 11 4	32 13 0	19 12 8	38 0 0
Valance & Son	5,878 0 0	11 11 0	16 18 11	27 0 0
Valance & Hylthe	5,775 0 0	30 0 0	30 0 0	150 0 0
B. Moore	5,750 0 0	20 0 0	30 0 0	145 0 0
C. G. Percival	5,700 0 0	25 0 0	16 0 0	20 0 0
A. J. Colborne	5,596 7 0	12 0 0	33 0 0	25 0 0
Fork & Son	5,563 0 0			

† Accepted with modifications bringing the total amount to £5,519 18s. 2d.

WINSLEY.—For extension of the kitchen department, Winsley Sanatorium, provision of accommodation for maid-servants, ten double-bedded chalets for men, and a temporary ward of seven beds for women. Mr. S. S. Skinner, architect, 27, Orchard-street, Bristol:—

Kitchen Block.	Men's Chalets.	Women's Ward.	Total.
	£ s. d.	£ s. d.	£ s. d.
F. Chown, Bristol	4,967 0 0	1,783 0 0	6,750 0 0
Hayward & Wooster, Bath	4,783 0 0	1,677 0 0	6,460 0 0
H. Pittard & Son, Langport	4,567 0 0	1,337 0 0	5,904 0 0
J. Long & Son, Bath	3,946 0 0	1,372 0 0	5,318 0 0
Walters & Son, Bristol	3,877 0 0	1,355 0 0	5,232 0 0
Lovell & Son, Bristol	3,997 0 0	1,146 0 0	5,143 0 0
H. Pollard & Son, Bridgwater	3,780 0 0	1,246 0 0	5,026 0 0
A. J. Colborne, Swindon	3,548 0 0	1,164 0 0	4,712 0 0

LEICESTER.—For extensions, Fairfax Mills, for Mr. George H. Baines, J.P., of West Hartlepool. Messrs. Tait & Herbert, architects and surveyors, Leicester and Coventry:—
Haskard, Rudkin, Bentley & Co. £2,007
Tyers & Yates 1,965
Chapman & Co., Ltd. 2,053
F. Elliott 1,867
H. Herbert & Sons 2,039
[All of Leicester.]

LEIGH.—For erection of a cinematograph theatre, Leigh:—
Leigh Messrs. J. C. Prestwich & Sons, architects, Leigh:—
D. A. Ablett & Son £4,229 0 0
J. Wilson 4,250 0 0
J. Boydell 4,130 0 0
J. Gerrard & Sons, Ltd. 4,108 0 0

LONDON.—For remodelling and enlarging the Randall-place School, Greenwich, for the London County Council:—
G. Parker & Sons £17,887
J. Appleby & Sons 16,888
Thomas & Edges 16,732
F. & H. F. Higgs 16,457
G. E. Wallis & Sons, Ltd. 16,342
[The Architect's estimate comparable with the tenders is £15,560.]

LONDON.—For erection of a school for mentally defective children on a site in Bengtson-road, Paddington, for the London County Council:—
General Building Co. £4,324 12 0
C. F. Kearley 4,139 0 0
J. Garrett & Son 4,084 0 0
Triggs & Co. 4,029 0 0
J. Appleby & Sons 3,995 0 0
[The Architect's estimate comparable with the tenders is £3,837.]

NORWOOD.—For electric lighting at the Strand School, Norwood, for the London County Council:—
Templin & Makovski £374 11 6
E. Lavrance & Sons, Ltd. 680 0 0
Fincham & Walton 670 16 6
Tredgar & Co. 667 0 0
G. Weston & Sons, Ltd. 650 0 0
Tilley Bros. 620 10 0
[The Chief Engineer's estimate comparable with the tenders is £390.]

TRALEE.—For rebuilding business premises, for Messrs. Galvin's. Messrs. Doolin & Butler, architects, Dublin:—

	Alternative Estimates.
Kennedy	£3,106 8 2½
Furner Bros.	3,041 1 11
P. Murphy	2,841 5 10
Sisk & Son	2,631 0 0
Mengher & Hayes	2,588 0 0
J. Ryan & Sons	2,575 0 0
Hearne & Son	2,461 1 11
Waterford	2,461 1 11

TREFFERHAN (Aberystwyth).—For erection of thirty workmen's dwellings, for the Corporation of Aberystwyth. Mr. Rees Jones, Borough Engineer and Surveyor, Aberystwyth. Quantities not supplied:—

E. M. Evans	£6,656 0 0	J. Edwards Bros., Trefferhan	£4,972 17 7
J. J. Edwards	6,211 0 0	Owen Bros.	4,970 0 0
D. & M. Davies	5,673 0 0		4,757 13 0
E. Evans & Son	5,284 0 0		
Jenkins Bros.	5,227 10 0		
E. E. Jenkins	5,189 9 0		

† Withdrawn.
[Surveyor's estimate, £5,413 15s. 9d.]

WINCHMORE HILL.—For erection of a Council School, for the Middlesex County Council. Mr. H. G. Crothall, Architect to the Education Committee:—
J. C. Tennant & Co. £12,219
W. Lacey 210
A. Porter 10,772
H. Knight & Son 10,554
G. Seal 10,490
Rowley Bros. 10,456
Fairhead & Son 10
Brand, Pettitt, & Co. 10,452
Matlock Bros. 10

* In our issue for November 22, in the list of tenders for a new school at Bradwell, page 632, we gave the name of Mr. W. Heap, of Northampton, as the lowest tenderer, but indicated that the next lowest tender had been accepted. It should have been stated, however, that the reason Mr. Heap's tender was not accepted was because his tender was ruled out of order as he did not stipulate a time for carrying out the work.

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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3645.

DECEMBER 12, 1912.

ILLUSTRATIONS.

THE CHURCH OF THE ANNUNCIATION, OLD QUEBEC-STREET, W. :—
VIEW FROM SOUTH-EAST.
INTERIOR VIEW, LOOKING EAST.
MR. WALTER TAPPER, F.R.I.B.A., ARCHITECT.

ST. ANDREW'S HOSPITAL, DOLLIS-HILL, WILLESDEN, N.W. :—
FRONT ELEVATION AND PLANS.
MR. ROBERT L. CURTIS, ARCHITECT.

ILLUSTRATIONS IN TEXT.

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THE ARCHITECT AND THE LAY-COMMITTEE.

WE believe that it is a generally acknowledged fact amongst architects that, although the practice of their art is set with all manner of difficulties, it is not so much the actual carrying out of work entrusted to them that taxes their resources as the ways and means to which they have to resort, on occasion, in order to make sure of the commission. In other words, the architect's great difficulty is to secure work, and, having achieved this with no in upon his reputation, to safeguard his interests from the day the contract is signed to that of the final settlement of accounts, his own amongst the number. We are well aware that the mere enumeration of these two axioms will awaken memories in the mind of many an architect of injury inflicted upon him, may be years ago, for this is nothing new, or it may be yesterday; for it is going on every day. That such a state of affairs is to be entirely avoided is beyond the wildest expectations, but we fear

that it will be aggravated unless serious and concentrated effort is brought to bear upon it from outside the ranks of the profession as much as from within. There is probably not an architect in this country who has been in practice on his own account for a period of ten years who could not tell of experiences which would be illuminating; of prospective and presumably assured clients lured away at the psychological moment; of intrigue of some kind or another which was too much for him because he would not stoop to combat it; of clients who have protested against the final certificate, whereas the "extras" were entirely of their own ordering or necessitated by their vacillating minds; while stories of injustice suffered in the thousand-and-one directions that may result from a competition conducted on satisfactory lines are too rife for us to attempt to touch upon them here, even if we felt inclined to do so, in view of the fact that real progress has been made in recent years towards the elimination of the "undesirable competition." But, although architects

may have differences with their clients at one stage or another of their business relations, they often have themselves to blame, for the simple reason that they do not know how to manage them; it is often indeed a delicate proceeding, and, as practically no instruction or guidance is given in the architectural schools or meted out by the practitioner to his pupil, the young architect often finds himself checked in the game of life till he has learned by bitter experience; again, the architect may have grievances associated with this or that competition, but if that is so now-a-days, he more often than not has himself to blame for entering upon one the conditions of which have not been approved by the Committee of the Royal Institute of British Architects whose special duty it is to watch and report on such matters.

But the architect who finds himself face to face with a Lay-Committee is in an altogether different position, and we wish in particular to draw attention here to some of the indignities to which he may find himself subjected under trying

conditions. It is a theme to which attention appears to have been little directed, certainly not for lack of data.

Let us take the case of a Committee composed of a number of men and, in these enlightened days, in all probability comprising an equal or possibly a preponderating number of women, all cultured as far as general knowledge constitutes culture, but ignorant of architecture and the methods of the men who keep the lamp of beauty bright. Imagine such a Committee taking upon itself the onerous duty of formulating a scheme for a large modern building intended to be put to a variety of uses: of selecting a site for it, and of appointing an architect to design and carry it out. At a very early stage of its labours it finds that it cannot proceed far without some expert aid, for beyond a vague idea of the nature of the accommodation required to be provided little is known. Questions quickly arise as to how many floors should this accommodation be disposed upon, and how much land will be required. If half an acre, will every square yard allowed to be built upon by the by-laws in force in that particular district be covered? If double that area, will the building be lost on a site too large for it? Till some plans, however rough, have been prepared to scale no site can be acquired. Accordingly the services of an architect are retained, and as one site is favoured after another he surveys, and by means of report and plan provides the Committee with valuable information, valuable possibly in a negative sense as proving more often than not that certain steps should not be taken. For these services he receives nominal fees out of all proportion to the labour and skill expended, and he may then find that the Lay-Committee has reserved the right to appoint any architect and on a given day to invite applications for a specific commission. We believe that it is no uncommon thing for such a course as we have outlined to be followed, and we cannot take exception to the proceedings so far, either in theory or practice, for "who pays the piper calls the tune." But we do regret the custom which seems to be prevalent amongst architects of pouring in drawings and photographs of executed work to impress the lay-mind with the magnitude of their achievements, the amount of their resources, and presumably their hunger for more work, after they have ascertained that the decision rests with a Committee who has shirked the appointment of a professional adviser to act in a purely professional manner in a purely professional matter. The Lay-Committee in its ignorance of architecture, and the machinery by which it is only too often produced, is naturally caught open-mouthed. It seeks safety by following the line of least resistance, and thinks that, because Mr. A. has built a Town Hall which has not tumbled down, he must surely be safer to trust with another Town Hall than Mr. B., who has only built a library, although the library be better of its kind than Mr. A.'s Town Hall. The principle is absurd, and we touched upon it some weeks ago in dealing with certain aspects of "official architecture," for it is this sort of thing which tends to make

architects stereotyped specialists in a dead art instead of versatile exponents of a living one.

The invitation to architects to send in specimens of their work having been responded to, we can expect no other result than that the palm of victory should be given to the runner with the longest list of "events" to his record; we should not blame a Committee for perpetrating such a blind act; the members could hardly be expected to know any better. The error would not be there, but in their taking upon themselves the privilege of adjudicating upon what is practically a limited competition, and it lies primarily with the architects for submitting their work to be judged by untrained minds. A violation of the rules of etiquette is no mark of genius or learning, but, apart from such questions, it is obviously unfair to any younger men who might be amongst the "invited"; it goes without saying that "to him that hath shall be given and from him that hath not shall be taken away, even that he hath." If Mr. B. is never to be given a school to build because he has never built a school, it is clear that his experience will be confined within narrow limits, and many a reader of this article will cast his thoughts back to the client who gave him his very first commission; viewed in this light, he will at least acknowledge this client to have been brave, almost heroic, whatever his other merits or demerits may have been, for he it was who entrusted him with a commission knowing that he had not previously designed and executed any building at all in his own name.

Now, this attitude of the lay-mind towards architecture is becoming serious, and it is quite time that in more ways than one architects should take a stand and make clear their position. Our hopes for the future of our art centre largely round the public; there never were such means of acquiring an intelligent interest in architecture open to them as there are to-day; books without number are being published as much for the "general reader" as for the professional student; lectures free to anyone who cares to apply for admission are being delivered practically every day at this season of the year at the leading educational establishments in the country; the daily Press is awakening to the vital importance of beautiful homes and dignified cities, and is preaching spasmodically what the professional Press has been urging for years. All this is tending to educate the public and to open up the one road by which the fine arts may be restored once more to their rightful place in this country, and there is no more hopeful sign and no tendency which it behoves us to encourage and help forward more earnestly. But it has its dangers; it does not follow that because they benefit by the available means of acquiring an interest in matters architectural the public are to take upon themselves duties which these very books, lectures, and articles are meant to teach them, namely, that the art of architecture is too big a subject to be trifled with by amateurs. They should realise that all matters of technical import should be referred to those qualified by training and experience to deal with them, seeing that they alone

are fit to plunge into the deep as troubled waters, the shallows at the brim of which provide such excellent paddling for those who have neither the courage nor the skill to invade more than knee-deep. "The tyranny of the assessor as a correspondent points out in a letter we publish elsewhere, "is nothing to the ignorance of the Lay-Committee."

The acquisition of a little knowledge is always dangerous, but it is particularly so in the case of such a pursuit as that of architecture, whose appeal is peculiarly smattering; easily acquired, and an apparent show of knowledge can readily conceal an absolute ignorance of the principles underlying it. Architecture is a great constructive art; the outward forms, colours, and decorations are mere language by which the skilled architect expresses himself, yet people who have not the least comprehension of the constructive problem, which was the very thing with which architects of all ages no less than those of our own day have grappled, and to which they have given this or that expression by accident or design, are setting themselves up as critics and taking upon themselves to say what is good architecture and what bad, and who is the best architect of a given number. As a matter of fact, the opinion of the person with no technical knowledge and no special training in a particular craft has little value; more than that, it may be mischievous, and when it is given collectively by a Committee or Board constituted of such persons and by the iron of fate with powers for the time being to tie the hands or reject the project of some architect who finds himself unexpectedly at their mercy, it may be positively harmful to the progress of our art, and architects should stand shoulder to shoulder to resist it and annul it whenever occasion arises.

It may with a certain amount of assurance be urged that any architect who has been building for ten years, and building well, is fit to be entrusted with the design and execution of any ordinary architectural work, for the principles underlying all kinds of building are the same; the planning and the question of outward expression will be the only aspects of a problem upon which one unacquainted with any particular kind of structure will need to focus a trained intellect. And this concentration of a fresh and vigorous mind upon an entirely new problem has been productive of some of the happiest results which the chronicler of modern architecture will be called upon to record. We want to see building schemes in the hands of the most thoughtful and scholarly architects, and we are training them every day; we want architectural literature from the pens of writers who know *first hand* what they are writing about. We must be broad in our sympathies and firm in our convictions, if we are going to hold our own in a restless age—an age of inquiry and undigested thought. Above all, the profession must do what they can to make sure that their interests are being watched and guarded in all places and at all times by those who really have at heart the furtherance of architecture and the constructive and decorative arts allied with it.

NOTES.

BOTH the *Observer* in its issue of the 8th inst. and the *Standard* in its issue of the 7th inst. call attention to the danger attended by the erection of further buildings in the private enclosures of St. Paul's Park. The Marylebone Borough Council, within whose area is contained a large portion of the Park, and the Metropolitan Council have both made public statements against the proposals which have been made. The latter body states that "The operations are being conducted on Park land which was formerly on an annual tenancy by people who lived in villa houses next to it. Everyone understood that when the leases of the houses fell in the land would be added to the Park, and as these leases fall due in the future it is with considerable apprehension that we view these building operations"; further, if "buildings are allowed to be erected in the present instance, what advantages have we that others will not be reaped on the other enclosures?" It pointed out that the new buildings of St. Paul's College, occupying no less than 10 acres, have already begun the process of enlarging the Park into a town, and that two other dangers are threatened—first, the proposal to continue Portland Road, linking it up with Portland town; second, the possibility of part of the Royal Botanic Gardens being selected as site for London University. Attention was called to these dangers in the House of Commons, and the likelihood of the proposals being entertained was pointed out by Mr. Wedgwood Benn, replying to questions put on behalf of the First Commissioner of Works, also that the Office of Works had not received any suggestion with reference to the land in question, and there was "little probability of its being agreed to if put forward." In view of the importance of preserving London's open spaces we hope the protests made will arouse sufficient opposition to secure the defeat of any such proposals. We are glad to hear that the appointment of a House of Commons Committee to deal with these similar proposals is mooted.

In a letter to the *Times* of the 10th inst. the danger threatening the stability of St. Paul's Cathedral by the construction of the proposed tram subway is again drawn attention to by Mr. Evelyn Macartney. This is no idle remark, but a well-founded note of warning issued by one who is in a position to speak with authority. It appears that in the east walls of the Cathedral to the side of the tunnel would be only 1 ft. and that the bottom of it would be 6 ft. above the footings at their deepest point. Considering the nature of the soil and the presence of water, any subsiding which is likely to drain off the water is almost certain to lead to subsidence unless extraordinary precautions in the way of underpinning are first undertaken. That the stability of the Cathedral would be endangered by such meddling operations as are proposed, without these precautions being first taken, goes without saying, and we think

that the authorities have good cause for drawing attention to a serious menace to the National Cathedral. This may be a utilitarian age, calling for all manner of increased facilities for transit, but it behoves us first to safeguard our ancient monuments, and none more jealously than St. Paul's Cathedral. By adopting Blackfriars Bridge as the link between the tramway systems risk to St. Paul's would be averted.

We are glad to notice "Thoughts on Architecture," "Beauty in Architecture," delivered recently by Mr. W. S. Purchon, A.R.I.B.A., at Sheffield, which we print in this issue. The lecturer very truly states that "One of the most important qualities in architecture is unity"; . . . "the various forms which compose a building must be so arranged and welded together as to form a single whole; no part of a design must look like an afterthought." In saying that "Proportion is a relative matter, the harmonising of the shapes of the different forms with each other and with the whole," we feel Mr. Purchon's definition a little incomplete, as it has surely more to do with space than actual form except in so far as form is expressed by space? In other words, the lecturer seems to have harmony even more in his mind than proportion, though harmony can only be obtained by the observance of the canons of proportion which dominate everything else. We cannot agree with the statement that Blenheim Palace is "not really so bad as it is supposed to be." But the

lecture, as a whole, is one of those thoughtful attempts to recognise first principles, which are in architecture the one thing essential, as clear and logical thought must be a necessary forerunner of successful accomplishment.

We much regret that the Piccadilly Manchester Corporation Site, Manchester, should have put architects to the enormous labour which a competition for a public building of the first importance involves, and then proceeded to consider whether it was a project they wished to carry out! Such an inversion of the positions of the cart and horse is productive of the greatest injustice to architects. Every public body should be competent to decide its own wants, and not until those wants have been thrashed out should it ask a body of professional men to submit designs on the obvious implied understanding that someone of them will be entrusted with a building. The fact that the profession does not work for money premiums, however considerable, but for the opportunity of designing and carrying out buildings which will bear the tests of criticism and time needs constant and vigorous enforcements. The Commission now sitting at the Manchester Town Hall to consider to what use the Piccadilly site should be devoted is a bad instance of the way in which we are treated by the public whom we try to serve. We hope that among a multitude of counsellors the Corporation of Manchester may find wisdom, but we wish they had done so before and not after they had put the profession to the trouble of a competition.

In another column, under the heading "The Railway Strikes and Lock-outs," we draw the attention of employers and employed to the very serious effect the constant resort to strikes has on the wages of the working classes and the trade of the country. Since those observations were written a strike has been commenced on the North-Eastern Railway upon wholly inadequate grounds. A main line driver was charged with having been drunk when off duty and of assault. The charge for assault was not made out, but the man was convicted of drunkenness and, according to the reports in the Press, he was reduced in rank to a pilot engine-driver. It is apparently contended that he was wrongly convicted, and many men have gone out on strike. Their action in so doing will be noted by the public, in whose interest the action of the railway authorities was taken. Men occupying positions of such responsibility as engine-drivers should be as sober when off duty as when engaged in their duties, and a railway company employing a man in such a capacity after he had been convicted by a properly constituted tribunal of any insobriety would be guilty of a serious breach of duty. A strike instituted on the grounds that a company shall not perform a duty to the public is an attempt at intimidation which can only be universally condemned. There are constitutional methods of testing the justice of a conviction, and the company have certainly not shown any desire to be severe with the man, but if judicial



Joiners' Hall, Salisbury.

From a sketch by Mr. Leslie Barofort.

Of the several incorporated companies which formerly existed by Charter in this city, the Joiners alone retain any premises of architectural merit. Their building stands in St. Anne's-street on a steep slope. The carved brackets supporting the upper windows are attributed to the hand of Humphrey Beekham, a native of Salisbury, during the reign of James I.

decisions are to be made the subject of strikes discipline is at an end, and the public are threatened with serious danger. Whatever may be the merits of the particular case, it is obvious that it should not be the occasion of a strike, and the action of the men shows the reckless use they make on the least excuse of a remedy which should only be resorted to as a last resource in trade disputes of a serious nature.

"BYZANTINE CHURCHES IN CONSTANTINOPLE."

By PROFESSOR W. R. LETHBRIDGE.

IN the fine new volume published under this title* Dr. A. van Millingen gives us a worthy companion to his authoritative work on the city walls of Constantinople, and one with a more definite appeal to architects. These two works, together with the comprehensive volume written by Mr. Dalton on Byzantine Arts other than Architecture and Miss Bell's accounts of her explorations, are providing us for the first time with adequate material for the study of Byzantine archaeology. If Mr. Antoniadis, who for long lived in England and writes perfect English, would issue a condensed version of his great work on St. Sophia for our use we should be archaeologically happy.

Some acquaintance with the main principles followed by the Byzantine builders of the best time—that is, the VIth century—may be recommended to all modern architects. The more modern they are the more they may profit from a contact with this very free and very reasonable form of ancient art. Nothing is so likely to break down the dreary "Classic" or "Gothic" view of architecture. I do not recommend it, vital and beautiful as it was, as "Byzantine," but rather as a third link in the long chain to which we should be adding our own contribution.

* "Byzantine Churches in Constantinople." By A. van Millingen. (London: Macmillan & Co. Price 31s. 6d. net.)

In the preparation of his volume Dr. Van Millingen has had the assistance of Messrs. Ramsay Traquair, W. S. George, and A. E. Henderson, all architects with a competent, first-hand knowledge of Byzantine buildings. It contains 92 plates, 116 plans and other figures, and 330 pages of text which gives a complete historical and architectural account of the now existing churches of Constantinople.

This admirable book has given me very much pleasure, bringing back, as it has done, the memory of a fortnight of delight spent in visiting several of these churches nearly twenty years ago with my gifted friend Mr. Harold Swanson. We were taken to them by Canon Curtis, who did good work in Constantinople, and we saw many things which have probably now passed away. By the side of the then recently-made railway which skirts the shore outside SS. Sergius and Bacchus there were heaps of Byzantine capitals and other fragments. A little further on a large section of the sea-wall had the upper part of its brickwork set in patterns, and the walls were largely intact. An archway with Victories on either side formed an opening in the wall to the quay on the Golden Horn, and many interesting marble fragments appeared here and there in the masonry, most of which have probably been now gathered into German museums. Outside of the wonderful land-walls were only cypresses and turbaned tombs—nothing ugly. A small house near Gul Djami, which Canon Curtis thought occupied the site of the Church of the Holy Apostles, had two marble capitals of the wind-blown acanthus type forming a step to the entrance. The shoemakers working at the doors of their little shops all sharpened their knives on pieces of royal porphyry.

The English method of reviewing books as practised in the literary journals of omniscience should be an offence to people who like to call themselves practical. The staple of such "criticism" is to keep on saying that any given work might be different from what it is—if blue, say it should be red. I cannot pretend to show how the learned author with whose volume we are now concerned should have done his work better, so

I will only venture to thank him, and in making use of a few points in his great work of material, I will endeavour to discuss them.

The Church of St. John of the Studion was a noble basilica built in the VIth century. I say "was," for, except the western portico and the outer walls, it is now a squalid ruin. It seems to have been nearly perfect in the XVIIIth century; it degraded quickly during the last century; in 1900 it was injured by fire, and later a heavy load of snow broke down the roof. The portico opening on a pleasant court, once an Atrium, is of great beauty, and happily gives us some indication of what the interior which appears to have ranged exactly with it was like. Over the aisles were galleries supported by a marble entablature resting on verd-antique columns. Above the marble beam stood another range of columns supporting the roof. This is a very beautiful scheme for a great congregational building. The double tier of columns separated by marble beam is found again at SS. Sergius and Bacchus. In the flank walls of the basilica are two ranges of windows, the upper ones being large. There is a splendid mosaic floor: finds of tesserae and other evidence show that the upper parts of the walls were covered with mosaic, while the lower were plated with marble.

The most valuable old description of St. John of the Studion is that of Pococke, which I may quote, as it has not been used by Dr. Van Millingen:—"The finest most after St. Sophia is called by the Greeks Constantine's Church, but is the church of a monastery called Studion. There is a very handsome portico, with four pillars of white marble, which support a very fine entablature, there being another of the same kind within. The nave is divided from the aisles by seven verd-antique pillars, 6 ft. 2 in. in circumference. I took particular notice that they are of the composite order. These are as many more pillars of the same order, and, probably, of the same material but they are whitened over; there appears to have been a gallery on each side, which is not remaining. There is a cistern under a Court to the south, in which there are four rows of Corinthian pillars."

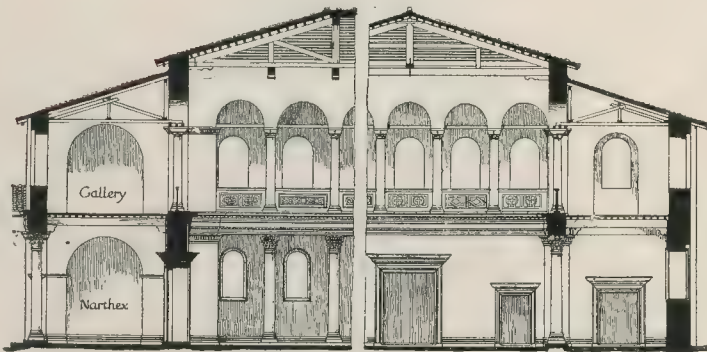


ELEVATION OF THE NARTHEX by Ramsay Traquair.

St. John of the Studion

SKETCH RESTORATIONS by W. S. George

in accordance with existing indications, and the analogies of Eski Djami and S. Demetrius Salonica.



LONGITUDINAL SECTION OF WESTERN PORTION OF NAVE (Restored) HALF CROSS SECTION LOOKING WEST (Restored)

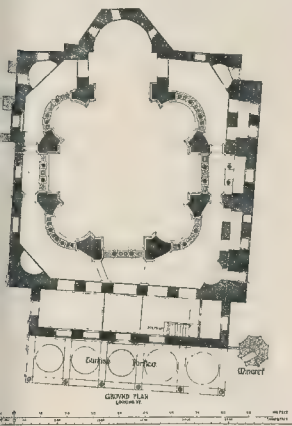
feet 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Fig. 1. From "Byzantine Churches in Constantinople."

(By permission of Messrs. Macmillan & Co.)

Up to the gallery level the walls were lined with marble; that they were similarly treated above is possible but not certain. The cubes of mosaic found, probably came from the soffits of the upper arcade and the Bema semi-dome.

On this account I have put three especially notable observations in italics. (1) The general entablature was similar to that of the portico. (2) The lower range of marble columns, about 2 ft. in diameter, were composite, and different from others in



2. Church of SS. Sergius and Bacchus, Constantinople: Ground Plan.

from a measured drawing by Mr. A. E. Henderson.

Cistern, which are described just below Corinthian. Now, the capitals of the octo are "composite"—that is, they have anthus leafage below and big volutes at angles. The internal columns, therefore well as the entablature, were like those the portico. Gillus, indeed, as quoted Dr. Van Millingen, says that the internal was like that of the vestibule. The upper columns were Ionic. These are all properly assumed by Mr. George in his restoration (see illustration produced on page 702, Fig. 1), but it is satisfactory to find the ordonnance of the interior clearly described. May I say here that agree with keeping the roof low and leaving clear-story windows? The upper windows the galleries were doubtless made so large they are to light the nave. Altogether get a very complete restoration of this the early basilica.

When I visited the church there were one two finely-carved upper blocks of capitals in the Atrium Court. One of these believe I recognised last year in the Berlin Museum. I also have a note that Mr. Freshfield—to whom we owe so much as long the only student of Byzantine art in England—bought and brought away some carved capitals because the Turks were using pistols at them. One of these has anucopia on the face and "thistles" at angles. This, however, would have been later than the basilica.

The plan and whole structural scheme of the Church of SS. Sergius and Bacchus (Fig. 2) wonderfully perfect—a single and complete work. It is pointed out on page 71 how "the octagon stands askew within its rectangular frame," so that they "have not the same orientation." It is questioned whether this is due to inaccurate work or "the result of the effort to adapt the church to the lines of the earlier Church of SS. Peter and Paul, which which it was united. If we may take the plans as accurate, it is architecturally certain that the adjustment was intentional. The effective interior and its axial vista is liberately twisted 5 deg. or 6 deg. from the central line of the square building. It is done very skilfully; the narthex and its transe-door are pushed to the south of the east front, while the apse is pushed to the west. Moreover, the whole bema and apse, with its east window, are planned on the diagonal axis, so that all the important points

in the vista are in the same line. It would be worth while comparing the direction of sunrise on the day of SS. Sergius and Bacchus with that of SS. Peter and Paul to see if they would offer any explanation of the change of orientation. It is certain, I believe, that St. Sophia points to the sunrise of Christmas Day. In any case, there can be little doubt that SS. Peter and Paul was first built, giving the general direction. This church was almost certainly on the north of SS. Sergius and Bacchus, as indicated by the thinner wall here as compared to that on the south side.

When Swainson and I visited the church he set himself to make out the monograms on the capitals, which, I believe, he was the first to do. He afterwards published them in the *Byzantinische Zeitschrift* (Fig. 3), and pointed out that, although the name of Theodora appears as well as that of Justinian, her title Augusta is not given as at St. Sophia. I gave my attention principally to the form of the dome, describing it thus:—"It is not properly described by Salzenberg or Choisy. It is not spherical, nor set on regular pendentives, but each angle of the octagon being rounded into a niche, the dome springs in sixteen sides, the alternate ones over the angle niches being concave to the interior. On the inside modelled plastered ribs follow the sixteen divisions and surround the eight arches. This is much disguised with Turkish painting, but it is certainly Byzantine." I should add that it is not so much that the "sides" are alternately hollow and straight, which would make a perfect geometrical device for setting a cupola over an octagon, but the alternate hollowed sides rise at first rather vertically and then are slurred into a flatter concave. The form has thus no strict geometrical definition, but it is very delightful, especially on the exterior where the leaden skin fits over the "bumped-out" parts. As Dr. Van Millingen points out, the marble columns of the interior are "in pairs, alternately verd-antique and red Synnada marble"—those of the straight sides are green and those to the alternate curved bays are red; this is a precedent followed at Sta Sophia.

It is noticed that the arch at the foot of the staircase to the gallery is built of fragments "from the old ciborium or eikonostasis." Not from the latter, I think, for they are small in scale, and it is likely that the eikonostasis was formed by a continuation of the lower order with its entablature. Note how this ends now at the side of the

opening into the bema (A in Fig. 4). In this case the great inscription of the interior would have begun here, and it seems to call for a beginning of some length.

On St. Irene it is perhaps better not to speak in any detail before Mr. George's

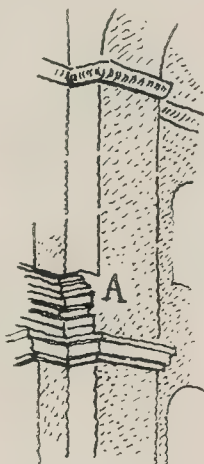


Fig. 4.

monograph is published; but there can be little doubt that, in the main, the suggestions offered in this volume are sound, including that as to the original form of the nave. Perhaps, however, Justinian's share in the present church is a little understated. In the chronological table at the end of the book the early part of the much-rebuilt Chora Church is assigned to the VIth century, but St. Irene only comes under the VIIIth century as "St. Irene 740." Rivroira has lately assigned the whole structure to the VIIIth century, but I feel that I may still say that "the originality of the scheme . . . and the large freedom of the handling marks it as of the VIth century."

The VIth-century Church of St. Andrew, in Kriest, is a small structure of very great beauty, which was hitherto little known. I am able in Fig. 5 to reproduce the isometrical section given in the book.

Of the later buildings I cannot speak at any length. St. Mary, Pammakaristos, still has a fine mosaic in a dome and an important east front. The exterior of the apse of the side church, with its niches and the series of triangles under the cornice, should be compared with similar features at Murano and St. Mark's, Venice. This part is doubtless a work of the XIth century. The comparison shows how strictly Byzantine the Italian churches just mentioned are.

In St. Theodosia I drew the cross incised on a slab figured on page 174. It was then a little more perfect, for there was a disc at the end of the arm, and the foliage finished below it instead of passing up to the upper quarter space.

Pococke gives the best old account of the church, or group of churches, of the Pantokrator:—"Another church converted into a mosque is on the brow of the fourth hill. It was dedicated to the Almighty, has two porticoes, and is divided into three parts, the domes being supported with pillars of red granite. The whole is adorned with the figures of the Apostles and the history of Our Saviour in mosaic work, and the subject of each compartment is described in Greek; the Turks have disfigured the faces. On the outside of this church there is a very fine coffin of a single piece of verd-antique of a very extraordinary size; there are crosses cut on it." There were imperial tombs in the church, and this was evidently



Fig. 3. Monograms on the Capitals of S. Sergius at Constantinople.

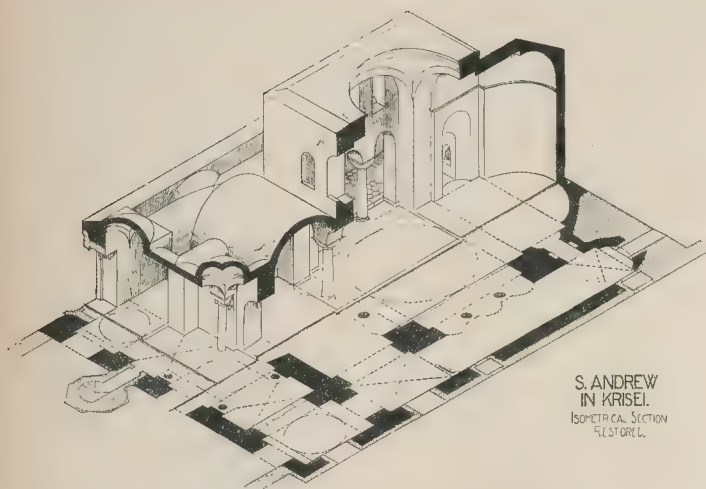


Fig. 5. From "Byzantine Churches in Constantinople."

(By permission of Messrs. Macmillan & Co.)

one of them. I believe we saw such a sarcophagus in the street not far from the church.

Dr. Van Millingen, in describing the middle church of the group, says:—"The floor in the archway leading into the south church is paved with marbles forming a beautiful design. If the whole floor was thus decorated, the effect must have been extraordinarily rich." It is a work of *opus sectile* of great interest, as being the prototype of similar pavements in Italy. In a plan of the church by Texier at the Institute of Architects this elaborate floor is shown as covering the central square area between the four columns of the south church. "Fragments of fine carving have been built into the pulpit of the mosque, and over it a Byzantine canopy." I remember that we climbed up the steep steps of this beautiful pulpit. The sides of the canopy are marble slabs with "arches" cut out of them. In the spandrels were crosses in shallow relief (now defaced), and on one side three monograms. The first of these seems to be *Kyrie Boethi*. I trace them from sketches by Mr. Swainson. (Fig. 6.) The mosaics described by Pococke have disappeared, but some marble wall lining still exists, with a cipollino dado, and then above a band of verd-antique a tall central panel of red surrounded by two wide bands, verd-antique and red.

Dr. Van Millingen brings his work to a close with a full account of the Chora Church, the least-injured ancient church in Constantinople. The resemblance of its east end

historical text seems to agree with this view. A claim for the VIth-century date of the older part was made many years ago by Professor Hayter Lewis in the *Procopius* issued by the Palestine Pilgrims' Text Society.

I fear that the wall paintings of the paracloision have faded much since "my time." Then the coloured interior was of great beauty, and the paintings were interesting even compared with the splendid mosaics. Notice in Fig. 99 a band of mosaic of Italian "Cosmati" type. Similar mosaic patterns have been found at Daphne, and it seems certain that such Cosmati mosaics were of Byzantine origin.

I had not thought of writing so much. The interest of the volume has drawn me on.

W. R. L.

OFFICIAL ARCHITECTURE IN INDIA.

We have before us Mr. Begg's Annual Report,* illustrated by a selection of the photographs supplied to him of buildings carried out under Government supervision, which is specially interesting, coming, as it does, at a time when the building of New Delhi is under consideration.

It contains clear evidence of the number and importance of the works executed by the Government of India—that remarkable experiment in the world's history, the almost despotic government of an Eastern people by a Western in the interests of the governed rather than that of the conqueror.

Such work as devolves on the Consulting Architect must in the nature of things be exceedingly difficult, as it is work carried out without the adequate assistance which would be forthcoming here, and in a trying climate, and confronted with the problem that Kipling puts into the words "East is East and West is West, and never the twain shall meet"; and if we criticise we do so with full knowledge of, and sympathy for, the difficulties of those who are placed in so onerous a position.

The Consulting Architect gives a list of twenty-four of the most important works coming under his care during one year, and when we mention that this includes two churches, five post-offices, and three Court houses it may be readily seen that the

capacity of the ablest designer and organiser may well be overtaxed.

We believe in clear thinking and plain speaking, and we hardly understand Mr. Begg's first impressions of the Taj, or can quite see the bearing they have on such Report as this; we, however, quote the passage as being interesting: "I declare the Taj is not architecture—not, at least, in the accepted sense. Something far finer, perhaps, better, higher; art of transcendent order, maybe; poetry in craftsmanship; music in marble; an inspired dream of hitherto unattained future caught and rendered solid. Solid, yes; but hardly real. And the architect who would be so vain as to go to it seeking notions for his work—anyone worthy to be called architect, who had an inkling of what to expect, could go to it for that base purpose—would come away disappointed."

In contradistinction to this rhapsody Mr. Begg utters sound sense when he says "Now, if it be true that native India architecture has died under our rule, I think it very doubtful whether we could be blamed for it. Only art with very little vitality can be killed by Government letting alone, which is all we are accused of doing. It must be unworthy to live if it cannot survive the want of direct Government patronage."

The buildings illustrated fall under two heads, those which are frankly English in design, like the Calcutta Medical College designed by Mr. Begg, and the new Secretarial Council House, carried out under Mr. Ransome and Mr. Begg; and, on the other hand, such instances of an Eastern rendering as Muir College, Allahabad, by F. O. Oertel, and the Daly College, Indore, by Colonel Sir S. Jacob, K.C.I.E.; and we are sorry to say that neither type strike us as being on logical lines.

Those first mentioned are but ordinary Georgian design, having little to differentiate them from the buildings of this country, and the latter are a lifeless and uninspired effort at imitation.

Nothing ever designed had stronger vernacular feeling than our own Georgian work; it suits our climate, and it suited the conditions which brought it about, but it is one of the last styles to accord with India, or to be in place in the tropics.

Neither do we feel that we can adapt the architecture of the Moghuls and breathe into it the spirit of living architecture. We believe that a *via media* is to be found in some style built up on the basis of the Southern European Renaissance, the type of Spain and Italy and the Colonial Empires of Spain and Portugal.

In the Portuguese colonies of Macao and Goa, and in the lands which once formed the Colonial Empire of Spain, in especial Mexico, we are nearer what we require. In these places the Renaissance was carried out by native workmen under a European ruling race; and in Mexico especially the art of the conquered race modifies the type and gives it local colouring.

In Mexico, too, buildings had often to be carried out in materials which were far from being of the character we consider sufficiently good in Europe. The Americans have shown us how well the Renaissance is adapted to the conditions of a hot climate, but it is architecture characterised by a larger and freer handling than that which is indigenous and suitable here, and the American architect has shown his adaptability by many delightful buildings in Southern California, which are outcomes of the picturesque local traditions left by the Spanish Missions.

We must hope that the building, of the new capital of India will be an achievement which will demonstrate our ability to rise, if not to the full height of our opportunity, at least to a large measure of success, and that it will react, and revivify the official architecture of our Indian Empire.



Fig. 6.

to that of Sta Sophia Salonica is pointed out, and in the architectural description it seems to be suggested that the older parts go back to the VIth century. This cannot, I think, be the case in regard to the main apse, for it has a wide triple window of a late type and two external niches like those mentioned above as characteristic of the XIth century. The "restored bay" on page 315 also looks late, and it seems to me that the old part, irrespective of foundations, is not earlier than the XIth century. The more cautious

* "The Annual Report on Architectural Work in India for the Year 1911-1912." By the Consulting Architect to the Government of India.

EXHIBITION OF THE ARTS
AND CRAFTS SOCIETY.

MANY changes have marked the progress of the art in the last fifty years. At first it was strife, and, winning, the progress became triumphal, until to-day we may join in with fresh unstained banners and enthusiasms; but, instead of dissipating our strength and energy in the battle, we may use it legitimately in our work. The Society of the Arts and Crafts was, in some way, a pioneer of this. Prophets, it is true, had gone out before and prepared the way, but it was still rough, full of pitfalls and of griefs. That we fell by the roadside was inevitable, but we won through. Now, with a certain sense of triumph, they hold their tenth exhibition, at the new Grosvenor Gallery. Criticism has a persistent way of regretting "the good old time"—the habit is as old as Solomon—always to the disadvantage of to-day. The present exhibition has been compared very generally—"it is inferior to the last." It is difficult to compare things separated by three years, and, besides, it is quite unnecessary.

Has the Society achieved its aims? Is it still a healthy body? Surely both questions may be answered in the affirmative. It hardly matters if the exhibitions are in merit. That is inevitable; for, after all, once the ground has been opened up, the seed sown, there are influences around our knowledge which touch the harvest of golden plenty or blight it to thin purity. It may be unfortunate, but genius, which knows the course of life, the direction of art, is unknown and new ways, from its infancy, is almost worn out before its first clearing is reached.

Many great voices are stilled, that we of the younger generation—from our nearness to the things—somewhat disparage. Ruskin, Morris, and the Pre-Raphaelites may seem to us to have builded on strange soil, but we must not forget that we use their foundations to raise the fair fabric of art which our generation hopes to raise.

Day by day we move further away from our first designs; we alter window, frieze, and cornice, and the conception widens out, closing ever new beauties, but we build on what we did not lay. Somewhat ancient hands laid the first stones!

Much as we hope for the future, we cannot find it in ourselves to call this a great age of art. We refer not to lack of great artists, but to the attitude of a whole people towards art. It is a thing apart from life. If we allow ourselves, it follows that, beyond the accident of the individual, we must be content with less.

Judging this exhibition, let us adopt a table criterion, not looking for peers of the best left by the ages, but for lesser things, which may be found. The best, but, at any rate, we shall not be disappointed. Of the work of architects there is little. Sir Herbert Lorimer, however, finds time to let his fancy flow out to the making of little things. And his exhibit is so various that it is led to believe that the true architect is the head and front of designers. What a warning thing is the carved and coloured crest of the late Duke of Fife (101)! It is a decorative heraldry—not the commercial work of the Herald's College—without any pretence to reality or that superficial flash that destroys the medium. It is only a piece of pine carved and painted the similitude of a mounted knight in a loup. Some of the credit must be given to Herbert Young, who carved it, who stayed hand before it had gone too far. Two dressing-glasses (94 and 98), from the designs the same architect, show his appreciation of dainty form and material. The general lines, which are similar and traditional, are delightfully simple, whilst the form of the tops of the glasses is intricate enough to show the beauty of the cross-banded lead. Little ivory finials and drawer-pieces make playful dots of colour. Equal knowledge of art make his tables (89 and 90),

bookstands, etc., pleasant things to look at. He understands that it is good to omit, good to allow material to be its own sufficient excuse.

In the vestibule there is an extremely interesting design for a barge by Francis W. Troup, for Hertford College Boat Club (497), which should make a delightful addition to river architecture. Needless to say, it is quite unlike the usual houseboat, which has to be covered with flowers before it looks anything but derelict or worse. W. Curtis Green shows photographs of a small church (518), very simple in idea and in execution. Indeed in many ways it shows how good architecture and expense are not synonyms. Another good photographic exhibit is a pleasant cottage at Haslemere, by A. J. Penty (530). C. R. Ashbee does not shine so much in architecture as in other of his multitudinous activities. His isometric drawing of the London Fraternity House (359 A-B) puzzles at first by its strangeness, but when analysed it is a mass of incongruities. Ernest W. Gimson is represented by none of his beautiful furniture, and we have to be content with his design for the Federal Capital of Australia (356), drawn on three large strainers, which shows how fair a city might be, begun and carried out on a preconceived plan. Furniture makes a fairly important part of the exhibition. There is a sideboard, by Hamilton T. Smith (110), in walnut, of simple design, which is very effective. The wood is unpolished, and the three small door panels of the front are chosen for their fine figure. It is a little lacking in suavity, however, because it is almost independent of the past. Without tradition nothing is possible beyond the expression of the plain facts of construction, a little more or a little less disguised. Something remains to be added and makes it art. Yet it must be admitted at once there is nothing amateurish about this work, nor in that other piece of cabinet-work close by a walnut writing-table inlaid with shell and ebony by A. Romney Green (122). If the latter is lacking in fine form, something is given in compensation in the way of inlay. This inlay is splendid, and of itself gives character to the piece. An armchair (121) by the same craftsman is more supple in design and solves the difficulty of making a comfortable chair good to look on. Several smaller exhibits from the same hand are equally interesting. There is a set of painted chairs with rush bottoms, after an old pattern by Alfred Powell, which are very pleasant (23). A few other painted pieces may be mentioned. A cupboard designed by W. R. Lethaby (328), and painted presumably by the painter of the chairs, is crude in colour. There is no life either about the patterns of the flowers with which the panels are decorated; but indeed the design of the whole is not even worthy of the work upon it. Opposite this cupboard is a small tall-boy by M. Hindshaw, prettily decorated in gay colours which one would love to see in a child's bedroom. It would be a happy child. A more important exhibit, from its size, is the fireplace for Dunsany Castle by George Jack (71). We wish it were better designed so that one might enjoy the carving, which is first-rate technically, but, as it is, it only serves to emphasise the ugliness of the lines of the upper part of the overmantel. It shows at once the gulf that is sometimes fixed between the designer and the craftsman, which can seldom be bridged over in the person of one man. Another case in point is the fireplace by H. Longden (455), which, although exquisitely worked and engraved, fails of any æsthetic purpose because of its lack of idea. Now, the bookshelf by C. Spooner (435) is admirable because of its design, and it is no less so because it was executed by J. H. W. Brandt. These collaborators also exhibit a walnut writing-table (468), very well designed and executed with great taste in the choice of wood. Ambrose Heal's furniture varies considerably in merit; his book and print-case (31) and

china cabinet (56), both in black-bean wood, are the best. His very rich sideboard (375) is fulsome, whilst the dining-table in chestnut (151) is archaic. This is too great versatility.

Walter Crane's cabinet in ebonised wood with needlework panels (126) is fascinating, and here again we find the value of tradition, and it would be well if still more inspiration were taken from old models. It must, however, be noted that on the whole there is a great advance in design due to the study and appreciation of old work. In nothing is this more noticeable than in the jewellery. It is hard not to run into superlatives when speaking of this work, and if we were in the happy circumstance of the rich nothing would give more pleasure than to take our lady and deck her out in some of these lovely and exquisite trinkets.

Arthur and G. C. Gaskin are among the most prolific, and we find our catalogue marked again and again opposite their work. Take, for example, the peacock (391 w). It would surely be difficult to find anything more charming in colour and design. There is nothing gaudy about it, but all its small parts combine to make a perfect gem. A brooch by Ethel P. Agnew and a cross and chain by Edith Stewart (390 n and l) may be mentioned. In all this section, so numerous that it is impossible to particularise, there are very few poor designs, and how infinitely superior are even these to the best works of commerce! Yet they are all very reasonable in price. Some of the silverwork is scarcely less interesting. There is a fine sports cup by C. R. Ashbee (153 m), with the beauty of outline and interest in the body that would scarcely be surpassed by the best old work. The wedding-howl by R. O. Pearson (153 a) is charming. In the same case are two other very fine howls by Bertram J. Young (1) and Bernard Cuzner (j). All the work in this case is very good.

There is a good deal of calligraphy and illumination and book-design, much of which is surprisingly beautiful. The inscriptions in gold, "DOMINI EST TERRA" (293), by Phoebe Rensell and that other one by Charles Braithwaite (310) are good examples of finely-spaced lettering. There are some good illuminated books by Allan Vigers. That page (c) with the splendid words, "God Almighty first Planted a Garden," is decorated round the margin with the flowers of which the essay treats, rich in colour like a summer flower-bed.

The cases of printed books (337-345) are so good that one need not differentiate between them. The Book of Job (344), by Florence Kingsford Cockerell, and Douglas Cockerell's Etonian Book show what fine work is being done in writing and book-binding. It is always less interesting to criticise designs than the finished work, but there is no actual stained-glass. Some of Robert Anning Bell's cartoons (139-41) are in themselves masterpieces, and would probably work out into beautiful windows. Again, the heraldic drawings by W. E. Hodges (86) would probably make very good windows if carried out carefully. The cartoons by C. W. Whall and M. Hutchinson are of a very conventional kind, and are drawn without any leading. We must say that the work in this section is not very convincing.

The case is otherwise with the exhibit of James Powell & Sons (537). Out of such glasses Keats would have loved to drink—"to watch the beaded bubble winking at the brim." Contemplating these glasses, we longed for an unquenchable thirst in order to try to slacken it out of such exquisite ware. But the prices held us back.

The case of pottery by W. Howson Taylor (507) is another exhibit, interesting because of its variety and intrinsic goodness. Art and science, and sometimes accident, mutually act and re-act upon one another to produce pottery, as various in colour as the rainbow, and with forms as graceful as any old ones. W. H. Cowlshaw's pottery is also very good.

The exhibition as a whole is one of which the Arts and Crafts Society may be justly proud, and all the work attains a fairly high standard in design and workmanship. Some of it indeed is superlatively good. In this respect it is better than almost any picture show we have ever seen. Our difficulty, after two careful visits, is to pick out representative things with some distinguishing character about the rest. And this is no slight one, if one considers the infinite scope and variety of the exhibition.

PICTURE EXHIBITIONS.

The exhibitions of the New English Art Club had of recent years begun to lose their individual note; they did not vary particularly from the exhibitions of any other more or less advanced society. One was beginning to feel that the Club had delivered its message (and we all know how valuable that was in the nineties). This autumn, however, it seems to have recovered its energy. In the nineties it had to fight against outworn sentimental and anecdotal views which dominated the general view of painting, and it eventually won the day. To-day what has it to struggle for? We scarcely know. Certainly not for the expression of originality, of which we have enough and to spare. Perhaps a little for sanity. The struggle of "the young man knocking at the door" is no longer in question; nowadays he is admitted before he has reached the threshold. And Mr. Augustus John and the other painters of the New English Art Club who have not succeeded to Academic rank can no longer be quite included among the younger generation of painters. Mr. Augustus John's large decorative painting, "The Mumpers," gives the keynote, certainly more than any other picture, to the exhibition. The keynote is, broadly speaking, the substitution of character for the older ideals of what was considered beautiful in painting. As a piece of decoration "The Mumpers" possesses considerable qualities, although we are far from being attracted by the composition as a whole. As the realisation of a subject we can discover little in it that makes for the kind of enlightenment which is communicated by works which endure in art, although it has some charming passages, charming perhaps because they are reminiscent of Botticelli or Leonardo, even perhaps of Mr. John himself. It is all a little noisy and overdone. But we welcome the intellectual energy, the frank expression of a point of view in the picture, not only because these things are interesting in themselves, but because they help to give fresh life to a society that may serve again a useful purpose in the artistic economy.

It is perhaps a far cry from the ultra-modern art of Mr. Augustus John to that of Mr. Anning Bell. The latter painter suggests no difficulties in the way of appreciation. In his water-colours at present on view at the Leicester Galleries, illustrating the Biblical story of "Mary, the Mother of Jesus," he reconciles us to established conventions. Few modern artists have a more distinguished sense of the decorative purpose of painting in which everything inessential is omitted, or can handle plain washes of colour more harmoniously or effectively. In the type of subject of which his present series of water-colours is composed Mr. Anning Bell naturally brings to mind earlier and other treatments—a difficult ordeal for any painter. The spiritual qualities in certain religious aspects of this earlier art can never perhaps be recovered; Mr. Bell, however, goes far to do so largely through his sensitive and unaffected feeling for decorative composition. In the more dramatic phases of his subject he is not so successful as in his groups of little children, or angels, at a prayer on a hillside, in which the spiritual conception is very beautifully suggested.

The range of the art of Mr. Joseph Pennell is concerned with quite other issues than

those of the two painters of whom we have been writing. "The Wonder of Work," which is given as the title of the catalogue of his exhibition of etchings and lithographs which are on view at the Galleries of the Fine Art Society, indicates to a certain extent their character. Mr. Pennell has recently visited the works of the Panama Canal, and his etchings and lithographs go to illustrate not only the monumental nature but also the artistic quality which may be discovered in this undertaking. These spacious, vigorous studies are worthy of the artist at his best. The lithographs are exceptionally good, and will certainly add to his reputation.



On Monday a joint meeting of the Architectural Association with the Art Workers' Guild was held at Tufston-street, the subject for discussion being "The Practice of the Crafts in Modern Building." Mr. Gerald Horsley, President of the Association, in the Chair.

The President.

In welcoming the visitors, said the Art Workers' Guild comprised within its ranks something like thirty different crafts. It was founded about twenty-eight years ago, and he had the honour of being one of its founders, and the object was to afford opportunity for men following different crafts to meet together; at that time such opportunities were very few, and they were in no way organised. It had been a most successful society, and was still in a flourishing condition, and the members had reaped the benefit of becoming acquainted with crafts other than their own. He was the Hon. Secretary for about eighteen years, and looked back on that time with feelings of the deepest pleasure. He thought the subject chosen for discussion gave opportunity for many views being presented.

Mr. F. C. Eden

said that a few years ago they used to be told that the practice of the crafts was the whole duty of architects. Since then their mentors had moved with the times, and now engineering was said to be the "noblest architectural result of the Renaissance," and the one thing needful. The earlier theory was that the workman—craftsman they liked to call him—was to be fancy-free in manipulating his material, and by a flourish of his tools, as by a sort of peaceful picketing, to warn off the architect from ignorant interference with his self-expression. Architects had usually been willing to learn—at any rate up to a certain age—and, though they could not agree to leave carpenter and mason to work their own sweet will entirely untrammelled, they came to see that the touch of Nature and Nature's materials was worth a deal of office drudgery, so that nowadays it might be hard to find one to show the fine impartiality attributed to Sir Gilbert Scott and mark his design for a reredos as being for "oak or alabaster." And, now that they had gone so far with the critics, they pounced on them, dragging with them a new boy dressed up as an engineer, and affirmed that he was the only real artist in whose mathematical formulae the secret of architecture lay hid. The old arts and crafts theory was that they should

give the carpenter a saw and a log and the need only wait to get a fine hammer-beam roof just as the co-operation of mallet, marble, and Michelangelo once produced a David. The new theory was to provide an engineer with a book of tables and formulae, and a thousand tons of steel cut to stock sizes, and the splendor of the result was the only form of architectural beauty possible in the XX century. He owned to a scruple about subscribing to either of these theories, since they seemed to him to have originated in the uncomfortable shades where cranks and faddists do peep and mutter, and to take but small account the one of things as they were and the other of things as they should be. In any case the result was to queer the pitch for the poor architect. He might still perhaps have his use if he kept abreast of the latest invention whereby civilised man hoped to become dumber, more and more comfortable animal, and if he were clever and unscrupulous enough to build a box for 1500, to keep the uncivilised in. What ever theories were afloat, it seemed to him absurd to suppose that fine architecture could exist without right practice of the crafts, even the humblest of them. For example, the reason why the earlier works of that great master who had been lately taken from them could not give them the pleasure which they felt they should was surely that at the time they were built the right sort of brick and tile was not to be got. The trade of the brick and tile maker was perhaps the one in which the most real improvement had taken place, chiefly by the substitution of hand-work for machinery, while carpentry continued to deteriorate owing to the increasing use of machinery in the trade. But he wished to confine the few remarks he had to make to one trade, the conditions of which could hardly be said to be satisfactory—that of the house painter. The most they dared expect from him was to lay a sufficient number of coats of good lead paint and match a sample tint with fair accuracy; that he worked with neatness and left no smears on the window panes. But even in matching a tint his methods were wrong. He would mix a mass of paint certainly, but why was the result so unpleasant when it was upon the wall? It was simply because the only way to get a beautiful effect of colour was by a glaze which allowed the under colour to strike through. The French way technically was better than ours, the difference consisting in the way the first coat was laid over the priming. For this the painter made into a thickish paste with oil and driers, without turpentine, and this was spread, not with a brush, but with a broad spatula and well pressed home. It took about a fortnight to dry, and was followed by three more coats laid on in the usual way, the only difference being that the brushes used here were much longer and softer hair than ours. For decorative objects such as frames, revetments, images, and screens for churches, and so forth the best method he knew was to lay a good ground over the whole surface, whether wood or stone, and upon this two coats of colour ground in spirit and mixed with spirit varnish. Then a coat of spirit varnish only, and, finally (and this was most important), the glazing or toning coat of colour, wax and turpentine. Tempera colour could be used over the red, if preferred, instead of the spirit medium, and could be burnished like gilding where a glass surface was required. What he had described must not be confused with the method of dirtying carved mouldings that had come into vogue lately. In a recent text-book he had read—

Mr. F. W. Troup

said the title given as the subject for discussion was suggested by the President, and he took it that by the "the crafts" he meant to suggest what was often called the artistic crafts as distinguished from what were generally known as the trades connected with building. Every trade, however, was a craft no matter how crudely commercial it appeared at times to be. Indeed, one of the best examples of a

derm craft was to be found in the practice of ferro-concrete. Although this seemed to require the most abstruse scientific calculation of its strains and stresses, and was usually regarded as an extreme example of the useful tools of the engineer in the province of the hitect, it was none the less absolutely dependent upon the most careful craftsmanship for its execution. Ferro-concrete appeared to him to be the modern analogue of a classical medieval craft. So much was it a true fact that many engineers fought shy of it and declared that they knew where they were with steel and simple, but that this mixture of steel and concrete was a hybrid of uncertain strength, and who could tell how long it would last? Its votes had to admit that it was a young craft, and there might still be about it some mysteries not fully gauged; but they must remember that even the arch in its early stages must have been masons a good deal of trouble before they had the hang of all its possibilities when properly harnessed, and its tricks if used without full knowledge and proper control. Fore leaving this group of ancient crafts, which were now usually designated trades, he would like to enter a protest against the assumption that there was no longer in the trades any real craftsmanship. He thought, on the contrary, there was an immense deal of traditional craftsmanship in all the ordinary building trades—bricklaying, masonry, carpentry, plastering, smithing, and so forth. The real trouble, it appeared to those who were most keenly versed in the apparent freedom, the easy, untrammelled symmetry in medieval work, was that at the modern workman attempted to hide the best of his real craftsmanship beneath thin geometric precision, quite unnecessary and usually undesirable. Many architects, recognising this, had attempted to overcome it by using rough bricks, wide joints in masonry, and by other means in other materials had tried to get some semblance of the fling and go that seemed to come unsought in the work of a medieval craftsman. He feared, however, they must acknowledge that this was only a makeshift. Emanating from the architect, whatever its merits might be, it was more of an artificiality than it ought to be, or would be if it came direct from the craftsman himself. It did not go so far as to condemn these voices of the earnest and conscientious architect. He could not help admiring the results when ably directed and well executed. But he did venture to point out that they were not only imitated, but easily exaggerated by those who did not always think for themselves, and are inclined to overdo "the very latest thing." Moreover, it was not a solution of the craft problem, although it might possibly in time and perhaps help in arriving at some more radical and permanent. Whilst there was a little difficult to define in general terms the artistic crafts, it would be pretty generally accepted that carving, modelled stucco, decorative painting, and stained glass came under that head. Most of these crafts were indeed usually practised by men of a special training, but the materials were the same for the crafts as for the trades—the carver decorated the joinery or carpenter's work, the modeller the plasterer's work, stained glass was only glorified glazing, and so forth, and that they must recognise at once that the work done in what was known as the artistic crafts was no more than the ornamental part of the building trades. It required no very condotte reasoning to arrive at this somewhat obvious conclusion, but it appeared as if it were forgotten by the craftsmen themselves. They, too, often dissociated themselves from what he had been calling "the trade" of their craft. They learned to carve and not to learn joinery; they learned to model stucco and knew little or nothing of plain plaster work. If the craftsmen worked more with the artisans of the corresponding trade, regarding himself as a superior plasterer, bricklayer, or smith, and not merely the man to whom was apportioned the duty or privilege of doing the ornamental scraps and finishings, would go some way in overcoming the difficulties and dangers into which architects fell when they tried to direct in detail the manner in which materials should be finished in the things they had to superintend. He would like to see the conscience of the mason further encouraged to come on the scene after the building was finished to carve and finish bosses and ecks, marked on the architect's drawing as "left rough for carver." The modeller could have something to say and knowledge

from which to say it, with regard to the work of the plasterer generally. He would not, as now, merely deliver so many dozen beautiful casts whose exquisite modelling only made the plain walls look silly by comparison. And where the case required it, the trained tradesman, or if he liked "artistic craftsman," would merely direct the general finish of the work without introducing any decoration or ornament whatever. The unattainable ideal was, of course, that he should be the foreman of that trade. His guidance of the workmen under him might and should be a real training of the workmen. Coming from a man versed in all the traditions of the craft, his orders and directions would be different from and more effective than those of even the most able architect, whose directions were often regarded and perhaps rejected as whims and fads.

Mr. Christopher Whall

sent a written communication, in the course of which he said the subject was in two parts—with a trenchant division. "The Practice of the Crafts" was one and "Modern Building" was another. He would like to start with the challenging paradox that there was no practice of the crafts in modern building. To tell them why he said that he must define what he meant by the practice of a craft. To practise a craft they must first learn it, and to learn it to any purpose they must learn it as a child when the mind was a *tabula rasa* and the spirit docile and obedient. To learn a craft the learner should begin as a small boy—an apprentice, and his school should be his workshop. In the old days the apprentice worked the brushes, ground the colour, sorted and waxed up the glass on the easel, and so on, and in intervals was taught the elements of his craft, and so by degrees learned all of it with the prospect of being a journeyman and some day a master. Was there any such training now? In a sense there was, but in essence there was not, except in the workshops of those idealists who had set themselves to revive the crafts, and they had already revived the almost forgotten name. In the ordinary shop in which wares were produced there were boys who did all kinds of small services, but when it came to learning their craft they only learned one particular operation of it. Everything was arranged so that they should not become masters. To learn the elements of any craft was the key to the right way of tackling all crafts and the intelligent way of dealing with them and directing them. A man already a craftsman in one material had the key to craftsmanship in general, and saw the whole situation from a right point of view. He would say to architects, and especially to learners of architecture, "Get a workshop knowledge of something."

Mr. W. Curtis Green

said that those who inspired the formation of the Art Workers' Guild had done architecture a good turn; they linked together architecture and the crafts, and had built up a body of craftsmen unsurpassed in their way. As a result of this reunion English churches and houses were the standard of excellence throughout the world. They knew that the practice of the crafts had not touched their cities or reached the sources of production; it had not done so yet, and when they looked back at the last fifty years or examined the present was it not too much to expect that it should in so short a time have reached so far? They had explored the arts and crafts of the East and of the West, of antiquity and of the Middle Ages. Not content with the fulness this knowledge of history brought, they became enslaved first by one period of artistic activity and then by another, looking, some of them, for salvation in the resurrection of the dead rather than in the quickening of their own spirit. At one time it was the convention of Greece, the clearly-defined articulate art; at another it was the orderly and majestic attributes of imperial Rome; again, it was the romance and daring of the Byzantine School; then their hope lay in the Middle Ages, first the Gothic and then the Italian, and later the French development. Each fresh enthusiasm had had its distinguished exponents and had achieved wonderfully fine work in building and the crafts. These individual achievements satisfied all the definitions of great art but one. Collectively they were evidence that the modern was no whit behind his forbears in architectural genius and in individual craftsmanship. In

other words, the modern mind was as capable of conceiving noble buildings and of doing beautiful work as that of antiquity or of any age. To name only a few buildings of different phases—St. George's Hall, Liverpool; Old Newgate, Westminster Cathedral, St. Agnes, Kennington, were noble conceptions as creditable to their authors as were the monuments of simpler times. Each in a sense was an example of a still living manner of expression; for every great period had contributed something that could not die, yet of none could it be said that "this is vital," for none were in a language common to all. They asked themselves whether it was just now possible to find a language common to all. Anything added over and above the necessity of the case appealed either to the heart or the intellect; to both if it was a work of art. In the case of the mechanical art of the suburban villa and place of worship the appeal was to the untrained eye. When the intellect came in, whether in Classic, Gothic, or modern work, art becomes conscious; it was only when it became so and recognised the necessity for discipline and control that it could ascend to the heights. On the surface this confusion was not unlike that at the building of the Tower of Babel, but below there was necessity and a basis of unity which would result in another era of vital art. In their wanderings, whether to Versailles, or among American sky-scrapers, or to Surrey farm-houses, they were, let them believe, doing useful service. Their admiration of the civic sense of the Parisian was drawing them to inquire into their methods and aims; their intellect called for the exercise and discipline of orderly and stately schemes shown in beautiful drawings. Their interest in the great American school led them into the secret that the applied method of design was not satisfying the Western world. Their tours among old buildings had taught them the right use of material, and they had mastered the meaning and value of texture; and their little experiments in the planning of pleasant urban dwelling-places had shown them that, while all things might be lawful, all things were not expedient. So that, besides producing individual instances of fine work, they had collected evidence which another generation would sift if they could not. Education consisted in a series of enthusiasms in a series of awakenings. Beginning with the architect and craftsman, it filtered down through the trades and through the public. If education was only skin deep, so were shams. If the false ideals that have so nearly smothered the crafts had taken 100 years to grow up, why should they not pass away in a like period of time? Prophecy was a cheap business if the prophet placed the event sufficiently far away, but faith had firm foundations in the faithful. The craftsman knew that the attributes of his art were not transitory; they might be dimmed in times of prosperity or change, but if they were buried 3,000 years, like the corn in an Egyptian sarcophagus they would spring to life again in a suitable environment. For a time the environment was unkindly, and the practice of architecture and the crafts called for considerable qualities.

Mr. E. P. Warren

said the question of the controlling of the crafts of traditional building was a difficult and complicated one. To begin with, no architect was worthy of having control of subsidiary crafts unless he had, at any rate, extreme interest in them, and it therefore became everyone who aspired to design and control building to interest himself and study as far as possible the various crafts with which he would have to deal. The conditions under which architects had to work were increasing, complicated, and difficult. New materials, methods, and needs were constantly arising. They had new types of buildings and new systems of construction, but they had always some of the old traditional crafts left to them which must be conducted very much in the way they had always been, and one was that of the mason. In masonry they had still to deal with the cutting and shaping of the mass of stone for their appointed positions on a building, and if they could eliminate as far as possible the steam saw and rely on the mason with his chisel they could still get their work done, especially by country masons, very much as it had been done within the last 200 years. As to carpentry, the output of the steam machine was inevitable, and they could not put back the clock and select their trees and have them cut down and wait three years before using them.

It was hopeless for architects to think that by using ancient and primitive methods they could really do anything which would give an ancient and primitive result. However they wished, they could not get away from modern trends and fashions. They must accept the methods of the particular age in which they lived, but they could all see that as far as possible the inevitable machine-made piece of material was applied to the place it was fitted for. And what was most important, the architect could in dealing with the ornamental parts of a building select men to do the work and minimise the opportunities, instead of spreading them, so that those who did the work were properly paid. Having selected as good a man as they could get, then give him as much rope as they possibly could. Needless to say, they must get a man who had been trained in a manner which fitted him for employment upon a building. He must have had something of an architectural and building training. A carver might be able to carve something which was delightful in itself, but if in conjunction with a building it did not accept the proportions and sense of the building or the treatment of the material with which it was composed it was no good. Although there was much lacking in the training of architects in the knowledge of the crafts, there was a great deal also lacking in the training for the crafts in a knowledge and sense of architecture.

Mr. C. F. A. Voysey

remarked that the predominant idea in his mind was that they should be possessed of some ethical feeling before they could express themselves in any material or in any way. It was no use teaching the crafts until they had taught the use of the crafts, i.e., what was it they wanted to express in their crafts? Mere craft which expressed no emotion they were better without.

Mr. Tapper

observed that in Roman times and medieval times right down to Georgian times the craftsman and workpeople were doing things in a more or less self-contained way. Now, when they thought of the enormous City offices being put up, it was impossible to conceive of any question of art entering into it at all. Competition could lead to dreadful results. Crafts as they understood them could only be and were only applied in a very small way, such as when a lover of art said he wanted the very best.

Mr. W. J. Allcorn

said that when people stopped teaching art it would give some of the younger ones a chance. He believed that when they had a traditional builder working in the country the work was as good now as ever it was. The work done in the old castles by builders who had been connected with building all their lives was much better than it was when a London architect was called in.

Mr. G. Leonard Elkington

considered that architects were very much to blame for the divorce of that intimate relationship between the design and the craftsman which used to exist. In the old days, when the workman took a great interest in his work, he was called on to design and cap on a feature appointed to its place in the building, but nowadays that was hopeless, largely because the architects had attempted to create a corner in design and the workman had lost all interest in his work. If they could do anything to prevent the grinding out of the small builder who took a real interest in his work they would get better buildings.

Mr. H. M. Fletcher

believed that workmen did still take an interest in their work, and if they as architects talked to them they would find they were ready to give two or three alternative ways of doing a thing. He had heard American architects express astonishment at the amount of knowledge and skill shown by English bricklayers.

Mr. Theodore Fyfe

thought the discussion had gone off the lines, and was hoping to hear an impassioned speech from a painter as to the employment of his art on a building.

Mr. Napper

humorously referred to the great fuss made about old buildings, and asked them to try and imagine what the building looked like when

it was first erected. When a thing was broken they called it art. It might be that a good deal done to-day might get artistic in that way.

Mr. Halsey Ricardo

remarked that it was humanity which really came into art. It was not age or imperfections which made these old things artistic, but the human touch associated with them. They had to consider, however, that they lived in their own epoch and machinery had altered the whole world for them; and crafts had come to be relegated almost to luxuries. All over London there were schools of art, many of them largely maintained by the ratepayers. The students were taught up to a point, and then just as they were prepared to do something they were told to go because they would interfere with trade. He suggested that the walls of the new London County Hall ought to be decorated by those who had attended these art schools.

Mr. W. S. Frith

believed they had as good craftsmen to-day as ever, but the competition of the present day too often meant the getting of a certain amount of work done for a certain sum, and in carrying his experience was that the man who had the least knowledge and least conscience was the man who could do it the cheapest.

The President

said what it all came back to was that they wanted more understanding between themselves and their co-workers. The want of sympathy and knowledge between the architect and craftsman was no doubt due to the unfortunate loss of tradition which had undoubtedly taken place in their art, and they must endeavour in the different ways open to them to bring back the feeling and spirit which moved that old tradition.

THOUGHTS ON ARCHITECTURE.*

To define architecture in two words is rather a dangerous proceeding, but for the purpose of this lecture I will call it "Beautiful Building." Before a building can be called "beautiful," and so, to accept my definition, be worthy of the name "architecture," it must possess certain qualities, and it is with these qualities that I shall deal this evening.

First, however, I want to say a word or two on what are, I think, erroneous methods of architectural criticism. Often in the presence of some ivy-clad ruin we are led away by the respect we consider due to old age, by our interest in historical associations, and by the general air of picturesque dilapidation possessed by the ruin, into the belief that we are looking upon a fine architectural work.

On such occasions we should try to remember that the ruin was once a brand-new building, and also, just as it has been said that even the youngest of us may make a mistake, so even the oldest and most dilapidated of buildings may not be beautiful. Again, when some great new building is erected we are inclined to condemn it, simply because it is new, forgetting that that quality was possessed once in its history by every work of art.

If, on the other hand, we incline to praise the new building, our praise is often based largely upon its size, its great cost, the fact that it is built of some expensive material, or that it is richly covered with ornaments. Or, having studied architecture rather more closely, we may like the building because it does not differ much from buildings of some favourite period, or dislike it intensely because it does differ from such buildings.

These methods of criticism, though I know they are very frequently adopted, are not, I think, the best, and I will now proceed to deal with some of those qualities, which may with advantage be considered when one is studying or criticising buildings old or new.

Unity.

One of the most important qualities in architecture is unity, as I understand it is in other forms of art. The various forms which compose a building must be so arranged and

*Some extracts from a public lecture on "Beauty in Architecture," delivered in the Fifth Hall at the University of Aberdeen, by Mr. W. S. Purchon, A.R.I.B.A., on November 16.

welded together as to form a single whole; no part of the design must look like an afterthought.

A simple example on a small scale occurs in the triforium at Lincoln Cathedral. Here three openings in a wall are made into one composition by means of the uniting arch. While such details or small parts of buildings as this are of great importance, the study of architecture should not be limited to them, as it often is, and I shall next consider the main masses of which buildings are composed.

(The lecturer then dealt with the effect of such a feature as a spire, gable, or pediment in pulling a design together by providing a point of concentration, and with the effect of unity which results from using similar forms for parts which are doing the same kind of work.)

The untrained designer, anxious perhaps to show his versatility, introduces into his buildings a remarkable variety of forms, with the result that the quality of unity is entirely absent.

(In dealing with the various arrangements of the main masses of which buildings are composed a view was shown of the buildings at Philæ.)

As shown in this slide, this example at Philæ is already partly under water, and it will probably be entirely submerged before long. The prospect of this raised considerable discussion in various papers, and in order to simplify the problem as to whether these buildings should be sacrificed in the interests of the irrigation scheme or *vice versa*, one writer asked us to decide which we should save from a burning building, a valuable old master or a baby.

Punch, thinking this problem still too difficult, as babies differ in quality, substituted Mr. George Bernard Shaw for the baby.

So when I say that I regret the proposed submersion of these buildings, I hope I shall not be accused of preferring the picture to either the baby or Mr. Shaw.

(The lecturer then dealt with the division of buildings into horizontal layers by means of projecting upper stories as in mediæval buildings, by setting back upper stories, by strings and cornices, by the use of different materials, and by treating the same material in different ways, giving the Riccardi Palace, Florence, as an example of the latter.)

When the Riccardi Palace was designed—about 1430—architects in Italy were turning their attention to the masterpieces of classic art, and that is why the horizontal line is so insistent in this example. In Gothic architecture the vertical line is the dominant one, so that in such a front as that of Wells, while there are horizontal divisions, the vertical ones are much more easily seen. It will also be noticed that these vertical divisions are formed by means of buttresses necessary to the stability of the structure, and they are frequently emphasised by being carried above the roof lines in the form of pinnacles, which are also useful from the structural point of view.

(Attention was also drawn to the advantage of three unequal stories over three equal ones in mediæval cathedral interiors, and incidentally to the fine effect of the shadow in the triforium.)

Symmetry.

Symmetry is a quality which may be observed in many of our most important examples. It has attracted the designers of all ages, from those of the mysterious Egyptian temples to those of the present day. It will be found that most of the temples of the great period of Greek architecture are symmetrical, and symmetry played a great part in the design of the great buildings of the Romans. In later styles, too, we find much importance attached to this quality, convenience being unfortunately in some cases sacrificed in its interests. Symmetry in a building or a group of buildings helps considerably in giving unity to the composition. If we consider for a moment the Horse Guards building in Whitehall, with its dominating central part, subordinate wings, and the shelters for the sentries in the foreground, the advantages of the orderliness and balance given by a symmetrical treatment must be at once apparent.

On the other hand, we must not ignore the fact that in many charming buildings the quality of symmetry is absent, and a certain picturesque effect takes its place, though the picturesque effect is usually due to

dual growth rather than to conscious sign.

And while the front of the Parthenon is unmetrical, the spaces between the columns and the columns in the back row are exactly behind those in front. Such an arrangement gives a subtle rhythm, which is greatly to the beauty of the building, and makes an equally spaced portico look good in comparison.

In much the same way the beautiful front of Inigo Jones' Banqueting Hall in Whitehall gains much by having its front divided into three parts, of which the central one is larger than either of the other two.

Proportion and Scale.

Proportion and scale are terms frequently used in architectural criticism, and frequently understood. Proportion is a relative matter, the harmonising of the shapes of different forms with each other and with the whole. For instance, in this charming building (Morden College) the flat form of the pediment is in proportion to the rest of the building, fitting in well with its simple horizontal treatment. At the same time, the steep gable of this beautiful church (Strington) is in proportion to the rest of the building. Again, a tall, narrow window is a good proportion for one position, in this church, and a long flat one in another, as in this delightful example of domestic work at Colley Weston.

A building is said to be designed on a false scale when its parts are few and large compared with the whole building. The Old London building at Oxford is an example of this. The "grand manner" is a term applied to such a design. On the other hand, a large building may be frittered away by designing it on a small scale, covering its face with a large number of small parts. In small buildings, such as small houses, the scale should be small, or an appearance of pretentiousness results. This question of scale must be considered even in such unimportant trifles as the sizes of stones in the walls, and of the panes of glass in the windows. A false scale may be, and often is, set up by substituting sheets of plate glass for the original small panes, as has been done in the principal windows of this charming house at Stamford. The attic windows are as they should be.

Strength.

Another extremely important quality in architecture is strength, which must be as apparent as well as actual. The use of representations of human figures as supports is successful. In this example, however, in the Erechtheum at Athens everything is done that could be done to give the appearance of doing their work too difficultly.

But the Albert Memorial is really strong in its proportions, and less demonstrated by the fact that it has stood so long, yet one cannot but admire the courage of those who go to it (some were shown on the slide), and it looks as if it ought to collapse. It is held together by concealed ironwork, otherwise the arches would push out the piers.

Restraint.

In other arts, the quality of restraint is of great importance. Ornament and picture should not be distributed evenly over a building, but concentrated on important points, such as the main entrance, the central gable or pediment, or the top of a tower. In doing this the ornament only gains by contrast with a plain face, but it strengthens the design by emphasising important features, which are made to attract attention. The plain face is so valuable; it is only the poor designer who is afraid of it—the master always its value.

The Proper Use of Materials.

So far I have dealt with shapes and forms and the appearance of things, and it might be inferred from what I have said that beauty in architecture is but skin-deep. It is, however, far from being the case; it goes right down into the very bones of the structure. I have, for instance, said little or nothing about the nature of the materials of which things are made. It is true there are those who hold that the form is the

thing, and that it matters little of what it is constructed.

But in other arts it is a truism that a medium must not be stained, and as an etching is not at its best when it most nearly resembles an oil painting, and as a condensed novel rarely, if ever, makes a good short story, so each of the materials used in architecture has its own characteristics, making it most suitable for certain purposes. I give as an example a beautiful piece of Greek detail worked in a fine marble. In a coarser material a different type of ornament would be more suitable. Even some marbles are not suitable for the same purpose as others, for in the Temple of Neptune at Sunium the veins of the marble conflict with the effect of verticality given by the flutes.

Truth in Architecture.

And this brings me to the question of truth in architecture, for to be beautiful a building must be true; it must be genuine. In these beautiful old houses the genuine timber-work really supports the work above; much that is done nowadays consists of thin boards nailed to a wall.

And in similar fashion the various parts of a building should not be ashamed of themselves; they should look like what they are. The best is always got out of a feature by making it express its purpose. A column should be made to look—as indeed the Greeks made it look—as if it were supporting something; every line in the columns of this temple built by the Greeks about 2,400 years ago suggests the function of the column as a support.

A thirteenth-century capital suggests support, and support managed easily, but the wreath of ornament carved round later capitals—while possessing, it is true, distinct decorative value—does not express the function of the capital.

Similarly chimneys should be treated fearlessly as chimneys. They have often given the architect difficulty, probably because he was trying to use a style in which chimneys were not used originally. In such cases chimneys have been made to look like columns, as at Bingley House. It is a golden rule in architecture to make a virtue of necessity. If a difficulty arises, it should be turned into an opportunity.

The west front of Beverley Minster is in many ways a fine piece of work. Unfortunately the gable in the middle is much flatter than the steep roof behind—it is not a legitimate piece of design.

In all great architecture the construction is not concealed. The Greek gloried in his column and lintel, the Roman in his arch and vault, and the mediæval builder in his vault and buttresses. The cathedral builder, for instance, was not only not ashamed of his methods of construction, but he drew attention to them, bringing shafts down the piers to draw the eye up to the vaulting, as in the chapter house at Wells Cathedral, and making features of his flying buttresses, as in the exterior of the cathedral at Amiens. In this way is architecture made real and vital. All great architecture, in fact, must be a beautiful expression of construction, and as new methods of construction are adopted it does not do to conceal them under ancient forms.

Expression of Purpose.

And under this head of truth may also be mentioned the undoubted fact that a building to be beautiful must express its purpose. For Amiens Cathedral as a cathedral is beautiful, but as a hospital it would be foolish. That is, of course, an extreme case, but the same principle applies, if in a lesser degree, to less extreme cases.

Old Newgate Prison—one of the finest buildings we had in England, now unfortunately pulled down—was a fine example of a building expressing its purpose. The other day a little boy passing one of the important buildings in a great manufacturing city was heard to ask his father, "Is it a picture palace?" I do not think he would have asked that question had he been passing grim Old Newgate.

A house should look like a house; it should suggest the home, not the municipal building. This building at Stamford, for example, is a charming specimen of home-like architecture, small in scale, quiet, and restful. And this reminds me that architecture is not

only a matter of cathedrals and town halls, for the house or cottage may be beautiful, too.

The Claims of Utility.

On no account should convenience be sacrificed to external appearance; the latter must be a natural development from the uses to which the various parts of a building are put.

In many houses of the XVIIIth century in England, in order to obtain a finely-balanced exterior, the kitchens were placed in a subordinate wing balanced on the other side by, say, a block of stables.

On the other hand, the convenience of a house has often been sacrificed to obtain an irregular or picturesque outline. Symmetry or picturesqueness obtained in such a manner is, however, entirely false.

The claims of utility and convenience can, however, be pushed to an unreasonable extent. Some shop-keepers, for instance, desire a shop front in which there are no visible supports, so that we get as a result the terrible spectacle of a great building apparently resting on a sheet of plate glass. The provision of adequate visible support cannot, I think, conflict with the reasonable claims of utility, and some shop-keepers are beginning to see the value of beauty in their buildings. In Debenham's shop in London, for instance, an attempt has been made to treat a shop in a dignified manner. Of course, there are shop-keepers who would say that even these supports are just so much wasted window space. Selfridge's store is another example. Possibly one may not like it, but one is bound to admit that it is a serious attempt to deal with a difficult but interesting problem—a problem which is raising a good deal of discussion in connexion with the rebuilding of Regent-street Quadrant.

Suitability to Environment.

A building to be beautiful must be suitable to its environment. One frequently sees a house or other building, which, while perhaps very suitable for another position, is quite unsuitable, and consequently lacking in beauty where it is.

Built in a somewhat bleak position amongst the hills one sometimes finds a modern house which might well have been erected in the Thames Valley, while probably close at hand is a charming old farmhouse exactly suited to its surroundings. Such, for example, are several of the old farmhouses and halls within a few miles of Sheffield, simple, unaffected, entirely suitable for their position, and altogether delightful.

Older buildings, far exceeding in number all the others, are suitable to no environment with which I am familiar. I refer to the dreary streets composed of houses of uniform ugliness, which form such a large part of many of our towns, and which have made such inroads into the pleasant lands surrounding them. Too many of these houses are also inconvenient, and more or less insanitary and dangerous.

Influence of Climate.

In this connection the direct influence of climate on architectural design may well be noted. Under the bright suns of Greece we find strikingly refined detail, depending for its execution, as we have seen, on a beautiful marble. Open porticoes and colonnades are also to be found here as in other sunny climates, together with flat, broadly overhanging roofs and comparatively small windows. In more northern countries steeper roofs and larger windows are more suitable, as shown, for example, in the east end of Beverley Minster, and details to be satisfactory must be bolder. The vigorous detail in the corbel of the Percy Tomb, Beverley Minster, is much coarser than good Greek detail, and has much stronger effects of light and shade, and is therefore more suitable for the climate in which it was made. Just as Greek detail is more beautiful in Greece than in England, so is this detail more beautiful here than it would be in Greece.

During the early part of the last century many buildings were erected in England, copying as closely as possible the buildings of ancient Greece, regardless of the fact that they were quite unsuitable for our climate.

There was also a Gothic revival, leading to the erection of buildings copying as closely as possible those of the Middle Ages, regardless of the fact that the habits of the people had

quite changed. Even worse is the attempt sometimes made to reproduce not only the form of the old work, but even its dilapidated appearance.

And now the question of the style to be adopted in the new buildings for Delhi has arisen, and many letters about it have been written to the Press. Should the buildings be on the lines of existing Hindoo buildings, or should we build in our English style in India, as Rome gave her architecture to the countries she conquered (with the exception of Egypt)? One writer has suggested that the modern English style should be used, but modified to suit the climate—a suggestion which reminds one that an increasing number of English buildings are on lines more suitable to a hot climate than our own.

But in all buildings, whether in England, India, or elsewhere, the first consideration should be the fulfilling of the reasonable needs of those who are to use the building, and full attention must be paid to such sanitary requirements as the provision of adequate air space, window space, and means of ventilation. The architectural treatment must be developed out of these requirements. It must be made suitable to the environment, and due attention should be paid to such qualities as those with which I have briefly dealt.

Buckingham Palace.

I should now like to draw attention to the proposed remodelling of the front of Buckingham Palace. The present front was unfortunately carried out in a material unsuitable to the climate, and as a result has had to be painted—a process which always leaves stonework dull and uninteresting. Apart from this, the old front is not really so bad as it is generally supposed to be. The new design is quite good. The architect, Sir Aston Webb, was not given a free hand; he had to work to the existing position of all the openings, and under the circumstances he has done well.

It may be thought, and I know it is thought, that his design is rather ordinary; this because it is broad, quiet, restrained, and dignified. The three main masses are strongly treated; there is no doubt about the greater importance of the central one. The strongly-marked horizontal joints in the lower story suggest strength, the columns and pilasters impart the necessary air of dignity, and the small amount of ornament which is used is applied "in just the right places." Given a free hand, it would have been better.

I think, to have abandoned the central feature, and so have given the monument in the front a still quieter background. While I have not given a formula for beauty in architecture, we have seen, I think, that it depends on several things, some of them matters of external appearance, such as the proper arrangements of the main masses, and the tying together of the various parts so as to give unity to the composition, and the concentration of ornament, but others going right down into the very core of the building, and dealing with the materials of which it is made, the uses to which it is to be put, its construction, and the welfare of the people who are using it. We have also seen that what is beautiful in one place is not necessarily so in another.

Our Relationship to Architecture.

And what, we may ask, should be our relationship to this architecture—this beautiful building? Is it something about which we are to read or talk? Or is it something to see which we are to travel long distances? Is it not rather that which we, as dwellers in a city, should see all about us, in our public buildings, in our shops, in our factories—even in our homes?

It may perhaps be difficult to light the lamp of beauty in the special climatic conditions which prevail in a manufacturing city.

I have spoken of making a building suitable to the climate. For the present climate of Sheffield glazed wares is perhaps the best material, as it can be washed down at frequent intervals. And glazed ware, though it is usually ugly, need not be so. One usually associates it with crude colouring and ugly ornament, but it can be treated beautifully, and used with charming effect.

But I have heard it suggested that the Sheffield atmosphere can be improved, and I should not be surprised to find that that is not beyond our skill in these days of

engineering efficiency, and I think meet of us would welcome such an improvement.

Would it not be worth much to us if our city were really a beautiful one? Let us think for a moment what a beautiful city means, a city free from shams and ugliness—a city in which all the streets and buildings would be pleasing to the eye and mind.

The present visitor to Sheffield, when asked how he likes it, invariably answers: "The country around it is beautiful."

Will the visitor of the future ever be able to answer: "It is a beautiful city with beautiful surroundings?"

Is this an impossible ideal?

It is not impossible; it needs chiefly on the part of the people a great love of and a great desire for the beautiful.

Professor Lethaby tells us that when the cathedrals were built the people were as concerned about them as we are about cricket. When we, as a people, are as interested in the beauty of our buildings as we are in sport we shall not tolerate ugly cities. Street improvements will no longer be considered only as problems of traffic, sewers, and water mains, and the builder of a private house will remember that it is not only for the comfort of himself and his family, but that it is something which will give either offence or pleasure to countless passers by.

And this state of things is slowly but surely coming. Already large numbers of people are becoming interested in such questions as town planning and the provision of garden suburbs, and incidentally in beautiful buildings.

I think the time is not so very remote when people, reading of our times, will wonder, not so much at our remarkable developments in engineering and other science, but rather that we could have been persuaded to put up with so much totally unnecessary ugliness.

ROYAL ACADEMY SCHOOLS.

THE evening of December 10 was occupied as usual by the distribution of prizes to students at the Royal Academy. Sir Edward J. Poynter, Bart., P.R.A., was in the Chair, and announced the following awards:—

Landscape painting—"In an Orchard," Creswick prize (25*l.*) and silver medal to Evelyn Muriel Young; extra prize (5*l.*) to Una Hook.

Design for the decoration of a portion of a public building—"Romans Disembarking Slaves," first prize (30*l.*) and silver medal to James Williams; second prize (10*l.*) and bronze medal to Gerald Leslie Brookhurst.

Design in monochrome for a figure picture—"Joseph's Brethren Bringing the Coat of Many Colours to Jacob, Genesis, Chap. xxxvii, 31-32," Armitage prizes, first (30*l.*) and silver medal to Horace Edward Quick; second prize (10*l.*) and bronze medal to Hilda Marion Hechle.

Composition in colour, prize (10*l.*) and silver medal to Florence Margaret Walden.

Cartoon of a draped figure—"An Orator: To be Treated Classically," prize (25*l.*) and silver medal, not awarded.

Two paintings of a figure from the life, first prize (10*l.*) and silver medal, not awarded; second prize, bronze medal, to Robert John Swan.

Two paintings of a head from the life, first prize (5*l.*) and silver medal, not awarded; second prize, bronze medal, to Florence Margaret Walden.

Perspective drawing in outline (open to painters and sculptors only)—"The Bromley Palace Room in the Victoria and Albert Museum," prize (5*l.*) and silver medal, no competition.

Set of four drawings of a figure from the life, first prize (15*l.*) and silver medal, to Horace Edward Quick; second prize (10*l.*) and bronze medal to Hilary F. Cleveland Skinner.

Set of three studies of drapery, silver medal to Hilda Marion Hechle.

Drawing from the antique, prize (5*l.*) and silver medal to Nancy Wordsworth Arnold.

Painting from still life, prize (5*l.*) and silver medal to Sylvia Ellen Gauntlett.

Model of a design—"Sisera and Jael, Judges, Chap. iv, 17-21," first prize (30*l.*) and silver medal to Alfred Henry Wilkinson; second prize (10*l.*) and bronze medal to Joseph Herman Cavthra.

Two models of a bust from the life, first prize, silver medal, not awarded; second prize bronze medal, to Alfred Henry Wilkinson.

Model from the antique, prize (5*l.*) and silver medal to Allen Howes.

Design containing figure and ornament—"Gathering Grapes: The Vine to be Treated

Ornamentally," prize (5*l.*) and silver medal not awarded.

Set of three models of a figure from the life, first prize (15*l.*) and silver medal to Allan Howes; second prize (10*l.*) and bronze medal to Peter Induan.

Design in architecture—"An Entirely Detached Town Residence for a Nobleman in the Capital City Overlooking a Public Park on its West Side," Travelling Studentship (England), 60*l.*, tenable for one year, to Oliver Frederick Savage.

Set of architectural drawings, first prize silver medal, Augustus Gaffett Bryett.

An architectural design—"The West Front of St. Martin's-in-the-Fields, including the Tower and One Return Bay," prize (20*l.*) and silver medal to Charles Frederick Butt.

An architectural design (First Term students only), first prize (15*l.*) and silver medal to Geoffrey P. Agnew Fildes; second prize (10*l.*) and bronze medal to William Henry Hamlyn.

Perspective drawing in outline (open to architects only)—"The East End of St. Martin's-in-the-Fields," silver medal to Walter Lilwellin Clark.

Original composition in ornament (open to architects only), prize (5*l.*) and silver medal, to Harold Thomas B. Barnard.

Architectural design with coloured decoration—"One Bay of a Hall for a City Company or Guild," 5*l.* and silver medal to Augustus Gaffett Bryett.

Landseer scholarships in painting and sculpture, of 40*l.* a year each, tenable for two years, have been awarded:—In painting to Horace E. Quick and Douglas S. Gray; in sculpture to Alexander Stiles and Allen Howes.

THE COST OF SCHOOLS.

THE *Times*, in an article on Local Administration, gives some interesting particulars of the cost of recent school buildings in various parts of the country.

At Maltby, near Doncaster, a school building for 1,000 children has been erected round a quadrangle which is to be utilised for open air instruction. Flat roofs are a feature of the school, the cost of which works out at 10*l.* 2*s.* a head, or 11*l.* 3*s.* inclusive of the site.

The Brighton Education Committee have recently erected a school for 620 children in classrooms of fifty, each classroom with external walls, two verandahs connecting the classrooms. A special feature has been made of ventilation and lighting, and the accommodation includes a large hall, 45 ft. by 26 ft., and hot and cold shower-baths. The cost of the whole works out at 14*l.* 1*s.* 8*d.* exclusive of the site. It is stated to be the first school of the kind in the South of England.

The cost of schools of this new type is said to compare favourably with that of those of the older type schools recently erected in Bedfordshire, ranging from 8*l.* 8*s.* to 14*l.* per head, the most recent of those in West Ham from 23*l.* 4*s.* 7*d.* including or 21*l.* 10*s.* excluding site; while in Middlesex the cost ranges from 11*l.* 4*s.* 7*d.* a head for a school for 160 children to 16*l.* 10*s.* a head for one whose accommodation is 1,143, both exclusive of sites. The average cost of schools in Durham during the years 1910 and 1911 has been 12*l.* 13*s.* 10*d.* inclusive of site.

On the strength of the above figures it would appear that the cost of the more modern type of school need not exceed that of the former type, while they possess very great hygienic advantages.

The National Education Association at their meeting in November were unanimous in expressing their opinion that localities could not do all that was needed without additional central grants.

MODERN STAINED GLASS.

Mr. Christopher Whall has had on exhibition a very fine new window for the Parish Church of Melrose. His windows at Gloucester and Canterbury Cathedrals are well known. The practice of obtaining effects by etching out the ruby from "flashed" glass has been used with a brilliant effect, while those who are familiar with Mr. E. S. Prior's quarries, which have here been plentifully employed, will realise their decorative value. Twenty years ago the possibility of glass manufacture as quarries instead of sheets or tables came as a surprise, and the qualities thus attained, in the first instance, we believe, by a glass-maker named Rust, are incomparable in the treatment of glass windows considered as mosaic.

GENERAL NEWS.

The Christmas Holidays.

The week after next the *Builder* will be published on Tuesday, the 24th inst., and to draw attention all communications for the Editor must reach our office by the first post Monday, the 23rd.

Professional Announcement.

Mr. Hugh Spencer Stowell, architect and surveyor, has removed to 151, Grosvenor-st., S.W.

Appointments.

A surveyor to St. Bartholomew's Hospital will be appointed early in January. Particulars of the appointment may be obtained from the Clerk to the Governors. Candidates must be members of the Royal Institute of British Architects, or of the Society of Architects, or of the Surveyors' Institution.

Mr. Alexander Burnett Brown has been appointed by the Governors of Charterhouse as surveyor of the Charterhouse London Estates in succession to the late Mr. E. B. I'Anson.

The Portico, St. Martin's-le-Grand.

It is stated that the Committee of St. Chad's Hall, a hall appertaining to Durham University, have made application to H.M.'s Office of Works for the stones of the portico of the (old) General Post Office, with the object of incorporating the order in their new buildings.

Planning of Delhi.

In the House of Commons last week Mr. King asked the representative of the Secretary of State for India whether the Committee sent out to report on the building of the new Delhi was informed that a particular architect had been selected to submit plans for the new government buildings; and, if so, the name of the architect would be stated. Mr. Baker said the answer was in the negative. Mr. King asked whether any architect had been selected to design the Government house in the new Delhi, and if so whether any particular style of architecture had been imposed upon or selected by him for the proposed building.

Mr. Baker: No selection has yet been made. Mr. King then asked if the India Office had consulted another architect besides Mr. Stevens on the planning of the public buildings in the new Delhi.

Mr. Baker: The India Office has not consulted any architect about the planning and signing of the public building of new Delhi, but no decision has been come to how and by whom they will be carried out.

Mr. King further asked whether a London Journal published last July what purported to be a summary of the preliminary report of the Joint Committee which went out to Delhi to report on the planning of the new part of that city, whether its publication was authorised by the India Office; and whether in future official reports, the full text of which was withheld, would be imparted to the public in this manner.

Mr. H. Baker: The newspaper article to which the hon. member presumably refers is not authorised by nor were the materials supplied by the India Office. The information which it contained with regard to the alternative plans for the new Delhi and to the views of the Town Planning Committee seems to have been generally known in India.

Mr. King addressed some further questions to the Secretary for India on Tuesday regarding the architecture of new Delhi, and

Mr. H. Baker replied that Mr. H. V. Manchester was engaged to pay a visit to India as consulting expert to advise as to the site for the new city, his expenses being paid by the India Office. The further question of the construction of the buildings had yet to be decided, and the Secretary of State at present was not prepared to make a statement on that point.

Mr. King asked if the Government of India and the India Office were aware that there was an additional school of architects and building craftsmen in India, and whether their existence would be considered in commissioning architects and builders of the structures to be erected in new Delhi.

Mr. H. Baker replied that the circumstances mentioned and all other relevant matters would be fully considered.

Westminster Hospital Site.

Replying to Sir H. Craik, Mr. Wedgwood has stated that Westminster Hospital site could not be used for any other purpose than

that of a hospital without the consent of the Crown, and there were various restrictions as to buildings. The Government had the subject under consideration as to, in the event of the removal of the hospital, their power being exercised in order to secure that the site should be used in a manner suitable to the dignity of the situation.

Royal Free Hospital, W.C.

A fund is opened for an extension of the buildings and the erection of a new out-patients' department, at an estimated outlay of some 50,000*l.* The governors have bought 1½ acres of adjoining land at the rear of Messrs. William Cubitt & Co.'s premises. The hospital was founded by Dr. Marsden in 1828 in Greville-street, Hatton-garden, and in 1843 was removed to the barracks in Gray's Inn-road, of the City Light Horse Volunteers, of which the old (stables) front remained until twenty years ago. The north, or Duke of Sussex, wing was rebuilt in 1855, the south and east blocks in 1877-9. The later administration blocks, with isolation ward and staff quarters, standing on the site of the original front, were erected in 1894, after designs by, we gather, Mr. William Harvey.

The Artists' Guild.

A preliminary meeting was held in June last at 79, West Cromwell-road, W., to consider the advisability of forming a Guild of Artists on a religious basis, to include both men and women "whose main work is any branch of art." At St. Paul's Chapter House on November 8 a number of musicians, painters, and craftsmen assembled and formed the Guild. The Bishop of Winchester was elected and has agreed to become President of the first year.

The chair was taken by Mr. Walter Ford, who gave an address which set forth the object of the Guild. He said there were many religious people who have no belief in art; there were more artists who have no belief in religion. Those who met to inaugurate this Guild were able to believe in both. This Guild of Artists, as was demonstrated at the meeting held in June, felt that it was truer wisdom to start as a smaller body with strong principles than as a larger body with weak ones. The Guild, then, sought to unite in a common society those artists who believe in the Christian faith and who find in it an inspiration for their life and for their art, which is their life's work. The Hon. Secretary is Miss M. C. M. Bergman, 107, Goldhurst-terrace, South Hampstead, N.W.

Leeds Training College.

This great building, which has been erected at a cost of 242,000*l.*, in spite of the protests of "indignant ratepayers," has now been opened. It is built from a design selected in a local competition by Sir Aston Webb, R.A. The Government grant is unusually large, amounting to 75 per cent. of the cost of building, and equipment and maintenance grants of 53*l.* per annum for each man and 38*l.* per annum for each woman student. With this financial aid and the annual fees of 20*l.* the college will be self-supporting as long as it is full, which, judging by statistics, is a certainty. The college is designed after a careful study of Continental and other models, and will serve a wide area without costing the ratepayers of Leeds anything—a prospect with which the Committee may well feel satisfied.

The Royal Sanitary Institute.

At an examination in sanitary science as applied to buildings and public works, held at London on December 6 and 7, twenty-two candidates presented themselves. The following nine candidates were granted certificates:—E. G. Shaw Cranfield, East Sheen; P. F. Gosling, East Dulwich; W. H. Hall, Finsbury Park; Jagtap, Balkrishna, Piraj, Westminster; W. E. Masters, Dulwich; G. J. Rees, Ystalyfera; E. Weeks, Oxford; A. White, Bulford Camp; R. K. Wortley, Brighton.

BOOKS.

Old Houses and Village Buildings in East Anglia, Norfolk, Suffolk, and Essex. By BASIL OLIVER. Illustrated by collotype plates from photographs specially taken by Horace Dan, Sydney A. Driver, and others, with numerous illustrations in the text. (B. T. Batsford. 21s. net.)

It would seem that England even now is an almost inexhaustible treasure-house. As one

corner of our land after another is scoured by the observant seeker for the handwork of bygone days it is truly remarkable what stores are waiting to be disclosed, and when the chronicling of them is entrusted to the hands of men skilled in the use of pen, pencil, and camera the result cannot fail to be most fascinating. At some time or another each part of England has had its tide of prosperity; the ebb may have flowed, but not without leaving its landmarks in the churches and in the houses both great and small which were set up in almost countless numbers by a prosperous and thankful people. In Tudor times the commerce and industry of East Anglia were at their zenith; the constant intercourse with Flanders and the influx of Flemish weavers and workers in all manner of crafts from France, Germany, and Italy, and particularly from the Low Countries, gave a wonderful impetus to the building arts in the three counties under consideration just at a time when the native traditions were sufficiently vigorous to reject any opposing innovations, but not so persistent that fresh ideas and new methods of workmanship should not be accepted. Indeed, they were incorporated so nicely that it is often difficult to say where native tradition ends and where foreign influence begins. But as one turns over the plates in this delightful book one is reminded again and again of the crowd-stepped gable so general in the Low Countries and so rare elsewhere on this side of the Channel south of the Tweed.

We notice many a little touch in the shaping of metal and wood and plaster, and in the treatment of brickwork which betrays the hand of the foreigner. Nevertheless, the work as a whole always bears the stamp of the English builder; it was made from materials native to the soil, and met the needs of the English people and the climate of our land in a workmanlike and sensible manner, showing the power of the Englishman to do what was required of him under all conditions.

The book is the fifth of a well-known series on "Old Cottages and Farmhouses," and does not attempt to deal with the larger manor-houses and country seats, most of which have been illustrated elsewhere, but is limited to the smaller and little-known domestic buildings which, from their modest dimensions and secluded positions, are in danger of being forgotten and of disappearing, from one cause and another, before any permanent record has been made of them. An immense amount of good and beautiful work has already been lost owing to the neglect and apathy of those in whose keeping it has been, while anyone who has travelled about the country knows what incalculable harm has been done by unsympathetic "restorations." Interiors of houses have suffered even more than the exteriors, and the two views of "Upper Chambers" at Alston Court, Nayland (Plate XVII.), and "Giffords Hall, near Winchambray" (Plate XIX.), are especially welcome. If these books did no more than record they would have served their purpose, but they do a great deal more—they stimulate interest in those who are responsible for the upkeep of old buildings, and they are a source of inspiration to those engaged in designing and carrying out new work. Although the collotype plates are the main feature of such a book as this, the letterpress is indispensable, and the many plans and sketches of constructive and decorative detail, drawn direct from the buildings which form the subjects of the plates, are valuable to the architect and craftsman.

Timber-framed buildings naturally figure prominently, but in Essex especially these were often treated externally with plaster, and the examples of purging and the various patterns are eminently suggestive for modern work. Brickwork, stone and flint, and weather-boarded and tile-hung buildings are all illustrated, while the windmills, which were once so plentiful in the Eastern Counties, are represented by five examples, and one of these has been blown down since the photograph was taken. Having regard to the scope of the book, it will be found to comprise typical work in all the materials in use from the latter part of the XVth to the beginning of the XVIIIth century; it is admirably produced and is a fine contribution to the series to which it belongs.

Brasserie. By J. S. M. WARD, B.A., F.R.Hist.S. (Cambridge University Press. 1912. 1s. net.)

The appearance of this little book comes opportunely at a time of increasing general

interest in the subject of which it treats. This country contains even now a far larger number of monumental brasses than any other in the world, and but for vandalism in the past would possess ten times as many. England may therefore in a sense be regarded as the home of this form of art, although the custom of engraving brasses as monuments to deceased persons was originally introduced, probably very early in the XIIIth century, from the Continent; and for this reason, as well as for the historic interest attaching to these memorials of long past worthies, and the contemporary evidence they afford on the armour, dress, and social conditions of medieval times, sepulchral brasses are deserving of careful study. The developments through which English architecture passed during the five centuries of continuance of this art—which phases are faithfully reflected in the architectural adjuncts represented on monumental brasses—add still further to the interest of the latter.

Unfortunately no cheap popular handbook has hitherto been available for the use of intelligent visitors to our parish churches and college chapels, where the greater number of monumental brasses is to be found. We therefore welcome the advent of this little volume as a means of popularising a fascinating branch of historical art. The author comes well equipped for his task, and careful perusal of his work convinces us that he is no mere compiler, but has intimate first-hand knowledge of his subject.

Mr. Ward departs from the usual method of previous writers by treating his subject strictly in chronological sequence instead of grouping brasses into military, clerical, civilian, ladies', etc. Thus, commencing with the earliest extant brass in this country, that at Stoke d'Abernon in Surrey (1277), he devotes Chapter I. to a general consideration of those brasses which were laid down during the reigns of the first two Edwards (1272-1327), whether representing knights and their ladies, priests, or civilians, and whether exhibiting architectural accessories or not; and succeeding chapters carry on the story to successively later times. There is much to recommend this method of treatment from the historical point of view, although it is attended with certain practical inconveniences, which the author evidently realises, for in Chapters V. and VI. he departs to some extent from his own arrangement by intercalating a detailed account of clerical vestments and monastic garb as

depicted on mediæval brasses, resuming his historical sequence in Chapter VII. There is, however, some justification for this, as the dress of clerics varied very little, if at all, during the whole of pre-Reformation times.

Later chapters discuss special types of brasses, and in Chapter XIV. the author gives a detailed description of the architectural features, as canopies and brackets, associated with the engraved effigies. In the concluding chapter some useful practical hints are given to those who contemplate taking up brass-rubbing as a hobby.

A valuable feature is an appendix, giving a list of brasses of each period and class described; and a bibliography is added which includes most of the important works on the subject published since the commencement of the last century.

The work is well illustrated by reproductions of rubbings and engravings of well-known brasses, one of which we reproduce by favour of the publishers.

We can recommend this manual to all desirous of gaining an insight into a very interesting branch of our native art.

BOOKS RECEIVED.

LONDON TOPOGRAPHICAL RECORD. (London: The London Topographical Society.)

COMMON BATTERY TELEPHONE SIMPLIFIED. By Walter Atkins. (London: The Electrician Printing and Publishing Company, Ltd. 3s. net.)

SOUTH KENSINGTON AND ITS ART TRAINING. By F. P. Brown, A.R.C.A. (London: Longmans & Co. 3s. 6d. net.)

ESTIMATING FOR REINFORCED CONCRETE WORK. By T. E. Coleman. (London: B. T. Batsford. 4s. net.)

THE PRACTICE OF ELECTRICAL WIRING. By D. S. Munro. (London: H. Alabaster, Gatehouse, & Co. 3s. net.)

MAGAZINES AND REVIEWS.

THE *Burlington Magazine* devotes its pages this month for the most part to literary art. Duccio, of Sienna, is a notable figure in the Italian school of painting, and an illustrated article is devoted to a consideration of his work. An illustrious Frenchman said of David that if he were not an important painter, he was at least very important to France, and the same may be said of Duccio with regard to Siennese Art. Another article describes a porphyry figure lately discovered at Ravenna. It belongs to the school of Alexandria—quite the most unattractive of the Greek colonial types. The drapery is arranged with dreary formality. That the sculptures of Charles and Wells successfully escaped this type of traditional influence puts an increased estimate on their value. Mr. Ayns Vallance continues his well-illustrated review of Early Furniture, while some reproductions of fine Italian medals cause us to wonder anew at the exhibition presented by our modern comage. The Victorian penny, bearing the superscription of Wyon, is nowadays something to be treasured.

The *Connoisseur* again considers mezzotint portraits, with further examples from the illustrious engravers of the XVIIIth century, including one by T. Watson after "Wright of Derby." The work of this painter, who is represented in the National Gallery by the "Experiment with the Air Pump," lends itself to the rich contrasts of light and shadow obtainable by mezzotint. "The Orrey," engraved by Wm. Pether, represents perhaps the most important of Wright's striking effects of chiaroscuro.

The *American Architect* gives plans and elevations of one of those well-arranged libraries for which America is distinguished. It is the Avery Library, Columbia University. New York, designed by Messrs. McKim, Mead, & White.

Moderne Bauformen (Stuttgart) illustrates some modern architecture in Germany and Austria. We notice those tendencies toward *l'art nouveau* which we are accustomed to look for in much of the Continental design, but there is much also that is pleasing, particularly in the example of a mansion at Stuttgart.

Architektonische Rundschau has devoted itself to styles that are more traditional. Some

illustrations of garden-city cottages at Bromley are both interesting and attractive. The basement floor is still largely adhered to in Germany, which, while it greatly simplifies the ground plan, multiplies the staircases, which are further added to by a second floor in the examples given.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring-gardens, S.W., Lord Chylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended that loans be made to local bodies, as follows:—Hackney Borough Council, 1,000l., for footway paving; Wandsworth Borough Council, 3,100l., for street widenings; and the Guardians of Mile End Old Town, 11,702l., for poor law purposes.

Marble Arch Tramway Scheme.—The Finance Committee, in presenting a report dealing with the various stages of this scheme, stated that they were of opinion that it was unwise for the Council to incur the heavy expenditure involved by the present scheme, more especially as it was for a line which would be practically isolated, and would thus form an unconnected part of the Council's general tramways system. The Committee's report was adopted, and the scheme abandoned.

St. Paul's Bridge.—Various reports were presented dealing with the Tramways, Trolleys, Vehicles and Improvements Bill, and it was agreed to introduce the Bill in the next session of Parliament. The Bill provides for a double line of tramways from Southwark-street over the proposed St. Paul's Bridge and through a new subway passing under Cannon-street and St. Paul's Churchyard to the north-western end of Cheapside.

Theatres, etc.—The Theatres and Music Halls Committee have approved of the following drawings:—Bow-road (late Bow and Bromley Institute), arrangement of the cinematograph enclosure; 3 and 4, Coventry-street (Globe Cinematograph Theatre and Restaurant), heating and ventilating arrangements; Downing-place, Hammersmith (The Colisée), arrangement of the seating, etc.; 382-386, Edgware-road, separation of the basement from the hall above; 213, King-street, Hammersmith, arrangement of the gallery; London Palladium, provision of a removable platform in the orchestra space; 36, Tottenham-court-road, arrangement of the seating and the panelling; Piccadilly Hotel, temporary ballroom; Theatres de Luxe, 75, Balham High-road, rearrangement of balcony, seating, etc., and ventilating arrangements.

CORRESPONDENCE.

Should Names of Assessors be Known?

SIR,—The question of competition assessors which has been raised by Mr. Voysey with such characteristic pleasantries will be to good purpose if it serves to further the interests of the competing architects.

I consider that the announcement of the assessor's name as early as possible is of the utmost importance, and is likely to inspire confidence and lead to many joining in the competition who otherwise would not have done so. A good assessor, good conditions thoroughly considered in relation to questions of site and requirements, resulting in a clear course and a straight fight, can do nothing but good in securing a first-rate scheme and much educative instruction to novices, besides a good sporting chance into the bargain. What can be more stimulating, and who would question such an award or doubt the ruling, however much it might be contrary to personal predilections?

It is almost suggested that the announcement of the name of the assessor leads to playing up to his methods and characteristics. I believe such to be a negligible quantity, the exponent of that vice being more likely than not to be "hoist by his own petard"; and it is easy to see how this method of procedure is more likely to militate against success than to further it. Such devices do not produce good quality of planning or distinction of architectural treatment. Absolute confidence in the assessor should be paramount; while, on the other hand,



Brass. William Grevel and Wife, 1401.

ere should be as absolutely no ground for questioning the award; but who would? Alas, this is not always so! "Humamum est errare," and the best of intentions fail, sometimes unwittingly on the part of the promoters, or on the other as unwittingly in the appointment of an assessor. There should be no ground for such a condition of distrust in the interests of the competitors and the good of architecture particular.

I see much to commend in the adoption of the jury system, although it must be admitted there are difficulties to be considered and overcome; but these surely would yield to conference. I have often wondered whether it would be possible for the Royal Institute of British Architects officially to undertake the assessing of all competitions. I say all because I would include the small competitions where the luxury and expense of the employment of an assessor is out of the question. Let the President of the R.I.B.A. be the official assessor; on a considered list of names a jury of three could be appointed, all assessors' fees being paid to the R.I.B.A., thus forming a fund for the new department. The jury would proceed upon, possibly on scale. Provided that difficulties could be overcome, such as the relation to the promoters, together with the necessary technical knowledge necessary for the building in question, some scheme satisfactory to the profession could be evolved. What could result? Let us hope harmony and the mutual advancement of architecture.

Finally, from the educational point of view, the interests of the promoters and for the advancement of our art, the promulgated designs could be exhibited in the spacious galleries of Conduit-street.

WILLIAM A. PITE, F.R.I.B.A.

Sir,—Mr. Voysey's ideals are always high and command one's respect, and I am a little surprised that he should countenance competitions in any form. It is perfectly true that a competitor cannot help being influenced by the work of the approved assessor, who naturally must be biased in favour of his own tendencies. I think, however, that Mr. Voysey exaggerates the danger of any design being very materially influenced in this way. The knowledge that the assessor will be a competent man, likely to cognise and give due consideration to any attempts at really fine work, far outweigh any drawbacks.

I understand that Mr. Voysey holds the opinion that English architecture ceased in the Tudor period, and it might need a minus of the very first order to resuscitate a style that would commend itself to him. It is hardly conceivable that any attempt will be made to design a building on any scale arising from traditions, which ceased at such period, but I believe that the attempt would be honestly considered if it could be reconciled with modern needs. The competition system will never give full opportunity to any man's powers, but at least it discovers competency of kind, and it is always open to the successful candidate in consultation with his Committee to show his untrammelled conception of the most suitable design.

The British public does not yet care sufficiently about architecture even to be "imposed on"; it accepts a building as a whole, as so much material turned to convenient uses when it has learned to accuse an architect of unfaithfulness "in style it will be a long way towards the recovery of a natural style so urged by Mr. Voysey.

The tyranny of the assessor which he explores is nothing to the ignorance of the lay committee, from which the profession has suffered so much. I would recommend Mr. Voysey to join forces with the Institute and get them to deal drastically with the disloyalty of those members who enter promiscuous competitions with no assessor at all—this, in my opinion, is a much greater grievance.

P. MORLEY HORDER.

Teachers as Adjudicators.

Sir,—May I be allowed the opportunity to assure those concerned that I was glad to read the letter in your issue of the 29th ult.

from Mr. Prestwich, which, of course, disposes of the fears I had expressed? The similarity between the designs was so striking that I was far from being alone in my suspicions, and it is a pleasure, therefore, to know that these drawings were actually the unaided work of the candidates.

Is it not, however, unfortunate that they should have been published as being works by students of the Liverpool School when it would appear from Mr. Prestwich's letter that he has not been a student for over two years?

The explanation this gentleman gives of the similarity of the designs I think strengthens considerably the opinion I advanced at the close of my last letter.

ALREADY AN ASSOCIATE.

Fire-Escape and the London County Council.

Sir, Doubtless to some of your readers Mr. Edwin O. Sachs' recent letters on the above subject will appear to constitute a very strong indictment of the London County Council. While I hold no brief for this body, yet as a former member of its architectural staff, and as one who has given some little attention to the question of means of escape in case of fire, I desire in a few words to examine the justice of your correspondent's attack. Mr. Sachs addresses his letter from the offices of the British Fire Prevention Committee, and in this and other ways he conveys the impression that fire prevention and the provision of means of escape in case of fire are very similar things, and that the danger from both these standpoints increases with the populousness of a district. This is not, however, the case. The danger to property in consequence of an outbreak of fire is obviously greater in London than in a small town. But the risk to the occupants of a building in the event of fire is much less. In London the fire brigade, with their escape, are on the scene within a few minutes of the alarm. In an ordinary country town the arrival of the brigade can hardly take place in less than half an hour. In London a provincial town, where large buildings are frequently detached, such escape is generally not available.

The London County Council have now most drastic powers in regard to the requirement of means of escape from existing buildings, and, though there may be cause for criticism as regard the details of their policy, it will generally be conceded that, by putting these powers into force in a gradual manner, they are acting reasonably. And this especially so, having regard to the fact that no similar powers in reference to ordinary trade buildings which are not factories or workshops apply in provincial districts.

Mr. Sachs' sympathies with persons exposed to great risk in the event of fire are, presumably, not confined within the bounds of the metropolitan area, and it would seem that the energy displayed by him in criticising the London County Council, who are shouldering these responsibilities, might be more advantageously employed in rousing the more lethargic authorities outside the metropolis to the need of an extension of their statutory powers. In London it is not now possible to put up an important building without providing reasonable means of escape in case of fire. In provincial districts, where the danger to life in the event of fire is greater, a person may still propose to erect a new building which is a veritable death-trap, and if the building is not a public building, a factory, or a workshop, the local authority has no power to interfere.

HORACE CURTIS, A.R.I.B.A.

Wall Decorations.

Sir,—In your issue of November 29 Mr. Jennings remarks the paucity of good design in the productions of many of the present-day wallpaper manufacturers. His ideas are interesting, and his condemnatory criticism errs in its mildness. . . . The strongest arguments would be in favour of the contention that wall and other surfaces should be treated by the craftsman-decorator without the intervention of the paper-printer. This is the goal to which all craftsmen's efforts should be directed.

Wallpapers are almost unknown in some European countries, and English people return from abroad impressed with the beautiful

interiors they have seen and wondering at our own supineness in this respect. The reason for this superiority of the foreigner is that the handicraftsman has every encouragement given him to put on record the fruits of his skill and experience. . . . In place of paperhangings, with all their insanitary accompaniments, walls might be treated with paint or distemper, and some personal ideas or suggestions of the client could be embodied in a stencil, with a finished effect in design, broken colour, etc., quite as good or superior to any block-printed paper, not more costly and infinitely more permanent. A coalition of decorators should be formed, and so provide work for those legitimately entitled to it. Architects do not exercise the great powers they possess in anything like the degree possible to them; if they would only take up the question a great improvement in the decorative requirements of the country would soon manifest itself.

GEO. RIDEMAN.

["* Architects achieve more on the lines advocated by our correspondent than he appears to realise. We should welcome the views of readers on the points he raises.—Ed.]

The Trade Disputes Act.

Sir,—The judgment in the case of Vacher & Son v. the London Society of Compositors, deciding that no action for libel against a trade union can be entertained by any Court, has served a very useful purpose by removing any doubt as to the extent of the immunities conferred upon trade unions by the Trade Disputes Act, 1906.

By the Trade Union (No. 2) Bill, which is now before Parliament, the Government is deliberately extending the powers of the unions so that they may enter into trade and compete against others by wrongful means and yet carry the absolute immunities of the Trade Disputes Act; or they may run newspapers and libel and slander all who cross their path and yet leave their victims without redress. How powerful this weapon will be in contested elections or trade disputes is easy to imagine.

The judgment will be welcomed by all who had previously recognised the need for an alteration in the law. The first step towards a cure is to diagnose the disease rightly, and now that this has been so ably done by the Law Lords the politicians cannot long be allowed to shirk their duty.

The danger is that in finding a remedy there may be some inclination to go too far and so create an injustice on the other side.

I would therefore call the attention of your readers to a Bill which has been prepared by the Committee of the British Constitution Association (copies of which can be obtained from their office, 11, Tottil-street, S.W.), and which has been introduced into Parliament by Lord Robert Cecil. This Bill relieves the unions from liability for unauthorised acts of their members and others only when such acts are effectively repudiated by the managing committee. Again, while allowing the unions all reasonable latitude for carrying out their objects in accordance with their rules it prevents them from using their great power for the purpose of injuring others. So well does it attain to the happy medium that it has almost, if not entirely, disarmed criticism. The Parliamentary Committee of the Trade Union Congress attempted an attack upon it, but were quickly silenced.

W. V. OSBORNE.

11, Tottil-street, S.W.

BLOTTING PADS FOR 1913.

We have received specimens of the well-known Registered Date Indicating Blotting Pads which Messrs. Hudson & Kearns, Ltd., Stamford-street, S.E., produce, and which we are glad to welcome. We may draw special attention to the pads Nos. 7 and 8A, which appeal to us as being not only most serviceable, but as most sensible blotting pads and diaries.

BAYLISS PRIZE INSTITUTION OF CIVIL ENGINEERS.

Mr. H. Knowler, of the Borough Engineer and Surveyor's Department, Wimbledon, in the examination for Associate Members of the Institution of Civil Engineers, held last October, has been awarded by the Council of the Institution the Bayliss Prize, a distinction given to the student of the Institution who obtains the highest marks at the examination. There were over 150 candidates.

ILLUSTRATIONS.

Church of the Annunciation, W.



R. WALTER TAPPER, F.R.I.B.A., is the architect of the Church of the Annunciation, Old Quebec-street, W., and his design, represented by the drawings by Mr. Charles Gascoyne, reproduced herewith, was shown at the Royal Academy Exhibition this year. The church is now in course of construction, the contractor being Mr. F. T. Chinchin, of Kensal Green.

St. Andrew's Hospital, Dollis-hill, N.W.

REFERENCE is made elsewhere (p. 717) to the new Catholic Hospital now in course of erection on Dollis-hill from the designs of Mr. Robert L. Curtis, and the illustrations on our plate are in connexion with the article.

MEETINGS.

SATURDAY, DECEMBER 14.

The Institution of Water Engineers.—Winter general meeting, at Burlington House, W. Mr. J. C. Thresh on "Some Recent Examples of Pollution of Public Water Supplies." Mr. E. J. Silcock on "The Valuation of Water Undertakings on Transfer to Local Authorities"; and Mr. Adolph Kemna on "Recent Advances in the Science of Water-Purification." 10.30 a.m.

MONDAY, DECEMBER 16.

The Royal Institute of British Architects.—Mr. Horace Porter, M.A., on "The Walls of Visby, Gotland." 8 p.m.

The Surveyors' Institution.—Mr. M. C. Duchesne on "The Value and Marketing of English Timber." 5 p.m.

Liverpool Architectural Society.—Mr. Lawrence Weaver, F.S.A., on "Small Country Houses of To-Day." 6 p.m.

The Institute of Sanitary Engineers. Mr. J. O. Neumann on "The Collection of House and Trade Refuse." 8 p.m.

Royal Society of Arts (Cantor Lecture—III.).—Mr. C. R. Darling on "Methods of Economising Heat." 8 p.m.

The University of London (Victoria and Albert Museum).—Mr. Banister Fletcher on "French Medieval Castles." 5 p.m.

TUESDAY, DECEMBER 17.

The University of London (British Museum).—Mr. Kaines Smith on "The Achievements of Art: The Life Principle." 4.30 p.m.

The Institution of Civil Engineers.—Mr. H. A. Humphrey, M.Inst.C.E., on "The Generation and Distribution of Producer-Gas in South Staffordshire." 8 p.m.

WEDNESDAY, DECEMBER 18.

Royal Society of Arts.—Mr. Joseph Pennell on "The Pictorial Possibilities of Work." Illustrated. 8 p.m.

The Auctioneers' and Estate Agents' Institute.—Mr. Horace Cubitt, A.R.I.B.A., on "The London Building Law and the Development of Property." 7.45 p.m.

Edinburgh Architectural Association.—Mr. Lawrence Weaver, F.S.A., on "Small Country Houses of To-Day." 8 p.m.

Nottingham Architectural Society.—Mr. T. Wright on "Examples of Pictorial Architecture and Miscellaneous Subjects." 8 p.m.

THURSDAY, DECEMBER 19.

The University of London (Imperial Institute-reading).—Mr. Kaines Smith on "Review of Foreign Lectures on Medieval Decorative Art." 3.30 p.m.

The University of London (British Museum).—Mr. Banister Fletcher on "Greek Town Plans and Theatres." 4.30 p.m.

The Institution of Electrical Engineers.—Dr. S. P. Thompson on "The Work of the International Electro-technical Commission." 8 p.m.

FRIDAY, DECEMBER 20.

The Institution of Mechanical Engineers.—8 p.m.

COMPETITION NEWS.

A list of current Competitions is printed on page 730.

Barnet Workhouse Children's New Home.

At a recent meeting of the Guardians ten sets of plans for the Home proposed to be erected in Welhouse-lane for the accommodation of the Workhouse children were considered, and a recommendation by a committee of the whole Board that premiums of twenty-five, fifteen, and ten guineas respectively should be awarded the authors of the three sets of plans marked "Economy," "Compactum," and "Flat Lux" was adopted by eleven votes to eight.

Extension of Dunkerque.

The prize of one thousand francs offered for the best design for the enlargement of the City of Dunkerque (Nord) has been awarded to M. A. Agache.

Municipal Meeting House, Clichy.

A jury of no fewer than eleven members considered the designs submitted in the competition for "Une Maison Municipale de Réunions" at Clichy. There were several Town Councillors on the panel, but the professional side was strongly represented by architects nominated by the *Préfet de la Seine*, the *Société des Architectes diplômés par le Gouvernement*, the *Société Centrale des Architectes*, and by the competitors themselves. According to the report in a French newspaper, there were only fourteen designs, and after the process of elimination the first prize was given to the project of M. Guidetti.

ARCHITECTURAL SOCIETIES.

Glasgow Technical College Architectural Craftsmen's Society.

At a meeting of the Royal Technical College Architectural Craftsmen's Society, held in the Society's room within the College on Friday last week, Mr. A. F. Purdie presiding, Professor Charles Gourlay, B.Sc., A.R.I.B.A., F.S.A. Scotland, delivered a lecture, entitled "A Review of Byzantine and Italian Architecture," in which he outlined the history of Christian architecture in the near East and in Italy from the beginning of the IVth century until the end of the Renaissance period in Italy. After dealing with the Byzantine work in Constantinople and Salonika he treated of the Early Christian architecture of Rome, the work in Northern Italy, in which the influence of the Byzantine style is manifest, then the Romanesque, Gothic, and the Early Middle and late Renaissance architecture of Italy, both ecclesiastical and secular. The lecture was illustrated by a series of lantern slides, which enabled a good general understanding of the principles of design, composition, and details of the work under review to be obtained.

The Guild of Architects' Assistants.

We have before us the epitome of a paper read by Mr. W. H. Baker before a meeting of the Guild of Architects' Assistants, on

December 4, entitled "My Experience of the Formation of an Approved Society (National Insurance Act)."

Mr. Baker generally explained the Act, laying special stress on the advantages of Clause 91 which makes provision for members leaving one society and joining another. He considered that the latitude and freedom of the wording of the Act is not realised, that it was possible to have stamps representing four, twelve, thirteen or any number of weeks, and that it was not impossible to provide for payment by cheque. It was also possible to form an approved society doing away with sickness and disablement benefits and substituting any other of the fourteen scheduled benefits, one of which was superannuation or pension. His object was to make known the fact that compulsory insurance need not cause a disruption of the relations which had existed hitherto between principals and their assistants.

Manchester Society of Architects.

At a meeting of the students of the Manchester Society of Architects on December 4 a paper on "Architectural Sculpture" was read by Mr. W. O. Jones, Mr. J. H. Woodhouse being in the Chair. The lecturer devoted the chief part of his paper to the development of the architectural sculpture of Greece, culminating in the work of Phidias on the Parthenon. He laid great stress on the development in composition of the pediment, pointing out that the great essential is the gradual increase of interest and emotion of the subordinate figures leading up to the central dominating feature in the apex. In the discussion that followed Mr. Jones indicated the lines to be followed in the application of sculpture to modern work.

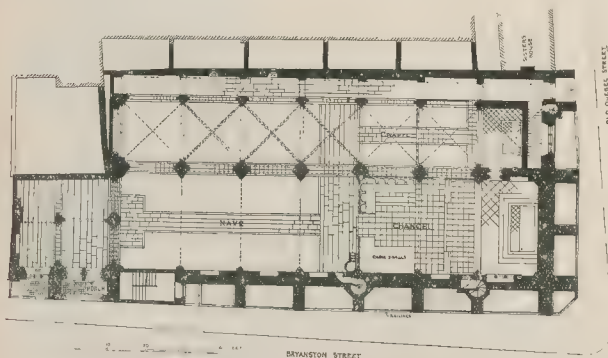
FIFTY YEARS AGO.

From the *Builder* of December 13, 1862.

Our Public Statues and Memorials.

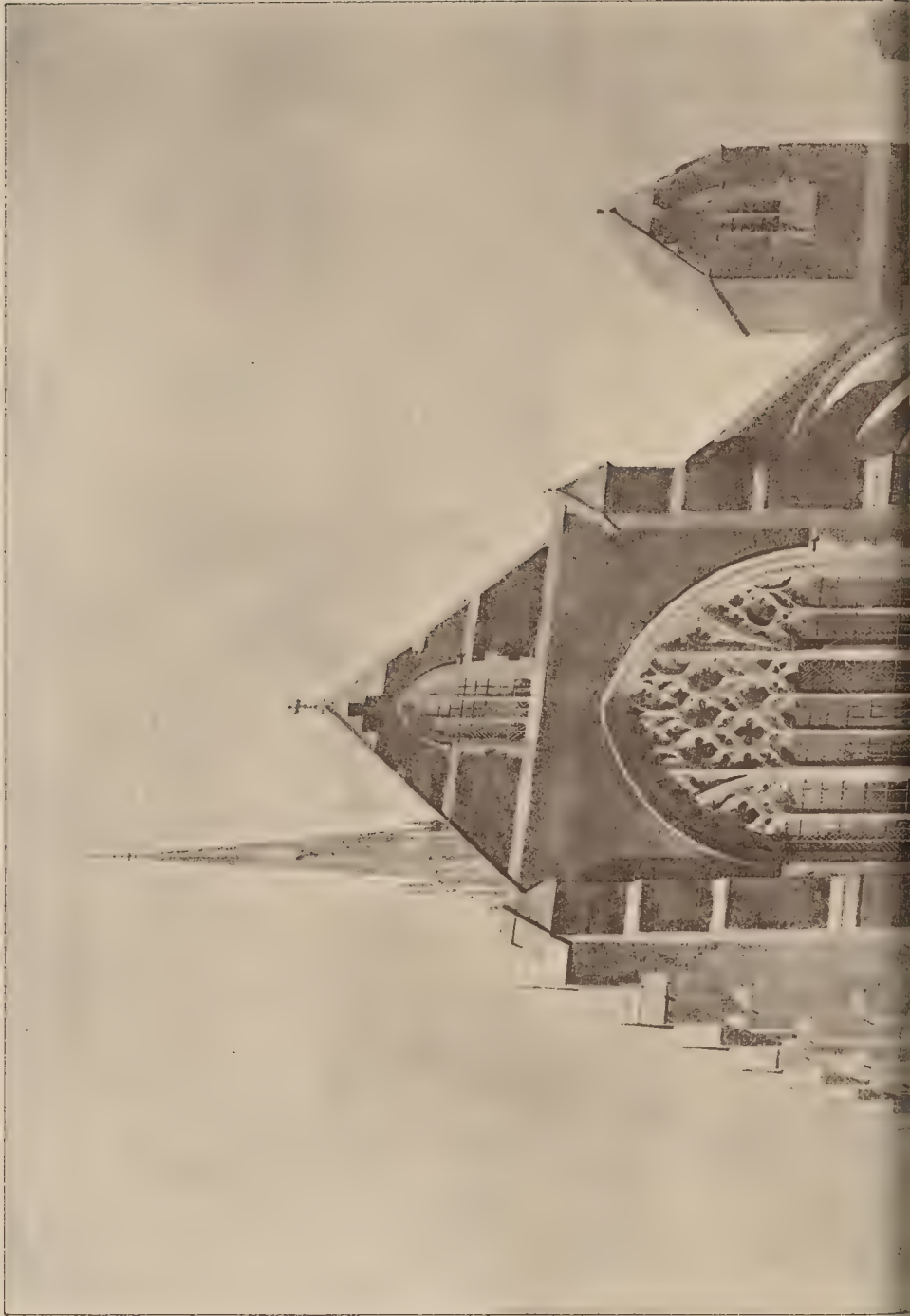
Nothing so much struck the artistic section of our crowds of foreign visitors during the present season as the extreme poverty of our public memorials and honorary statues. They appeared to our continental critics utterly unworthy of the intellectual and artistic eminence of our nation; and so, in fact, they are. And the foreign critics, however drastically unpleasant they may have been in their mode of stating it, were perfectly correct in their general verdict.

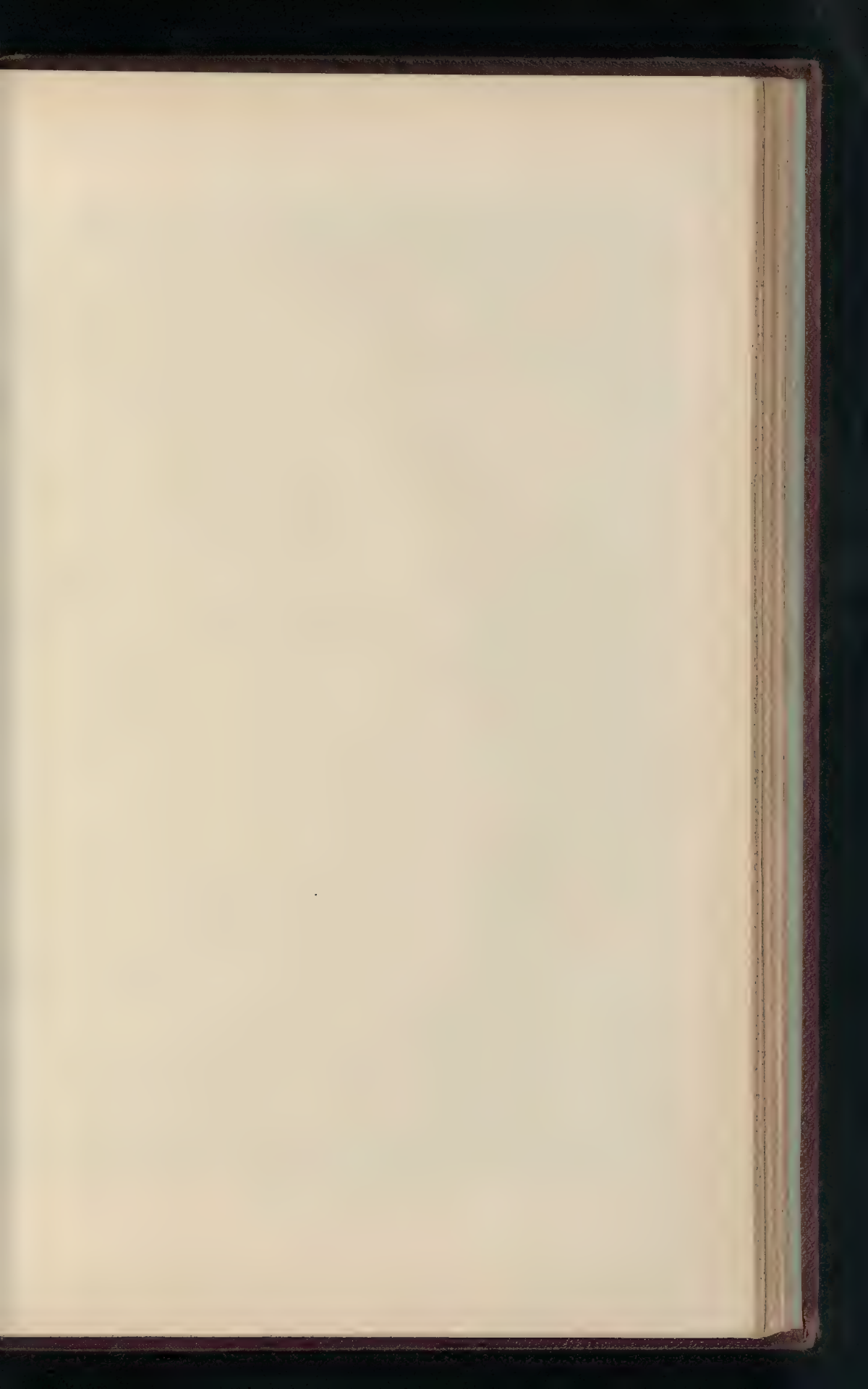
* * * There is nothing we have so little faith in as the pessimistic note. No good has been achieved by mere negation. Yet we find little to say that can combat the "general verdict" above given. Whether our regard is turned upwards towards Nelson or downwards upon Oliver Cromwell, it must be confessed that we meet with but few monuments to kindle the imagination. The arch on Constitution Hill, with its crowning quadriga, may fairly be claimed as a recent triumph. So may Sir Goscombe John's little statue to Arthur Sullivan in the Embankment Gardens, while the Peter Pan group at Kensington must be counted as a graceful concession to a popular sentiment. But our memorials to great men seem to us best to find their parallel in the eulogiums of the after-dinner speech. In this country we have never acquired the lyrical expression of which sculpture is capable, perhaps because we take so little heed of the memory of our artists, musicians, and poets—a theme that would naturally evoke this expression. In Paris, the Parc Monceau and the Luxembourg Gardens are open-air galleries dedicated to French creative genius. The memorials to Watteau, Mappassant, Chopin, Gounod are exquisite, while Frémiet's Jeanne d'Arc is an example of the romantic charm in which an historical figure may be clothed. The standard of Classic in England is the Classic of the Renaissance, and has little in common with the Greek spirit, which embodied all the essentials of romanticism.—Ed.



Church of the Annunciation, Old Quebec-street, W.: Plan.
Mr. Walter Tapper, F.R.I.B.A., Architect.

THE BUILDER, DECEMBER 13, 1912





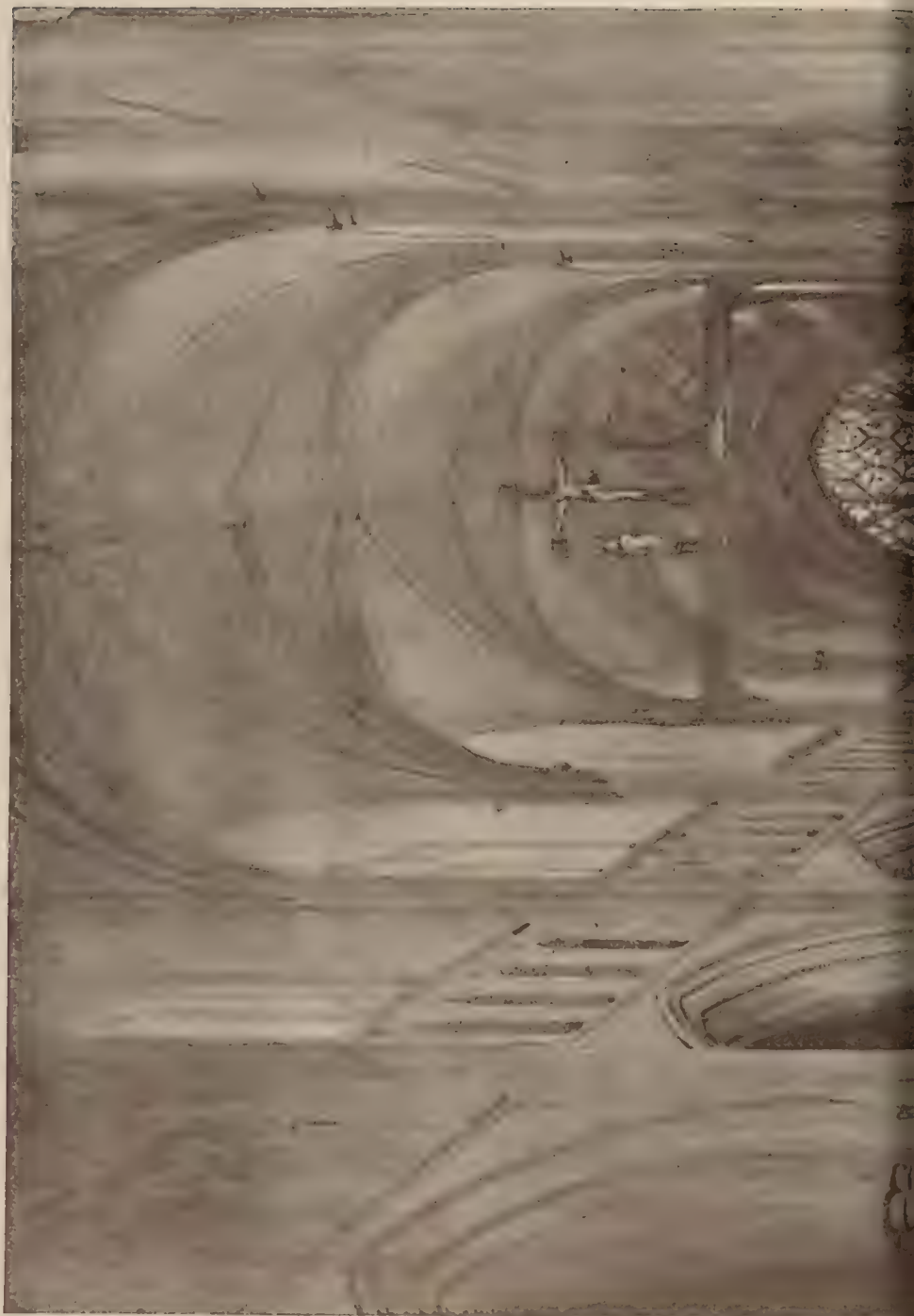


THE CHURCH OF THE ANNUNCIATION, OLD QUEBEC STREET, W: VIEW FROM S.E.

MR. WALTER TAPPER, F.R.I.B.A., ARCHITECT.

(R.I.A. Library, Foundation 1914)

THE GUILDER. DECEMBER 13, 1912



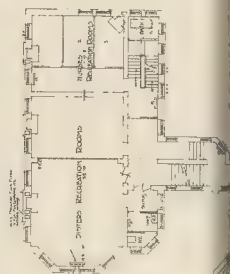
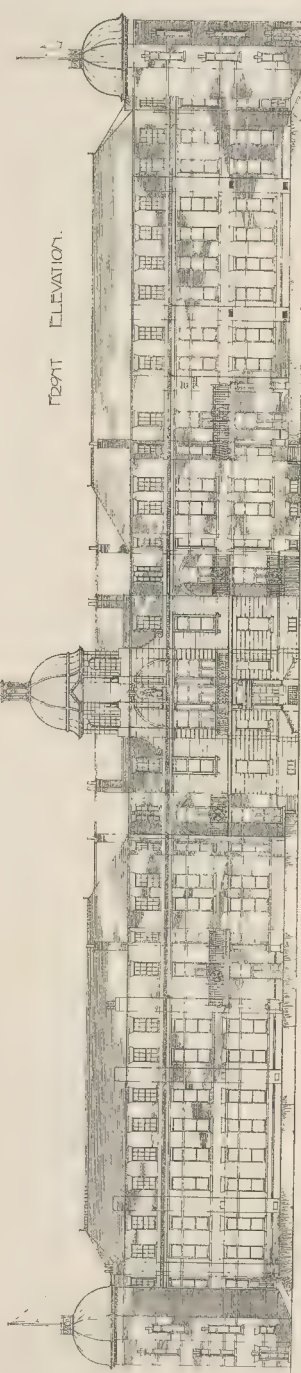
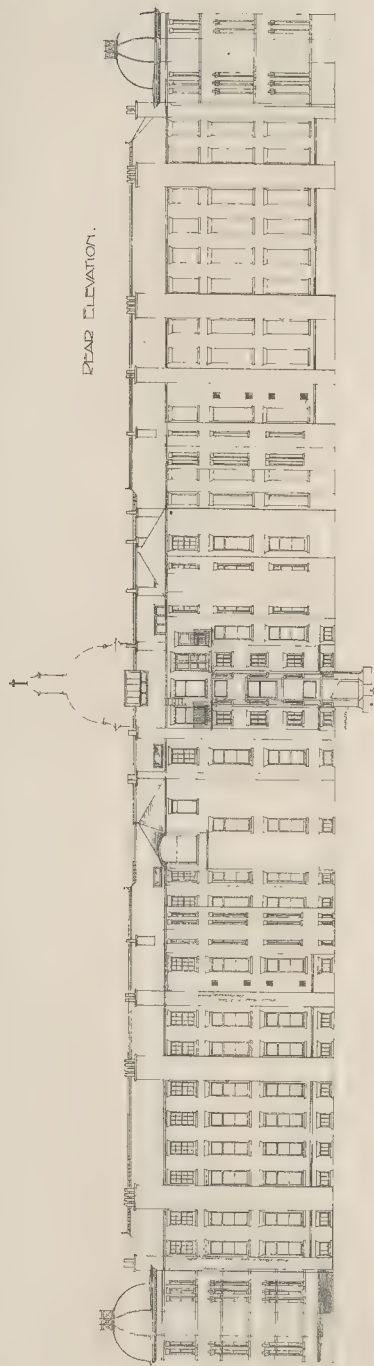


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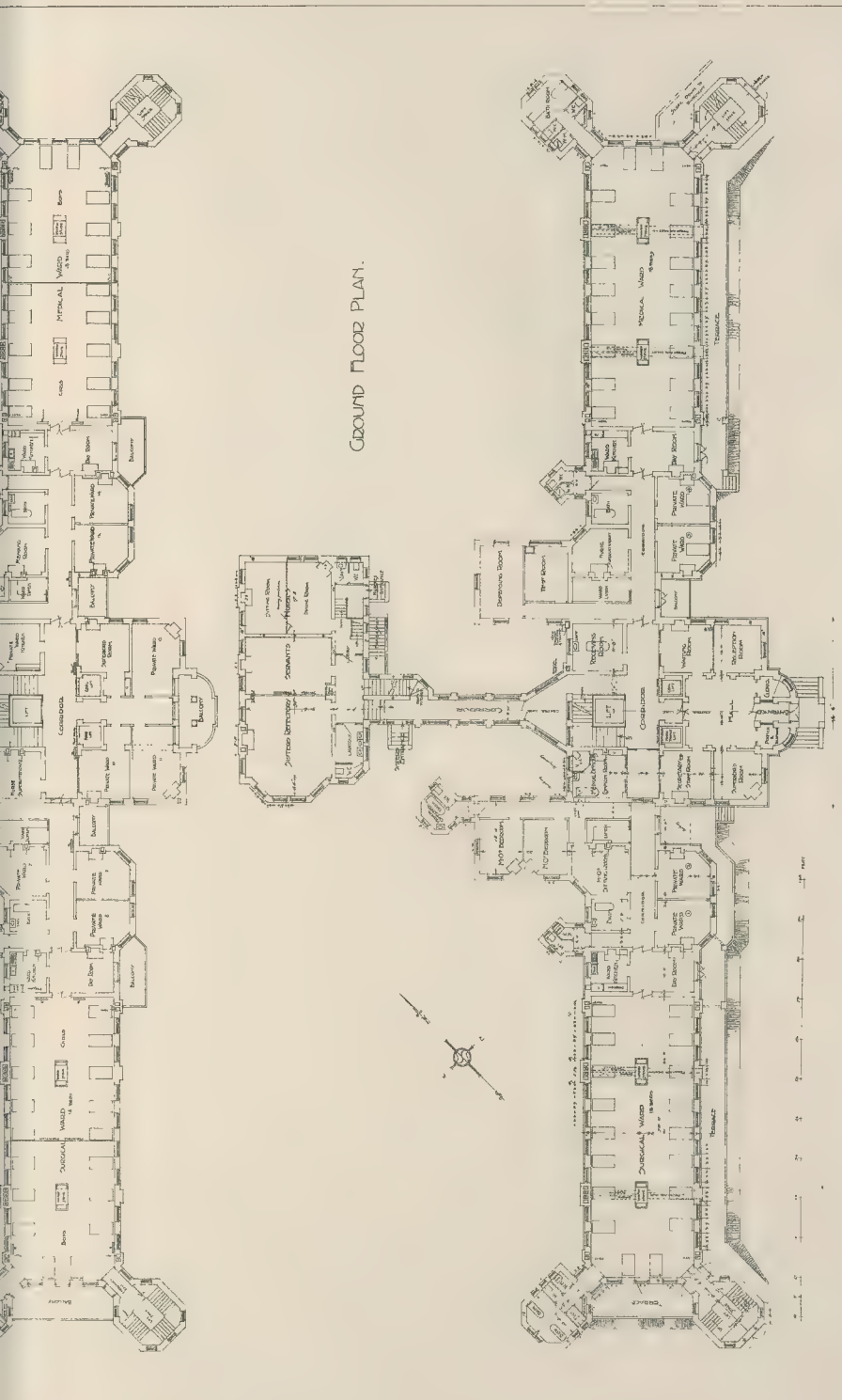
THE CHURCH OF THE ANNUNCIATION, OLD QUEBEC STREET, W. INTERIOR VIEW LOOKING E

MR. WALTER TAPPER, F.R.I.B.A., ARCHITECT.

THE BUILDER, DECEMBER 13, 1912



FIRST FLOOR PLAN.

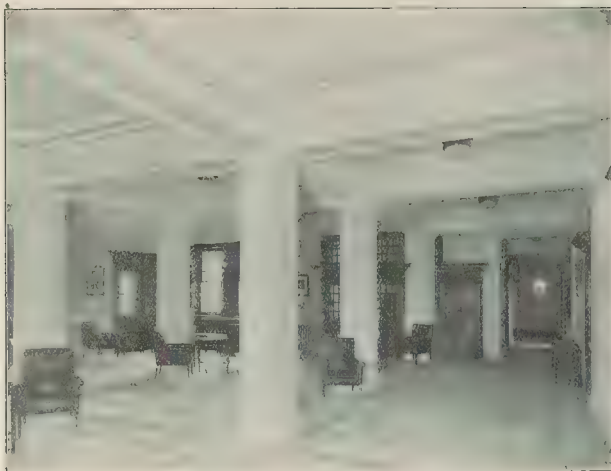


GROUND FLOOR PLAN.

PHOTOGRAPH SHAPES OF LOT 69 & 70, DEAN STREET, BOMBAY

ST. ANDREWS HOSPITAL, DOLLIS HILL, WILLESDEN, N.W.—MR. ROBERT L. CURTIS, ARCHITECT.

MONTHLY REVIEW . of . CONSTRUCTION.



Warwickshire House, Gower-street, Bloomsbury: Entrance Hall.

Messrs. John Slater, F.R.I.B.A., and J. M. Keith, A.R.I.B.A., Architects

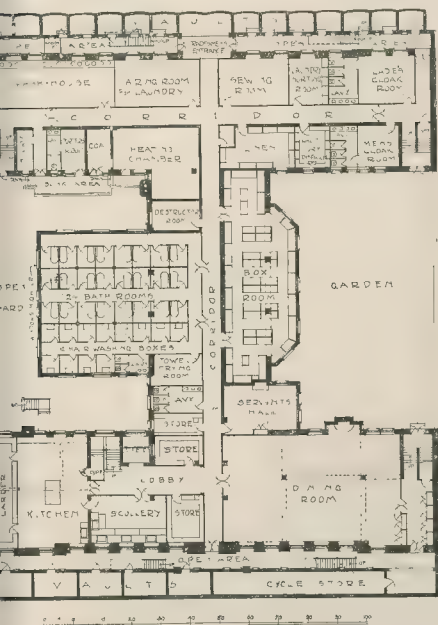
WARWICKSHIRE HOUSE, GOWER-STREET.

URING the last few years there has been a considerable amount of discussion in the public Press as to merits or demerits of the system of "living-in" adopted for their employees by the large London drapers, and the results which admittedly have obtained, especially when the upper part of shop premises has been devoted to the living-rooms

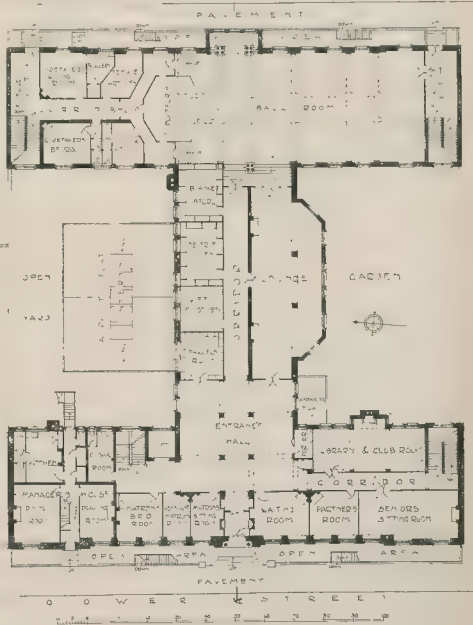
of the assistants, fully justified the severest criticism. Messrs. Bourne & Hollingsworth, of Oxford street, have, however, always contended that under proper conditions not only are the comfort, well-being, and health of the employees much better secured by the "living-in" system than when they have to find their own lodgings, but that it is vastly preferred by them.

A few years ago this firm erected in South-

crescent, Store-street, a large hall of residence for 418 of their female employees, from the designs of Messrs. John Slater & Keith, of Berners-street, and the success of this undertaking encouraged them to put in hand a much larger building for the same purpose under the same architects. An admirable site was secured on the Bedford Estate fronting on Gower-street and Malet-street, and this building is now in



Basement Floor.



Ground Floor Plan.

Warwickshire House, Gower-street, Bloomsbury.



Warwickshire House, Bloomsbury: Front to Gower-street.

Messrs. John Slater, F.R.I.B.A., and J. M. Keith, A.R.I.B.A., Architects.

occupation. Accommodation is provided for 614 residents, including servants, and it is not too much to say that the employees enjoy all the comforts of a first-class hotel.

From the plans and views reproduced here-with it will be seen that the architects have designed a building admirably suited to the uses for which it is intended. It has frontages of 152 ft. 8 in. to Gower-street and to Malet-street, with a depth of 168 ft. 5 in., and is H-shaped on plan, thus securing ample light and ventilation for all rooms.

In the basement next Gower-street are the dining-room, kitchens, etc., and next Malet-street are various store-rooms and service-rooms and a laundry and ironing-room, which are used by the employees for small articles of dress. In the central block are placed the servants' hall, a large box-room, and the baths and hair-washing rooms, twenty-four of the former and twelve of the latter, all separated by Sicilian marble divisions 6 ft. 6 in. high, carried on iron supports, so that the partitions are kept 3 in. off the floor. There is also a heating chamber with separate boilers for the hot-water supply and for the warming, the whole of the heating plant being in duplicate to provide against a break-down.

The ground floor contains a large entrance hall opening from Gower-street, part of which is used as a lounge, and opens on to another large lounge in the central block facing south. There are also a library, seniors' sitting-room, partners' room, matron's private rooms, and some specially heated drying-rooms for damp garments. Nearly the whole of the Malet-street frontage is occupied by a large ballroom, 84 ft. by 37 ft., which can also be used for private theatricals, with stage dressing-rooms for artists and separate lavatory accommodation. There are two separate entrances from Malet-street for this part of the building. A small maisonnette is cut off from the main building on the ground and first floors with separate entrance from Gower-street, and this is occupied by the head of one of the departments. With this exception the whole of the upper floors is occupied by bedrooms of varying sizes accommodating one, two, three, and in a few cases four persons. In order to avoid

crowding up the bedrooms with wardrobes, etc., the walls of the corridors are lined with steel lockers for clothes, one for each person, and thus the bedrooms are always kept tidy. In the central block on each floor are the

water-closets and housemaids' closets. On the top floor is a small isolation hospital, with six beds, separate kitchen, bath-room, and nurses' rooms, and here any suspected case of infectious illness is at once isolated. An electric passenger lift is provided for residents, and a goods lift for the kitchen services. The whole of the building is warmed by radiators.

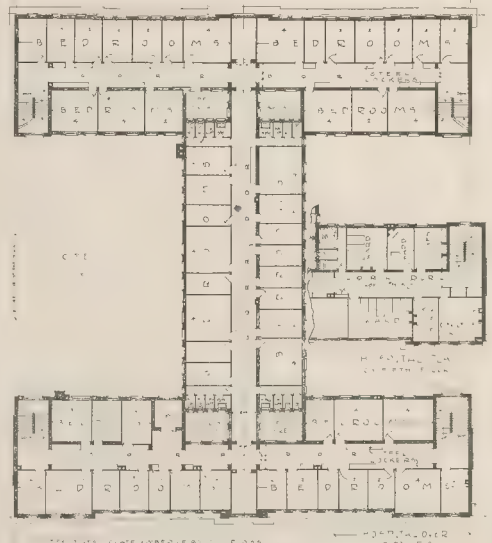
The building, which is faced with Lawrence's red bricks with Portland stone dressings, is of fire-resisting construction throughout, the floors being formed of hollow reinforced concrete beams by the Siegwart Fireproofing Company, Strand, W.C., and the whole of the steel stanchions and girders are encased in concrete. The roof is flat, covered with asphalt, and all the four staircases are carried up to the roof so that ample means of escape are provided. All the woodwork of ground floor is of oak, and the hall, lounge, and corridors are laid with marble, the ground being white and blue Sicilian with green Norwegian slabs. The ballroom floor is laid with 12-in. pitch-pine boards in narrow widths resting on 5-in. by 2-in. fir joists 16 in. apart, and these are spiked to another set of joists 3 ft. apart, thus securing a good springy dancing floor and a very economical outlay.

The bedroom floors are finished in Granolithic on which is laid directly a very heavy linoleum, but no floor boards are used.

The constructional steelwork is by Messrs. Moreland & Son; the wrought-iron work by the Coalbrookdale Company, Berners-street, W.; the asphalt and damp-proof courses by Messrs. Vaux Travers; the heating, ventilation, and hot-water supply by Messrs. G. N. Haden & Son; the ornamental ironwork by the Coalbrookdale Company; the baths, lavatories, etc., by Messrs. J. Bolding Sons; the electric installation by Messrs. Banks Bros., New Oxford-street, W.C.; the steel lockers by the Crittall Company; and the lead-glazing by the Luxfer Syndicate, Hill-street, E.C.

Messrs. R. Waygood & Co., Ltd., Falmouth-road, London, S.E., have supplied one of the electric passenger lifts to raise 25 cwt. 200 ft. per minute from basement to fifth floor, a travel of 67 ft. The lift is fitted with up-to-date safety appliances, and the control is in the hands of an attendant operating a car-switch and a centring detachable handle in the cage, with a special slowing-down device on approach to stopping-places.

Messrs. Gilbert Seale & Son, Lombard-grove, Camberwell, have carried out the stone carving to the exterior, the wood carving to ballroom



Bedroom Floor Plan.

Warwickshire House, Gower-street, Bloomsbury.

go, entrance hall, and entrance, and all the mental plaster-work in ballroom, lounge, dance hall, and corridor.
The general contractors were Messrs. G. E. H. & Sons, of Maidstone, and Mr. Thomas Ken was clerk of works.

PAINTING STRUCTURAL STEEL.

Scientific research and practical tests have made clear the fact that certain pigments possess the property of encouraging corrosion when applied to steel, although excluding moisture, while others tend to retard corrosion. These pigments may be classified as moisture-retarding and rust-retarding, the former being suitable for finishing coats, and the latter for priming and foundation coats.
No whole question of painting steelwork has yet been considered fully in a report presented to the American Railway Bridge and Building Association, from which the following are taken.

A rust-retarding coat can be suitably made of red-lead and pure linseed oil, freshly mixed, with a small proportion of turpentine to prevent penetration.
Natural oxides are slightly less costly, and will be applied by less expert labour than lead.
A leaded oil without pigment is considered suitable as a first coat, because it tends to cause the peeling and blistering of paint towards applied.
On painting steel on the site, paints containing the same kind of pigment as in shops can be used if covered by an elastic iron coat, otherwise only paints suitable for painting should be applied.

A priming coat on the site red-lead or leaded oil should be darkened by adding a little carbon black to the extent of from 10 to 20 per cent. The objects are to enable men to judge if the surface is being properly primed, and to make the second coat more effective.

Carbon, lamp-black, and graphite give satisfactory results as finishing pigments; but the oil must be of suitable quality, and the addition of some appropriate gum improves the paint in respect of elasticity and durability.

Before repainting structures the surface should be cleared from all scale, rust, and dirt, and be made smooth. If the entire structure is to be repainted with a rust-retarding finishing-coat the parts cleaned and all exposed surfaces should be given a coat of red-lead or red-lead paint before the finishing coat is applied. The use of turpentine in paint applied over the surface is advisable because this will promote adhesion between the two layers.

WIND PRESSURE ON BUILDINGS.

Supplementary to the investigations made in this country on the subject of wind pressure on buildings, some interesting experiments by Professor Smith, of Purdue University, are worthy of notice.

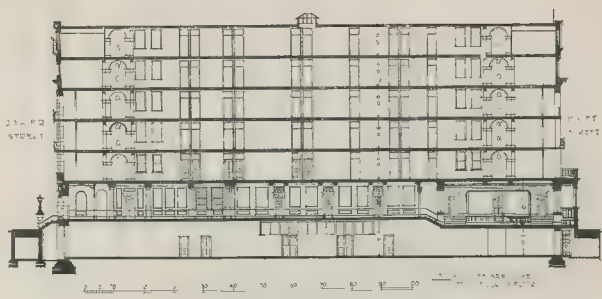
For the purpose of his tests Professor Smith erected a model building erected on an open site, constructed so that the wall length and height and the roof slopes could be varied to twenty-seven different combinations.

From a study of the pressure diagrams and curves plotted from the values obtained after correction for measurable errors in the apparatus, Professor Smith deduces the following conclusions:—

(1) The increase of wall height tends to increase relatively the average pressure on the windward surface, while the decrease of height with unaltered roof height tends to decrease the average pressure on the windward surface, and to cause pressure on the leeward roof slope.

(2) The increase of wall height tends to decrease relatively the average suction on the windward wall. If the roof is long in comparison with the height, or if the height is small in comparison with the roof span, the leeward wall suction is relatively small.

(3) The increase of height tends to increase relatively the flow of air around the ends of a building. If the building is short in comparison with its height, the flow of air around the ends has more influence than the flow of air around the roof upon the relative pressure and suction on the windward and leeward surfaces, respectively. As the end flow increases the



Section on Line AA. (See Ground Floor Plan.)

Warwickshire House, Gower-street, Bloomsbury.

windward pressure tends to become of maximum value, while the leeward suction at the middle tends to become of minimum value.

In view of these conclusions Professor Smith considers that present methods of estimating wind loads on industrial buildings should be modified. For instance, in the case of roof trusses on masonry walls or on steel framing with long diagonals, he recommends that a suction effect of about four-tenths the unit wind pressure should be taken for the leeward roof slope of all closed buildings, and a pressure or suction effect derived from his curves, taken for the windward slope. The resulting stresses will not only differ in amount from those calculated on the customary basis, but in some members will differ in sign. He considers that wind loads on purlins may generally be neglected, or taken at lower values than usual, but points out that the need for secure anchorage to guard against the lateral movement and vertical displacement of roofs is clearly indicated by the results obtained.

A NEW CATHOLIC HOSPITAL.

In January, 1913, St. Andrew's Hospital, Dollis-hill, N.W., will be ready to receive patients. The Institution, which owes its origin to the generosity of an anonymous lady, stands on the crest of Dollis-hill, on a site of 7 acres, and advantage has been taken of a long level plateau to give an ideal situation for the main buildings. They are thus placed far above all obstructions, present or future, of light, air, and view; and the outlooks comprise, in the various directions, the vale of Cricklewood to the south, the Weald of Harrow westwards, the valley and waters of the Brent to the north, and the heights of Hampstead Heath and Golder's Green to the east.

The elevations of the hospital buildings are of red brick with Portland stone bands and dressings. The centre block is emphasised with a facade of stone, and is surmounted by an octagonal dome and cupola. At the four corners are flanking towers forming the sanitary annexes, and these towers are also finished with domical shaped roofs. The coverings of the ordinary roofs are of grey-green Delabole slates, and the domes and cupola are covered with copper. Open-air terraces are formed along the front at the ground-floor level and balconies at the first-floor level.

The architectural character of the centre is of a simple Classic style. The projections formed by the entrance lobby support an open-air balcony with stone balustrading, above which at the second-floor level is a niche with a life-sized statue of St. Andrew, the patron of the hospital.

The building consists of four floors, and comprises administration centre, two wings accommodating the wards and an axial corridor at the back connecting with the commissariat and nuns' and lay nurse quarters.

The basement floor is devoted to general stores, heating chambers, cold storage, etc., and is approached externally by a sloping way, by means of which ambulance litters can be easily wheeled in and out. The centre corridor runs from end to end, giving direct access to all the various stores, stairs, and offices. The central axial corridor gives direct communication with the kitchens.

On the ground floor the main entrance gives

access to the entrance hall, at the sides of which are the rooms of the administrative offices and waiting-rooms. This hall leads immediately to the main staircase and to the side corridors connecting with the ward on the right and the ward on the left, when built; while the axial corridor beyond leads to the kitchen and refectories of the sisters and nurses. Adjoining the entrance hall and main staircase are the medical officers' rooms, reception-room for patients and dispensary. The wards are in direct communication with the main corridor, and are long, lofty, and well lighted, each for eighteen beds, and each ward has its own ward kitchen, day-room, and sanitary annexe.

The main staircase is built around a commodious enclosure in which is a lift designed to accommodate a bed or litter and giving access to all floors from the basement upwards. This lift is operated by electricity and is automatically controlled so that no attendant is required to work it.

On the first floor (and grouped round the centre corridor) are the private wards with their separate kitchen, bathroom, and sanitary annexe, also the rooms of the nursing superintendent. Here also (approached by a short corridor) are the X-ray room, with its dark-room and test-room adjoining; and there is also a mending-room and clothes-room adjacent to the linen-room. The main corridor gives direct communication to another ward. This is of equal accommodation to the ground-floor ward, and, like it, has its day-room, ward kitchen, bathroom, and sanitary annexe, and secondary staircase leading down to the grounds.

The second floor is also served by the main staircase and the main bed and passenger lift, and gives convenient access for both patients and sisters to the chapel, which is on this floor under the dome.

Adjoining the chapel is the priests' sacristy, and later on a tribune will open into the chapel from the adjoining sisters' sick-room.

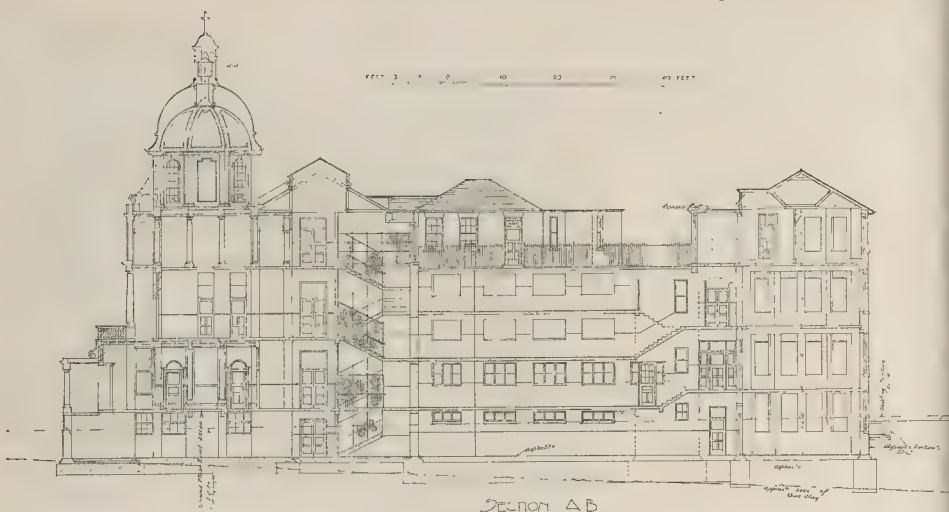
Immediately joining the corridor and main stairs is the operating-room, with its anaesthetic and sterilising rooms and a robing chamber for the operating surgeon.

The remainder of this floor so far as the main building is concerned is apportioned to the use of the sisters as dormitories.

The axial corridor is an open air approach to the rear building, and leads to a small suite of isolation rooms. There is an outside stair to the flat roof, which can be utilised as a roof garden, and which affords a splendid view of the surrounding country.

The rear building has on the basement floor the kitchen, scullery, meat and vegetable stores, and tradesmen's entrance. This kitchen suite communicates by means of a direct corridor to the centre of the main building, where two service lifts run to the upper floors, and by means of which the food is sent up to the various wards. The service will be conveyed on trolleys, with special heating arrangements for keeping food warm in transit. The lifts have automatic electric control, so that the service will be convenient and expeditious.

The ground floor of this rear building has refectories of the sisters and dining-room of the lay nurses, with service lift from the kitchen immediately below. Two stairs communicate with the first floor, on which are the separate recreation-rooms of the sisters and the nurses, whilst the nurses' stairs continue to the second floor, where their private rooms are situated.



SECTION A-B

St. Andrew's Hospital, Dollis-hill, N.W.

Mr. Robert L. Curtis, Architect.

Throughout the buildings every precaution has been taken to eliminate corners and angles which might induce the lodgment of dust. Rounded corners, angles, and curves have been worked on walls, floors, and ceilings, and joinery wherever practicable, and the surfaces throughout are of impervious materials. The floors, roofs, and stairs are of reinforced concrete construction and are practically fireproof.

The floors throughout are finished with Terrazzo mosaic (with the exception of the chapel and hall, which are in the Roman mosaic). Terrazzo mosaic dados have been put to the stairs and corridors, and the walls and ceilings of wards and corridors are of Keene's cement, and will be finished in enamel and in flat distemper to the ceilings.

The heating of the main wards is by open fire central ventilating stoves, with sterilisers, and the private wards and other apartments are warmed by open well fireplaces. The corridors, hall, staircases, and administration rooms are heated by low-pressure hot-water radiators, and similar hot-water secondary heating is also supplied to the wards; the installation throughout being from the hot-water mains in the basement supplied by the duplicated boilers in the furnace-room. Here also is a battery of hot-water boilers, which supply a hot-water domestic service to the

whole of the lavatories and suites throughout the building. The sanitary fittings, lavatories' water supply, together with the outside drainage have been carried out under the supervision of Messrs. Bost & Sons, consulting engineers.

The grounds are being laid out with approach roads and paths, with trees and shrubs and green sloping lawns at the front and kitchen-gardens at the rear. The boundaries are enclosed with oak fencing, and the frontage along Dollis Hill-lane is protected with wrought-iron fencing and entrance gates.

The architect for the work is Mr. Robert L. Curtis, Finsbury-square, E.C.

Messrs. Patman & Fotheringham, Ltd., are the general contractors for the building; Mr. Peters is foreman in charge; and Mr. James Keating (Ilford) the clerk of the works. The following were the principal sub-contractors:

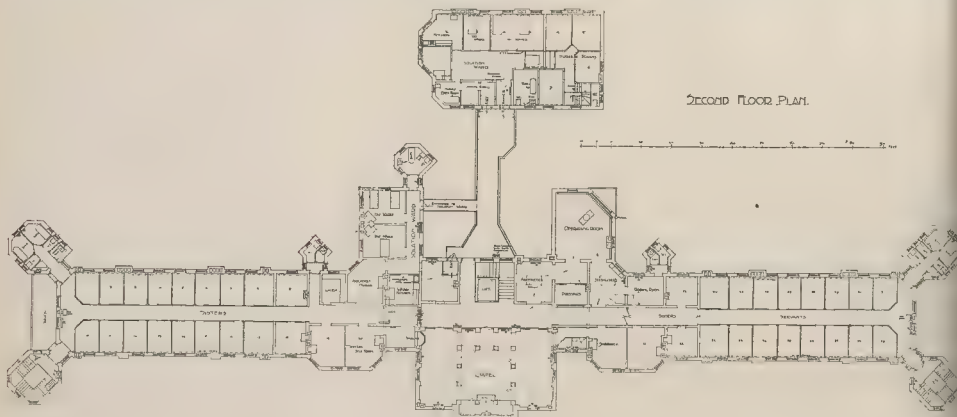
Fireproof ferro-concrete floors and stairs by the Cubitt Concrete Construction Company; heating and hydrant installation by Messrs. Jeffreys & Co., Ltd.; electric lighting and telephones by Messrs. Bakewell & Son; electric lifts by Messrs. Waygood & Co., Ltd.; wrought-ironwork and railings by Messrs. Bayliss, Jones, & Bayliss, Ltd.; stoves by the Teale Fireplace Company; sanitary fittings by Messrs. Shanks & Co., Ltd.; locks, bronzework, and ironmongery generally by Messrs. Colledge & Bridgen, of Wolverhampton; pavement lights

by Messrs. Hayward Brothers & Eckstall Ltd.; blinds by the General Seating Company; cooking and kitchen fittings by the Shaw Engineering Company, Ltd.; oak fencing by Messrs. E. C. White & Son.

BILLS FOR CONSTRUCTIONAL WORKS :

SESSION 1913.

THE London County Council's Bill providing for tramways, with street widenings at intervals *passim* from Cricklewood to Marble Arch (but this project was abandoned at the Council's Meeting on last Tuesday); (Hildon Hill, Hendon, to Chalk Farm-road, by way of Finchley and Adelaide roads, Southwark-street to Cheapside, *via* St. Paul Bridge; Crouch End to Seven Sisters-road and Holborn to Farringdon-road, *via* Charterhouse-street, and Farringdon-road to Ludgate Circus. The Metropolitan Railway seek powers to acquire the Great Northern and City Railway undertaking and to extend it to Lothbury, and to connect it with their system at Liverpool-street and with the station of the Waterloo and City line; the London Underground Railway Company propose to acquire the Central London and City and South London Railways with enlargement



SECOND FLOOR PLAN.

St. Andrew's Hospital, Dollis-hill, N.W.

Mr. Robert L. Curtis, Architect.

the City and South London Company's lines from St. Pancras to Clapham Common and the Lancashire and Yorkshire Railway will make new lines at Bolton, South-Knottingley, Goole, and Royton, and the Victoria Station, Manchester. Powers bought by the Metropolitan Water Board construct three service reservoirs, with ten tanks in Hanworth, Greenford, Eltham, Wivich, Tatsfield, Cudham, and Westerham, conduits at Hanworth, Sunbury, and Wokingham; by the Mid-Kent Water Company, the Urban District Council, South Stafford Water Company, and Bradford, Coventry, Worsley, and Northampton Corporations, reservoirs, aqueducts, and ancillary works. New bridges there are projects by the London County Council—rebuilding of Lambeth Bridge; the Great Northern Railway bridge over the Regent's Canal; Leicester Corporation new bridges; Lancashire and Yorkshire Railway—new bridges. Extension of harbour and maritime improvements are projected by the Leith Dock Company and the Limerick Harbour Commissioners; by the Dover Harbour Board, new wet dock, two sea walls, and a quay, division of the present tidal harbour into a dock, and a communication between that and the Commercial Harbour; by the Liverpool Dock and the Nilton Haven Commissioners; at Greenock and Port Seton, new piers, quays, etc.; and for two piers, a break wall and wharf, a wet dock, etc., at Dover. Escalators will be constructed at Aldershot, Paddington (Waterloo and Baker Street), and Charing Cross (Hampstead Heath). Stations. To form connexions with the London and North Western Railway.

POURED CONCRETE HOUSE IN PARIS.

Supplementary to our article on the poured concrete house constructed at Santpoort, we give particulars of a similar building erected in May last at St. Denis, now a working-class suburb of Paris. The dwelling-house was constructed in accordance with the Harms et Small system of the Société Française de Maisons et Constructions Moulées. The general mould was built up of 2,602 iron sections assembled by means of bolts and nuts so as to provide two surfaces between which the concrete could flow, and kept at required distance by lateral stays. Fig. 1 shows part of the interior of the mould with the reinforcement for the walls, position, and Fig. 2 the exterior of the mould up to first-floor level. It will be seen from Fig. 1 that the concrete is only slightly reinforced, the sectional area of steel only about 1 per cent. of the sectional area of the concrete. The rods are arranged to form a network with proportionately sized openings. In addition to the reinforcement, there are pipes in the mould pipes for chimney flues,

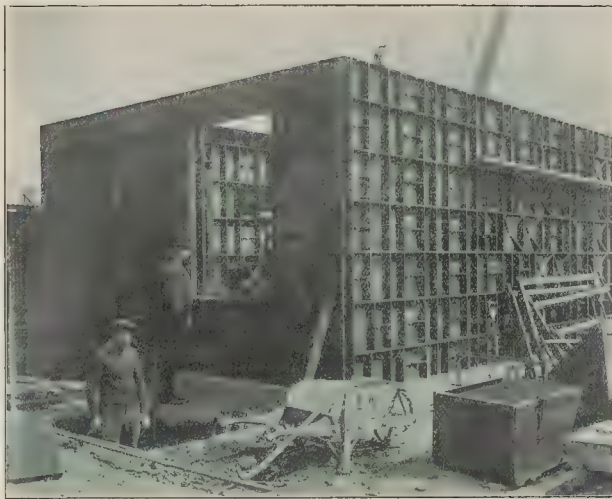


Fig. 2. Poured Concrete House, Paris: Mould erected to First Floor Level.

the outer sides of the door and window frames, the ends of the stair treads, and the ends of the floor beams.

The latter were moulded separately of 1:2:2 concrete and suitably reinforced. By moulding the beams in advance it is possible to remove the general mould at an earlier stage than would be permissible if the floors were poured similarly to the walls of the building.

The concrete for pouring is mixed in the proportions of one part Portland cement, three parts sand, and two parts gravel, with 120 to 175 per cent. of water, so that the mixture shall be able to flow very freely.

For preparation of the concrete a rotary mixer of sufficient size was placed near the site of the building with a platform conveniently arranged for feeding purposes. The raw materials were conveyed to the platform in small trucks proportioned to deliver the correct amounts of cement, sand, and gravel for each batch of concrete.

Concrete was conveyed from the mixer in skips sliding down an inclined plane, hoisted to the top of the mould, and poured into the space between the two sides.

All the concrete was poured at one point, without tamping of any kind. The perfect fluidity of the concrete is due not merely to the large proportion of water, but also to the admixture of a substance provided for in the Harms et Small patent.

In order to overcome the natural tendency of the materials to separate by gravity after the concrete has been poured the viscosity of the latter is sufficiently increased by the addition of colloidal substances in small quantities during the operation of mixing.

After removal of the moulds the surface of the concrete was found to be perfect in every respect; the joints of the castings forming the mould leave fine lines on the surface, resembling the joints between cut stones in masonry.

The exterior wall surfaces can be left just as they are, and the interior surfaces can be painted or decorated in any desired style.

Houses constructed in this manner possess the advantage of being perfectly dry from the start, and they are particularly hygienic, as all the interior surfaces can be washed, and there are no inaccessible spaces such as abound in houses constructed in accordance with ordinary methods of building.

Another advantage that should appeal to architects and builders is that the perfectly monolithic nature of the entire building enables it to act as a single unit, and therefore reduces foundation work to a minimum, at the same time obviating the risk of cracks such as appear in ordinary buildings as the result of local settlement of the soil.

The merits of the system are clearly expressed in the following extracts from a report on the house at St. Denis by M. G. Tronchet, Architecte en Chef du Gouvernement:—

"The appreciable advantage of the system is that one may erect the moulds without scaffolding, as provision is made for the support of brackets or planks on which the workmen may stand while building up the moulds.

After examination of all parts of the house it was found that the concrete was equally dense at the top and bottom.

On the day of pouring two blocks of concrete were moulded for examination at the Laboratory of the Ponts et Chaussées, M. Mesnager, the Chief of the Laboratory, witnessing the operation of moulding. We both recognised the perfect homogeneity of this product, employed for the first time in France; the said homogeneity was still more evident on the breaking of one of the blocks.

Tests made by M. Mesnager at the Laboratory of the Ponts et Chaussées showed the concrete to possess the crushing resistance of 75 kg. per cm.² (1,066 lb. per square inch).

The cost of a house of ordinary materials, as usually built on the outskirts of Paris, and of superficial area equal to that built, would be from 9,000 to 10,000 francs. The cost in poured concrete in accordance with the tender of the Société Française des Maisons et Constructions Moulées being 7,500 francs, there follows an economy of from 1,500 to 2,500 francs, or about 17 to 25 per cent., a very appreciable saving in economical buildings."

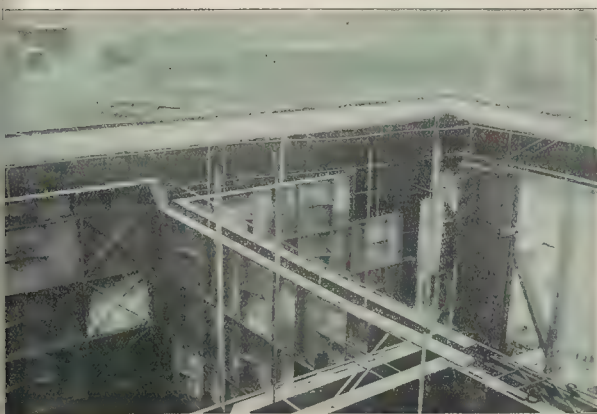


Fig. 1. Poured Concrete House, Paris: Interior of the Mould.

NEW METHOD OF TESTING WELDED JOINTS.

IN a paper presented by M. C. Frémont, of Paris, at the Congress of the International Association for Testing Materials the author advocates the impact test for determining the strength of welded joints. For the purpose of his experiments test pieces measuring 8 mm. x 10 mm. in cross-section were employed, the welds having been made in France and elsewhere by smiths specially selected on account of their skill. The welds were of the scarf-jointed type so as to obtain large contact surfaces. Micrographical etchings of the welds showed that a line of demarcation existed between the two metals at the seat of the weld in every case, thus indicating that the portions in contact had not interpenetrated.

The iron adopted for the various welds had a tensile strength of from 35 kg. to 40 kg. per square millimetre, and the mild steel a tensile strength of about 40 kg. per square millimetre. Impact tests on the unnickel test prisms measuring 8 mm. x 10 mm. in cross-section gave from 26 to 32 kilogram-metres for the iron and about 50 kilogram-metres for the steel, the test pieces not exhibiting fissures in any instance.

Similar test pieces were prepared from the welded metal in such a manner that the bending test could be applied in line with the welds to enable the strength of the latter to be determined. Under the impact test these pieces exhibited in all cases a strength inferior to that of the original metal. In most of the tests the pieces failed by the opening of the weld, their resistance being very small.

Among the better results obtained the steel-on-steel test pieces exhibited a fair amount of deformation before failure, the force required being from 15 to 16 kilogram-metres, or less than one-third of the strength of the original metal.

From the results obtained by M. Frémont it appears that the static strength of the forged scarf-jointed welds is equal to the static strength of the metal only when the welded surface is sufficiently large to compensate for the lower strength per unit area.

Antogenous welds are still weaker than forged welds, not only because of the smaller surface of adhesion, but also on account of the lack of continuity in the added metal, and the lack of strength imparted by hammering in ordinary welds.

CONSTRUCTION NOTES.

Asphaltic Road-binders.

THE chief feature of the natural asphalt industry, as set forth in the record of mineral resources by the United States Geological Survey, is the great extension of the use of residues from the asphaltic varieties of petroleum as binders in the surface of macadam roads. The asphaltum used for this purpose was 159,424 tons in 1910, and 234,951 tons in the year 1911. The use of a soft asphaltum from Venezuela, which is admirably suited for this purpose, is increasing.

A by-product of the oil industry is fast supplying the demands for asphaltum in the United States, whilst the petroleum from California and Texas have furnished, in the course of their utilisation, large supplies of asphaltic residue, which, when treated with air, becomes sticky and even elastic to a certain extent. Elastic material for roofing and substitutes for rubber in automobile tyres have been obtained from asphaltic residues by this blowing process or by treating with sulphur; whilst this sulphurisation of asphaltum has been applied with good effect to elaterite and similar hard asphaltums.

The consistency of materials, such as pitch, asphalt, coal-tar, and the like, used as bituminous road formers or binders, may be ascertained by an appliance devised by Mr. W. Crosby, and described in detail in the specification of the English patent No. 16,997 of 1911. The operation is determined at temperatures from 0 deg. to 100 deg. C., or any convenient temperatures above or below these, by measuring the distance travelled through the substance that is being tested, by plungers under known loads, in a fixed period of time, say, five seconds. The apparatus may also be used to measure the period of time required for the plungers, under known loads, to travel a fixed distance through the substance to be tested, which is contained

in a box of fixed dimensions, and is maintained at a known temperature. In this case the time required by the plunger to travel the fixed distance is taken as the measure of the consistency. The apparatus consists essentially of an accurately balanced wheel, around the circumference of which a thread passes, which is attached at one point to prevent slipping. The plungers are attached to one end of the thread, and a pan for counterpoising weights to the other, and means are provided for accurately measuring the arc through which the wheel turns. The specification referred to contains dimensions of the plungers and other parts.

Artesian Wells, Company, of Pentonville-road, N., have constructed a well at Wembley for the London and North-Western

Railway Company to supply the proposed electricity generating station for the Watford and Euston and Broad-street line. A 15-in. bore was made to 250 ft., and the bore was then reduced to 12 in. for 250 ft. deeper. The well is steel lined to 300 ft., to which depth are also taken down a 4-in. supply pipe and a 2-in. compressed air main, for the air lift method of raising the water. A flow of more than 15,000 gallons per hour is obtained, and if the results continued to be as favourable additional borings will be proceeded with.

The Great Western Railway Company have effected considerable improvements at their Central Station, Snow Hill, Birmingham. The old single-span roof was removed,

beginning at the north end, as the new one was erected. The new roof is of the ridge and furrow type, carried upon girders of parallel-flanged open-web type, running transversely to the direction of the main line. About two-thirds of the station is covered by this roof, which has a length of 500 ft. and a superficial area of 108,000 sq. ft. The steelwork carrying the railway and platforms aggregates about 500 tons. In one of the brick arches, which has been constructed beneath the lines, is the transformer station, with two motor generators for the electric signalling system which has been installed. The estimated cost of this work is about a million pounds, and has taken over three years to execute.

A REPORT issued by the British Fire Prevention Committee gives full details relative to the testing of a concrete floor reinforced by an American type of steel meshing,

the patents claiming that such reinforcement is less liable to be affected by heat than reinforcing rods, owing to the smaller diameter of the metal sections used. The floor was exposed for three hours to fire, the temperature reaching 1,800 deg., but not exceeding 2,000 deg. Fahr., followed by the application of water for five minutes. The concrete was composed of 3 parts furnace clinker, 2 parts sand, and 1 part Portland cement, its behaviour having been such as to justify classification as affording "Full protection."

An interesting feature was the supplementary load test, of which particulars are given in an appendix to the Report. This test, conducted three weeks after the fire test, showed that the load-bearing capacity of the construction had not been seriously reduced, the floor having been loaded to the extent of 560 lb. per square foot, without causing excessive deformation.

A FURTHER letter on this subject appears in the Times Engineering Supplement from Mr. R. W. Vawdrey, of the Indented Bar and Concrete

Engineering Company, who supports the views expressed by previous correspondents relative to the unfair differentiation by the Local Government Board between reinforced concrete and other materials. The writer also enters a timely protest against the mistaken comparison instituted by a previous correspondent in the same journal of the strength of reinforced concrete and timber. To say that plain concrete possesses about half the resistance of timber such as fir is quite justified by well-known data, but reinforced concrete is quite a different material, the tensile and compressive strength of which can be raised far beyond that of fir, by increasing the proportion of steel, and which, as Mr. Vawdrey says, can be, and is, so designed as to obtain advantages which are

impossible in any other material. Lack of confidence in reinforced concrete can only result from ignorance of the satisfactory results that have attended its use, and perhaps in some measure from unfamiliarity with theoretical principles and methods of calculation such as those given years ago in the R.I.B.A. Reports, and which ought to be as readily understood as the methods employed for the calculation of structures in timber and steel.

Reinforced Concrete Screw Piles. In a "Note" published on June 9, 1911, we described and illustrated the reinforced concrete screw piles patented by Mr. G. C. Vernon-Inkpen, F.S.I.

We have now received a copy of a patent specification setting forth the details of certain improvements upon the original design of the piles. The principal points are (1) the employment of ordinary commercial sections of steel for the purpose of reinforcement; (2) the provision of additional coils placed in the shaft, in the same direction as the screw threads and in conjunction with the spiral reinforcement; (3) the provision of tangential arms in a reverse direction, and in addition to those following the descending screw, so as to enable the piles to be screwed out of the soil without risk of fracture; and (4) the provision of radial and tangential arms passing wholly or partially through the concrete of the shaft.

DESIGNS have been prepared by two German engineers for the erection at Düsseldorf of a steel tower 1,640 ft. high, 656 ft. higher than the Eiffel Tower.

The principle adopted is one embodying girders without diagonal bracing, introduced years ago by Professor Viereck, of the University of Louvain. It is claimed that the use of these girders gives a lighter appearance and better architectural effect than the ordinary diagonal system. The base will be 640 ft. square, and the sides of the tower will slope slightly inwards for the first 312 ft. of its height, and above that level up to the height of 1,476 ft. the structure will assume the form of a graceful spire. It will widen out into a platform 32 ft. square, on which it is proposed to establish a restaurant, and to which access will be obtained by means of two lifts, while two spiral staircases will lead to the summit. Apart from its structural interest the tower should be useful as a meteorological observatory and a wireless telegraphic station.

A NEW storage reservoir now under construction at Wilpshire, at Blackburn, shire, in connexion with the waterworks system of Blackburn,

will be supplied direct from the reservoirs at Whitewell, and is intended to augment existing supplies in the districts of Little Harwood, Bastwell, Wilpshire, and Langthorpe at present drawing water direct from the mains. The site of the new reservoir includes some 58 acres, of which 38 acres will form the water surface area of the reservoir. The capacity of the reservoir will be 140 million gallons and its maximum depth 53 ft. At the Blackburn end of the site it is necessary to construct a dam 2,000 ft. long, and at the opposite end the roadway will be raised 20 ft. The work of excavation involves the removal of 23 cubic yds. of earth. It is estimated that the construction of the reservoir will occupy two and a half years, and that its completion will have the effect of postponing for some years the necessity of extending the water works in the Whitewell district. The contractors are Messrs. R. M'Alpine & Sons, of Glasgow and London, and the cost of the works is stated at 65,000l.

CONSIDERABLE trouble has been given at Rochdale by Subsidence of a Waterworks Waterworks, whence the town of Buckle is mainly supplied with water.

Three years ago a dam was constructed, about 2 miles from the town, comprising an earthen embankment, with a puddle core 60 ft. high, holding up about 47 ft. of water. A valve tower is connected with the middle of the embankment by a steel bridge, and, owing to the undermining of the embankment by water, the concrete foundations of the bridge have subsided, throwing the superstructure seriously out of position. As a temporary expedient the water level has been lowered so as to reduce the pressure, and expert advice is being taken with regard to the measures necessary for effecting a permanent cure of the defect that has developed.

THE BUILDING TRADE.

E DURABILITY OF WIRE ROPES.

THE durability of wire ropes for use in cranes, lifts, and hoisting apparatus generally is of much importance to engineering contractors and other classes of our country.

The life of a wire rope depends to a considerable extent upon the quality of the material and the size of the wire itself.

As a general rule, the wire used in the manufacture of lifting ropes is of crucible steel, with the tensile strength of from 150 to 175 tons per square inch. If the rope is of very hard steel, it is desirable to have a large factor of safety, and the interests of durability that the winding should be of proportionately larger diameter.

Another point of importance is the ratio of the wire diameter to the diameter of the pulley. If the wires are too large they suffer from strain in passing over pulleys, and if too small they are quickly worn away by the action of the pulleys and against each other in the body of the rope.

In discussing this question in a paper read before the Institution of Mechanical Engineers, Daniel Adamson points out that abrasion is the principal factor in limiting the life of wire ropes, and discusses its effects upon ropes of different diameters.

When a rope so constituted is passing over a pulley, the pressure at each point of contact between it and the pulley, and between the individual wires, may be assumed to be equal to the pressure occurring in a rope of the same diameter, but made of wires of double the diameter. The damage done by the smaller wires by contact, even under the same pressure, will probably be half that of a rope of double the size in a rope of the same diameter, and will result in the life of the rope being doubled. The life of the rope, making the effect of abrasion proportionately greater.

When the diameter of the pulley is increased, the pressure at the points of contact between the rope and the pulley will be proportionately increased, so that it may reasonably be expected that with a pulley diameter proportional to the wire diameter the life of the rope with fine wires will be one-quarter that of a rope with coarser wires, and working over a pulley of correspondingly larger diameter.

Manufacturers of wire ropes usually publish recommendations as to the minimum sizes of ropes for adoption, but give no information as to the effect of using pulleys of different diameters—a point on which precise information would be particularly valuable. The experience of users is extremely valuable, owing to the different conditions under which wire ropes are employed. The most reliable data of the kind have been given by Mr. Andrew S. Biggart, M.Inst.C.E., in a paper read to the Institution of Civil Engineers, and obtained as the result of tests made with the object of determining the best type of rope for use in the construction of the Forth Railway Bridge.

The apparatus used by Mr. Biggart consisted of two pulleys round which the rope was passed under tension, and the tests were made by passing the ropes to and fro until they were broken.

From the results obtained with various sizes of rope working under different conditions, the general conclusion may be drawn that by increasing the diameter of the pulleys to an extent equal to two circumferences of the rope the life of the latter can be doubled. It should be borne in mind, however, that, in proportion to the ratio of pulley and rope diameter, the user must also take into account the arrangement of the rope and pulleys, and the allowance for the relatively heavy wear on the ropes, by complicated arrangements, with several of them, by increasing the diameter of the pulleys.

Biggart's experiments also show the beneficial effect of oiling wire ropes, this benefit increasing the life of a given kind of rope by two or three times, by reducing the

cutting action of the wires upon each other. The experiments indicate further that ropes which are subjected to reverse stresses may be expected to last only half as long as similar ropes worked under conditions which involve bending stress in one direction only.

Those of our readers who desire to study the subject fully may be referred to the text of Mr. Biggart's paper, and also to the recent paper by Mr. Adamson, where a series of useful deductions from the experiments will be found.

STRIKES AND LOCK-OUTS.

THE twenty-fourth Report of the Board of Trade Labour Department on Strikes and Lock-outs in the year 1911 has recently been issued. The number of workpeople affected (961,930) was the highest recorded during the period 1893-1911; and the loss in working days (10,319,591) has only been exceeded in four previous years—1893, 1897, 1893, and 1903. In connexion with the above figures we may quote those published for the first ten months of the current year in the *Board of Trade Labour Gazette*, as they show an unfortunate record, 1,386,978 workpeople having been involved in disputes, at a loss of 39,816,200 working days.

The principal strikes and lock-outs of 1911 were those amongst seamen, transport workers, and dock labourers, and the cotton-weaving industry. Questions of trade involved 46 per cent. of the workpeople thrown out of work, but trade union questions 39 per cent. The aggregate number of working days available for the whole industrial population, exclusive of agricultural labourers, is estimated as 3,100,000,000, so the loss of time spread over the whole industrial population is computed as about one day per person. So stated the loss does not seem very considerable, but we prefer to represent the loss to the wage-earning classes in money, and if the moderate figure of half-a-crown is taken as representing the average value of a day's work the loss of 10,319,591 working days totals a sum of about 1,280,949. The disruption of work, as we recently showed in our article on changes in rates of wages, moreover tends to lower wages over the whole country, whilst some trade is lost never to return. Employers and employees cannot too carefully consider these facts with a view to seeing whether less costly methods of settling disputes cannot be resorted to.

Disputes affecting about one-third of the total number of workpeople involved were settled by conciliation, arbitration playing a very subsidiary part, affecting only 7,485 workpeople.

This Report dealing with strikes and lock-outs, of course, furnishes no account of the number of disputes settled by conciliation and other methods without a stoppage of work.

It may be noted that sympathetic disputes directly and indirectly involved 6,773 workpeople at a loss of 72,025 working days.

In the building trade only 2,789 workpeople were directly or indirectly involved in disputes and the loss in working days was 74,962. These figures coincide very closely with those for 1908. In 1910 very few workpeople were involved in disputes (only 880), but the loss of working days was 35,475. In 1909 1,692 workpeople were affected, but the loss in working-days was even less, being but 19,060. In 1911 the disputes involving 49 per cent. of the workpeople in the building trade ended favourably to the workpeople, disputes involving 5.9 per cent. in favour of the employers, whilst those involving 45.1 per cent. were compromised. In this trade conciliation and arbitration settled the disputes affecting 1,822 employees.

POLICE ORPHANAGE, REDHILL.

It has been decided to erect an addition to the Provincial Police Orphanage, Redhill, Surrey. The new building will provide dormitories for forty-eight girls, with extensive bath and lavatory accommodation on each floor; eleven rooms for staff, new boiler-house, stores, etc. The cost of the works is 4,000*l.*, and the architect, Mr. J. Augustus Souttar, of Bishops gate, E.C.

LABOUR IN THE COLONIES.

FROM the monthly statement drawn up by the Emigrants' Information Office, 34, Broad way, Westminster, S.W., we take the following:

In Canada there has been plenty of work lately for railway navvies and mechanics, but the demand for more hands has now ceased for this year. In Sydney, New South Wales, and suburbs the building and furniture trades have been fairly well employed, and competent men in these trades (except stonemasons) and strong railway labourers can get work. In Victoria there is a limited demand for bricklayers, carpenters, plasterers, cabinet-makers, and capable navvies; but no demand in the engineering trades. In South Australia the building trades continue to be very active. There is a fair demand for competent joiners and bench hands. Plasterers are in very strong demand, and good men can command up to 15*s.* per day. Bricklayers, brickmakers, galvanised ironworkers, plumbers, and masons (wallers) are in fair request. Stone-cutters quiet. The demand for painters has improved. In Queensland there is a good demand for strong men for railway construction work. The demand for mechanics and miners is fairly well met locally. In Western Australia there is not much demand for more mechanics, but in Tasmania there is a scarcity of general labourers for the construction of tramways in new districts, and for other public works. Very few competent mechanics are out of work in New Zealand, but there does not appear to be any special demand for more men. Employment in the building trades at Johannesburg continues brisk, and bricklayers and stonemasons are well employed; carpenters are always plentiful, and many plasterers and men in the engineering trades are idle. At Pretoria there is no demand for more men. Employment in the building trades at Cape Town there is a continued demand for competent plumbers and plasterers. At Durban skilled plumbers and plasterers are scarce, but bricklayers are plentiful. A report has been received to the effect that the labour market in the United States of America is overstocked; that unemployment, especially among unskilled labourers, is very prevalent; and that competition for a vacant berth is as keen in New York as in London. British emigrants would be ill-advised to go to New York in search of employment, especially in view of the high cost of living and the heavy general expenses.

BELFAST BUILDERS' ASSOCIATION.

AT the monthly meeting of the Council of the County Borough of Belfast, held in the City Hall on the 2nd inst., the Town Clerk (Mr. Robert Meyer) said he had received the following resolution from the Belfast Builders' Association:—"The Belfast Builders' Association, having had brought under their notice the greatly increasing practice of the Works and Surveyor's Departments of the Corporation carrying out work of considerable magnitude by direct labour, desire to protest against the practice, as not only extravagant in cost, but also as an interference with the legitimate business of the members of this Association, and hereby appoint a deputation to place their views before the Corporation at their next monthly meeting." It was decided to receive the deputation, which consisted of the following members of the Builders' Association: Messrs. R. B. Henry, J.P. (President); W. H. McLaughlin, J.P. (Vice-President); Henry Martin, J. M'Ilroy, J. O. Campbell, S. B. Thompson, W. J. Stewart, John Smith, C. Murdoch, James Lees, and J. Alfred McAuley (Secretary).

Mr. R. B. Henry said the resolution passed by the Builders' Association was one of protest against the practice of the Works and Surveyor's and Tramway Departments of the Corporation carrying out work of considerable magnitude by direct labour. They held that this mode of carrying out work was not fair or reasonable to a body of contractors such as they were. They were not only contractors, but were also amongst the largest ratepayers in the city. They did not make this protest with entirely selfish motives, but they also made it as ratepayers and on behalf of the ratepayers, and they considered that the work that the Corporation had hitherto carried out by direct labour had been done in an extravagant manner, and had cost much more than

if they had let it out to tender. They also considered that municipal trading—or, if they liked to so call it, direct labour—interfered with their large business, and members of the Builders' Association felt that the City Council, representing the ratepayers' welfare, should pause before continuing the practice into which they had been gradually getting. They, as contractors, had been keeping in close touch with the work which the Corporation had been doing, and they regretted to say that the manner in which the various works had been carried out had cost 30 per cent. more than if they had let it out to contract. Was it likely that the members of the Corporation, in their individual capacities, would go on with work without first knowing the cost of it? Undoubtedly they would not. Under the system of direct labour or municipal trading they instructed the City Surveyor, Tramway Manager, or Works Superintendent to put in hand work of a large magnitude, and the cost was not known until the work was finished. They should bear in mind that a contractor who faithfully wished to carry out his contracts with credit to himself and his clients must give his personal supervision at all times; now, was it possible that the City Surveyor, Tramway Manager, and the Works Superintendent, if they attended to their proper duties, could in any sense of the word divide a certain amount of their time to carry out large works.

Mr. W. H. McLaughlin, who also spoke, said the members of the Builders' Association honestly believed that the system of which they complained was costing more than the plan they advocated. There was a great deal of work which must perhaps be done by direct labour, and the deputation did not object to its being so done; but when large works—like the building of the City Hall, for instance—could be done by contractors at competitive prices, sometimes at a figure below the actual cost, why should the Corporation use direct labour?

The Lord Mayor said they were glad to see the deputation, and he was sure their views would be fully considered by the Corporation.

The deputation then withdrew.

MASTER BUILDERS' ASSOCIATION, WESTON-SUPER-MARE.

The annual banquet of the Master Builders' Association, held at the Bungalow Hotel recently, under the Presidency of Mr. H. C. Sheep, was largely attended. To the toast of the "Naval and Military Forces of the Empire," proposed by Mr. G. W. H. Pearce, responses were made by Colonel Sidney Keen and Mr. J. S. Walker, while "The Urban District Council," honoured on the initiative of Mr. H. Butt, was acknowledged by Councillor H. Ward, Councillor J. J. Bond, Mr. S. C. Smith (Town Clerk), and Mr. H. A. Brown, C.E. (Surveyor). Dr. Duncan Grey proposed "The Association and Honorary Members," and replies were forthcoming from the President, Mr. C. Penny, Mr. C. Addicott, and Mr. E. Stradling.

GENERAL BUILDING NEWS.

POLICE BUILDINGS, INVERNESS.

The enlarged buildings for the Inverness police have now been completed. The buildings have been entirely reconstructed, the interior is on modern lines, and the old frontage has been retained. The new work has been executed from the plans of Mr. R. I. Macbeth, architect, at an estimated cost of 4,000l. The contractors were:—Mason, Mr. Alexander Campbell; carpenters, Messrs. Alexander Anderson & Son; slater, Mr. A. C. Fraser; plasterer, Mr. William Johnstone; plumber, Mr. A. J. Russell; painter, Mr. D. Macdonald; bricklayer, Mr. James Macdonald; street foundry Company, Ltd.; heating, Messrs. Mackenzie & Moncur, Edinburgh.

NEW DOCK, NORTH SHIELDS.

Messrs. Smith's Dock Company, Ltd., have had a new dock erected for them at North Shields under the direction of Messrs. Moncrieff & Co., of Newcastle. The dock is 525 ft. long, and the entrance is 71 ft. wide. The contractors for the work were Sir John Aird & Co., and resident engineer was Mr. Goldson.

THE FLEETWAY HOUSE, E.C.

These new premises for the Amalgamated Press Ltd. were recently inaugurated by Lord Northcliffe. The Fleetway House is situated in Farringdon-road, and the area of the site is 22,000 sq. ft., the height of the building from basement to roof 90 ft. The architect was Mr. Herbert O. Ellis, of Fenchurch-street, E.C.; the quantity surveyors were Messrs. John Leaning & Sons, John-street, W.C., associated with Messrs. Robinson &

Roods, New-court, Carey-street; the consulting electrical engineer was Mr. Albion T. Snell, 6, Lawrence Pountney-hill, E.C.; the general contractors were Messrs. Allen Fairhead & Son, Enfield; and the clerk of works was Mr. J. Spooner. The following firms were concerned in the erection or equipment of the building:—Steel construction, Messrs. R. Moreland & Son, Ltd., Goswell-road, E.C.; asphalt, the Limmer Asphalt Paving Company, Ltd., Caxton House, S.W.; glazed brickwork, the Middleton Fireclay Company, Ltd., 27, Chancery-lane, W.C., and the Leeds Fireclay Company, Ltd., Norfolk-street, Strand; carving, Mr. C. H. Mabey, 150A, Vauxhall Bridge-road, S.W.; fireplaces, Messrs. George Wright, Ltd., Queen Victoria-street, S.W.; fireproof partitions, Messrs. F. Jones & Co., Ltd., Parren-street, Ryland-road, N.W.; fire appliances, Messrs. Mather & Platt, Ltd., Queen Anne's-chambers, Westminster, S.W.; fire alarms, the Associated Fire Alarms, Ltd., Jevon House, Rodcross-street, E.C.; flooring, the Durato Asbestos Flooring Company, Ltd., 25A, Soho-square, W.C., and for the rubber paving the New York Belting and Packing Company, Ltd., Southampton-row, W.C.; glass, the British Luxfer Prism Syndicate, Ltd., Hill-street, Finsbury, E.C.; granite and marble, Messrs. Penning & Co., Ltd., Palace Wharf, Rainville-road, Hammersmith, W.; heating, Messrs. Richard Crittall & Co., Ltd., Wardour-street, W.; lifts, the Otis Elevator Company, Ltd., Queen Victoria-street, S.W., and Messrs. Smith, Major, & Stevens, Ltd., Queen's-road, Battersea, S.W.; lighting, Messrs. Rashleigh Phipps & Co., Oxford-street, W. (the indirect light fittings are the registered design of the Adnil Electric Company, Ltd., Adnil Building, Artillery-lane, E.C.); ornamental plastering, Messrs. J. M. Bookbinder & Sons, Ltd., Crown-place, Kenish Town, N.W.; sanitary work, Messrs. George Jennings, Ltd., Lambeth Palace-road, S.E.; sanitary fittings, Messrs. Shanks & Co., Ltd., New Bond-street, W.; Portland stone, Mr. F. J. Barnes, Nine Elms-lane, S.E.; tiles and terrazo work, Messrs. Diespeker & Co., Ltd., Holborn-viaduct, and Messrs. Rust's Vitreous Mosaic Company; room decoration, Messrs. H. H. Martyn & Co., Cheltenham, and Messrs. Ropley, Duke-street, Manchester-square, W.; locks and fittings, Messrs. Kaye & Sons, Ltd., High Holborn, W.C.; window gearing, Messrs. W. & R. Leggett, Ltd., High Holborn, W.C.; vacuum cleaning, the British Vacuum Cleaning Company, Ltd., Parsons Green-lane, S.W.; artesian well, Messrs. Le Grand & Sutcliffe, Bunhill row, E.C.; electric clocks, the Synchronome Company, Chancery-lane, E.C.; lightning conductors, Messrs. J. W. Gray & Co., Philip-lane, E.C.; flagslating, Messrs. Piggott Brothers & Co., Ltd., Bishopsgate, E.C. The exterior bracket clock-case, with some interior metal-work for lift enclosures, etc., was supplied by Messrs. W. T. Allen & Co., 132, Queen Victoria-street, E.C.

TRADE NEWS.

Mr. William Ghasler (of Pall Mall East) announces the sale of the freehold estate known as "Priory Lodge," Barnes, which covers an area of upwards of 120,000 ft. with frontage to the main road, immediately opposite the old Parish Church of St. Mary, Barnes. Under the direction of Messrs. George Kay & Co., architects, Douglas, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to Finch-hill Church, Douglas, Isle of Man.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Acts were dealt with. Names of the applicants are given in parentheses:—

Lines of Frontage and Projections.

Clapham.—Erection of a building at 145, High-street, Clapham, abutting also on Wirttemberg-street (Mr. J. S. Beard for S. H. Beard).—Consent.

Dulwich.—Erection of a one-story building at the Grove Hotel, on the northern side of Dulwich Common-road, Dulwich (Messrs. W. Son & Ellwood for the Norman Engineering Company).—Consent.

Finsbury, East.—Illuminated advertisement case at the Old-street station of the City & South London Railway, next to City-road (T. C. Jenkin).—Consent.

Hamstead.—Retention of an iron land and step-ladder at the New Kilburn Emporium on the south-western side of Kilburn-empire (Mr. C. Gulliver).—Consent.

Hamstead.—Addition to a conservatory on the eastern side of Fitzjohn's-avenue (Mr. S. C. Lathbridge).—Refused.

Marylebone, East.—Erection of an iron glass shelter at the premises of Messrs. Waring & Gillow, Ltd., Castle street, East, Marylebone (Mr. R. F. Atkinson for Messrs. Waring & Gillow, Ltd.).—Refused.

St. Pancras, South.—Erection of a projecting crane at the premises of Messrs. Volpert, Bidborough-street, St. Pancras (H. B. Hale).—Consent.

Westminster.—Retention of an illuminating sign at Caxton House, Tophill-street, Westminster (Cabins, Ltd.).—Consent.

Westminster.—Erection of eight windows and a projecting cornice at a proposed building to abut upon Millbank (Dean Stanley-street, Westminster (Messrs. Gordon & Gunton for the British American Tobacco Company, Ltd.).—Consent.

Width of Way.

Finsbury, East.—Retention of lavatory buildings in the yard of Messrs. Carter, Paterson & Co., Ltd., abutting upon the northern side of Pear Tree-street, Finsbury (Messrs. Oast Paterson & Co., Ltd.).—Consent.

Woolwich.—Erection of a cinematograph building to abut upon Beresford-street, Beresford-square, and Salutation-alley, Woolwich (Mr. R. M. Allen).—Consent.

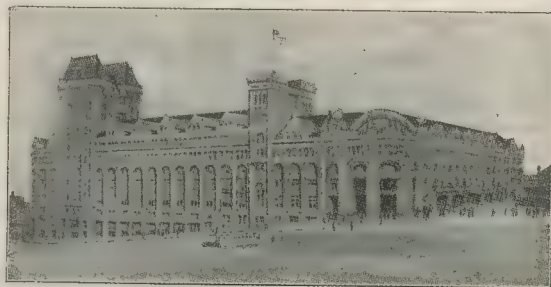
Width of Way and Lines of Frontage.

Kennington, South.—Entrance steps and coal-bin at No. 4, Ouslow-mews East, So Kennington (Messrs. E. K. Wilson & Son, Ltd.).—Consent.

St. George, Hanover square.—Erection of projecting features at the Berkeley Hotel Piccadilly, next to Berkeley-street (Mr. Griggs for the Berkeley Hotel Company, Ltd.).—Consent.

Width of Way and Widening of Street.

Waltham.—Widening of Tisdall-place. Messrs. builders erection of a house on the south-eastern side of Heatt's-building, and a fence on the south-western side and a fence the north-eastern side of Elsted-street, each less than the prescribed distance from the centre of the roadway of the street; and erection of a house on the south-western side of Tisdall-place with an irregular open space about such building (Mr. R. Dickinson).—Consent.



Windsor Station, Canadian Pacific Railway Company, Montreal.

An illustration is here given of the Windsor Station, of the Canadian Pacific Railway Company, Montreal, the tunnel's and subways of which have been waterproofed with Ceresit, supplied by the British Ceresit Waterproofing Company, Ltd.

Dwellings for the Working Classes.

Bedford.—Blocks of dwelling houses upon the eastern side of Brookmill-road, for (Mr. E. Cannell).—Consent.

Uniting of Buildings.

London.—Uniting of Nos. 117 and 119, Fern-road, Brixton (Mr. E. Hastie).—Consent.

London.—Uniting of Nos. 15, 16, 18, Moorgate-street, City, with No. 20, Moorgate-street, and the "White House," siting upon Telegraph-street (Mr. L. U. E.).—Consent.

London.—Opening in the party wall between the ground-floor level between Nos. 27 and Falcon-square, City (Mr. C. Gordon Smith Messrs. Watts, Payne, & Co.).—Consent.

London.—Formation of openings in vision wall at No. 15, Aldersgate-street, (Mr. H. Knight).—Consent.

London.—Uniting of No. 12, Holborn No. 1, Furnival-street with Nos. 2 and 3, No. 1, Furnival-street, by means of openings at first and second floor levels (Messrs. Gilbert Constans).—Consent.

London.—Floors of special construction in lieu of iron doors to an opening in the vision wall at Nos. 5 to 11, Holborn (Artisan Construction Company, Ltd.).—Consent.

London.—Uniting of No. 14, Blom-street and No. 46, New Broad-street, City, means of an opening at the ground-floor level (Mr. A. R. Conder for the W. T. Telegraph Works Company, Ltd.).—Consent.

London.—Formation of an opening exceeding the statutory size in division wall between Nos. 23 and 24, Old Bailey, City (Messrs. M. W. King & Sons).—Consent.

London, Central.—Opening and the formation of openings in the party wall between Nos. 102 and 104 and Nos. 106 and 108, Clerkenwell, Finsbury (Mr. E. F. King).—Consent.

London, Central.—Uniting of Nos. 60 and Spencer-street, Clerkenwell (Mr. R. Shaw).—Consent.

London, Central.—Formation of four openings exceeding the statutory size in division wall at proposed new workshops and offices, Finsbury-street and Jerusalem-passage, Finsbury, and the construction of steel-framed iron walls 14 in. thick (Mr. J. G. Gridley Messrs. E. Pollard & Co., Ltd.).—Consent.

London, Central.—Formation of an opening between Nos. 477 and 479, Finchley-road, Hampstead, at the ground-floor level (Mr. S. C. C. bridge for Mr. A. F. Cherry).—Consent.

London, Central.—Opening exceeding the statutory size in division wall at the premises of Finsbury, Ltd., North-crescent, Tottenham Court-road (Messrs. Dennison, Kett, & Co.).—Consent.

London, Central.—Relocation of openings in a party wall at Nos. 235 and 236, Tottenham Court-road, Holborn (Mr. F. H. Shaan for Lloyds & Co., Ltd.).—Consent.

London, West.—Opening exceeding the statutory size in division walls at the premises Messrs. J. Tylor & Sons, Ltd., Tileyard, Islington (Mr. E. L. Hall for Messrs. J. Tylor & Sons, Ltd.).—Consent.

London, West.—Formation of an opening between Nos. 219 and 221, Wandsworth-road, Islington, at the ground-floor level (Mr. E. E. tie for Messrs. Smith & Chapple).—Consent.

London, West.—Formation of an opening in party wall between Nos. 190 and 192, Wandsworth-road, Kennington (Messrs. Green & Cracknell for Mr. F. C. Greenfield).—Consent.

London, East.—Formation of an opening in the party wall at the first-floor level between Nos. 33 and 34, Union-street, St. Marys (Mr. John Slater for Messrs. Abdulla & Co.).—Consent.

London, South.—Formation of an opening 6 ft. wide by 3 ft. 6 in. high, with double shutters, in a division wall at the first-floor level next to the staff dining-rooms at the premises of Messrs. W. Whiteley, Ltd., Whitechapel, E. London (Messrs. John Schofield, R.A. and J. J. Jones, and Milners & Company, Ltd. for Messrs. W. Whiteley, Ltd.).—Consent.

London, South.—Formation of openings exceeding the statutory size in the division walls between Nos. 407 and 409, Oxford-street, City, at the first and second floor levels (Messrs. Smith & Co. for Messrs. Naylor & Thiers (London), Ltd.).—Consent.

Whitechapel.—Formation of openings exceeding the statutory size in the division walls between Nos. 10 and 12, Whitechapel, E. London, and the provision of iron doors in lieu of iron doors to such openings (Messrs. Grant & Dolley, and Mather Platt, Ltd.).—Consent.

*The recommendations marked * are contrary to the views of the Metropolitan Borough Councils concerned.*

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

Aldridge.—Domestic science centre, etc. (8000).—The Aldridge School Board.

Aldridge.—Proposed hall for St. Martin's Mission; Rev. T. A. Moxon, Vicar, Parish Church, Aldridge.

Amersham.—Additions to grammar school (2,300). Mr. W. Riley, architect, County Hall, Aylesbury.

Atherton.—Extensions to works, Bag-lane, for Mr. James C. Prestwick, bolt and nut manufacturer.

Ballyward.—Dispensary residence; Clerk, Guardians' Offices, Banbridge.

Barnsley.—Proposed institute; Vicar, St. John's Church, Barnsley.

Barrow-in-Furness.—Proposed school; Mr. A. Hawkrick, Education Offices, Barrow.

Batley.—Additions to Bottom Mill for Messrs. G. & J. Stubble, Ltd., woollen manufacturers.

Belvedere.—School (600 places). Lower-road; Mr. A. T. Flux, Education Offices, Erith.

Bishop Auckland.—Offices for Rural District Council and Guardians (3,200). Mr. S. Adams, Auckland Guardians' Offices, Bishop Auckland.

Blackburn.—Tower to St. Silas's Church (5,000). Messrs. Austin & Paley, architects, 24, Castle Park, Lancaster.

Blackpool.—Alterations to premises at corner of Wellington-road for the Blackpool Industrial Co-operative Society.

Brain-tree.—Additions at new swimming-bath (356). Mr. W. Potter, builder, Brain-tree.

Brierley Hill.—Infants' school, Moor-street (350 places); Mr. J. Hutchings, Architect, County Education Offices, Stafford.

Bromsgrove.—Proposed conversion of isolation hospital into children's home. Mr. H. D. Holloway, Clerk, Guardians' Offices, Birmingham road, Bromsgrove.

Caledon.—Dispensary residence; Clerk, Guardians' Offices, Dungannon.

Carnarvon.—Twenty-five workmen's dwellings; Mr. E. Hall, Surveyor, Town Hall, Carnarvon.

Chelmsford.—Houses, Danbury, Sandon, and Little Baddow (3,000). Mr. J. Dewhurst, Surveyor, Rural District Council Offices.

Chester.—Cookery centre; Mr. H. Johnson, builder, 30, London-road, Chester.

Claydon.—School; Mr. W. T. Watkins, Education Offices, Ipswich.

Cold Norton.—School (1,155). Mr. J. Rayner, builder, East Hanningfield, Chelmsford.

Consett.—Proposed aisle to church (1,500). Vicar, Parish Church, Consett.

Coventry.—Second part of housing scheme (10,560). and enlargement of tramway depot; Mr. J. E. Swindlehurst, Engineer, Town Hall, Coventry.

Cramlington.—Remodelling Cramlington Colliery Council School (566). Mr. J. Caruthers, builder, Tynemouth.

Deal.—Pavilion in front of Victoria Palace; Mr. T. C. Golder, Surveyor, Town Hall, Deal.

Elsecar.—Additions to Market Hotel for Mappin's Masborough Old Brewery Company, Ltd., Greatborough-road, Masborough, Rotherham.

Essex.—School, Brentwood, and additions to school, Hadeleigh; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Fishlake.—Proposed restoration of church; Vicar, St. Outhbert's Church, Fishlake.

Foot's Cray.—School (140 places) and alterations to existing school for the Managers, Foot's Cray and Chislehurst Church School.

Gloucester.—Vicarage House (1,500). Vicar, St. Luke's Church, Gloucester.

Govanhill.—School (18,000). Mr. A. Balfour, architect, 110, Mains-street, City, Glasgow.

Greenland (Halifax).—Sunday-school; Rev. G. W. Flower, Vicar, St. Thomas's Church, Greenland.

Halfwhistle.—Proposed children's home; Mr. T. Dryden, Clerk, Guardians' Offices.

Heysbam.—Houses and shops, Main-street and Barrow-lane, for the Lancaster Co-operative Society.

Hove.—Plans have been passed for the erection of five houses in Glendale-road, and for alterations to "The Brambles," Bigwood-avenue, for Mr. W. H. Overton.

Kent.—Special instruction centre, Seven-oaks, and improvements to school, Wilmington; Mr. W. H. Robinson, Architect, Kent Education Offices, Caxton House, Westminster, S.W.

Lifford (Birmingham).—Stables (3,452). Messrs. T. E. & Son, Naden-road, Schofield, Birmingham.

Liscard (Cheshire).—Proposed additions at hostel at Y.W.C.A. Institute and Holiday Home (1,500). Miss M. Pescod, Secretary, Withenfield House, Withen's-lane, Liscard.

Malton (Yorks).—Laundry at workhouse; Messrs. H. Oldfield & Son, Bridgfoot, Malton.

Middlesbrough.—Premises, corner of Albert-road, for Messrs. Freeman, Hardy, & Willis, boot and shoe manufacturers, 57, Rutland-street, Leicester.

Montrose.—Proposed improvement of Burgh Hall (3,000). Surveyor, Burgh Hall, Montrose.

Nechells (Birmingham).—Stables (1,711). Mr. J. E. Harper, builder, 76 to 80, Lombard-street, Birmingham.

Newsham.—Proposed mission buildings; Trustees, Presbyterian Church, Waterloo-road, Blyth.

Newton Abbot.—Proposed additions at workhouse, Mr. F. Horner, Clerk, Guardians' Offices, Newton Abbot.

Newtown (Mon.).—Welsh memorial offices for the Welsh National Memorial Association.

North Saxon.—School; Mr. C. Williams, County Education Offices, Newcastle.

Ongar.—About 168 houses; Mr. W. N. Jarvis, Surveyor, Rural District Council Offices, Ongar.

Pemberton.—Picturedrome near Halfway House, Ormskirk-road, for Mr. G. Wadsworth.

Pittodrie.—Pavilion (900). Secretary, Caledonian Golf Club, Aberdeen.

Prestatyn (Flint).—Workmen's dwellings; Mr. Fred Wilkinson, Surveyor, Urban District Council Offices, Prestatyn.

Rhuallt (Flintshire).—School; Mr. J. Bevan Evans, County Education Offices, Mold.

Roomfield.—Alterations to Manse for the Trustees, Roomfield Baptist Church.

Rotherham.—Proposed extensions to tram-car shed, Rawmarsh-road; also enlargement of tuberculosis dispensary; Mr. E. B. Martin, Engineer, Town Hall, Rotherham. Plans have been passed as follows:—Eight houses, Lord-street, for Mr. B. Bool; miners' aid and rescue station, St. Ann's-road, for the Rotherham and District Rescue Station Board; four houses, Church-street, Kimberworth, for Mr. W. Lodge. A plan has been lodged for eleven houses, Gerard-road, by Messrs. Ball & Waite.

Rugby.—Garages, Pennington-street, for Messrs. Samuel Robbins, Ltd., furniture and cycle manufacturers, Rugby.

Rutherford.—Additions to works for the River Bolt and Nut Company, Ltd.

Sheerness.—Enlargement of manual institution centre (677). Mr. A. W. Phillips, builder, Sheerness.

Sheffield.—The following plans have been passed:—Addition to premises, Newhall-road and Carlisle-street, for Messrs. Cammell, Laird, & Co.; power-house, Broughton-lane, for the Brightside and Carbrook Co-operative Society, Ltd.; four houses, Springvale-road, for Mr. Parkin; four houses, Vale road, for Miss Hewitt; additions, Steam Clock Inn, Newhall-road and Brightside-lane, for Messrs. Strouts' Brewery Company, Ltd.; six houses, Linburn and Osmonston roads, for Mr. H. Holland; alterations to premises, Bantock-road, for Messrs. G. A. Shipman & Co., Ltd.; alterations to premises, Bantock-road, for Messrs. J. E. & F. S. Marsden, Ltd.; additions, Hermitage Inn, London-road, and Hermitage-street, for Messrs. S. H. Ward & Co., Ltd.; four houses, Horndean-road, for Mr. J. H. Smith; six houses, Eccleshall-road, for Messrs. J. E. & A. S. Wilbraham; additions to premises, Stanforth-road, for Messrs. Cravens, Ltd.; additions to premises, Warren-street, for Messrs. W. Spencer & Co., Ltd.; additions to premises, Rockingham-lane, for the Sheffield Electrical Engineering Company, Ltd.; alterations to premises, Eyley-lane, for Messrs. Newby & Sons, Ltd.; seven houses, Eyley-avenue, for Mr. H. E. Fern; four houses, Redmires-road, Sandgate, for Mrs. Peace; additions, Old Shakespeare Inn, Gladless and Well roads, for Mr. W. H. Ward; additions to premises, Mowbray-street, for Messrs. W. Spital-hill, for Mr. W. T. Gent; cinematograph theatre, Cravens and Catley roads, for Mr. J. P. Earl.

Silverdale.—Cookery centre; Mr. E. Hollingshead, Education Offices, Wolstanston.

South Chingford.—School (4,177). Messrs. Mattock Brothers, builders, Winkfield-road, Wood Green, N.

Stafford.—Works, near Dorey-road railway bridge, for the Universal Grinding Wheel Company, Sheffield.

Sunderland.—School; Mr. H. Reed, Education Offices, Sunderland.

Todmorden.—Alterations to Cattle Market Hotel for Massey's Burnley Brewery, Ltd., Westgate, Burnley.

Torquay.—The following plans have been passed:—Seventeen houses, Hington-road, for

* See also our list of Competitions, Contracts, etc., on another page.

Mr. W. A. Perring; additions to laundry, Newton-road, for the Devon Steam Laundry; four houses, Redden Hill-road, for Mr. H. Cruse; additions to Hele Cross Laundry, for Messrs. Gridley & Lutton; picture-drome at Allacombe for Mr. R. Tucker.

Tydisley.—Turbo and boiler house, Union-street, for Messrs. C. Wright & Co., Ltd., cotton spinners, Barnfield Mill, Union-street, Tydisley.

Walsall.—Plans have been passed as follows:—Factory, Wolverhampton-street, for Messrs. J. Bailey & Co., Ltd.; warehouse, Lower Rushall-street, for Mr. William Barst; additions to premises, Stafford-street and Green-lane, for Messrs. J. Birch & Sons; warehouse, Stafford-street, for Mr. W. Oswin; electric theatre, Bridge-street, for Mr. F. H. Dore; additions to factory, Bath-street, for Messrs. H. Mossley & Sons.

Westbrook (Margate).—Bathing pavilion (5,500^l); Mr. E. A. Borg, Surveyor, Town Hall, Margate.

Willington (Durham).—Forty houses; Mr. J. H. Armory, builder, Lydia-street, Welling-ton.

Woodford.—Special instruction school (1,748^l); Mr. F. J. Coxhead, builder, Bulmer-road, Leytonstone, E.

York.—Proposed offices for Electricity and Tramway Departments; Mr. F. W. Spurr, Surveyor, Town Hall, York.

Yorkshire (West Riding).—Extensions at school, Mexborough (730^l); enlargement of school, Oulton-with-Woodlesford (1,260^l); additions to schools, Outwood (620^l), and Wrenthorpe (620^l); and temporary school, Woodlands (1,150^l); Mr. J. Stuart, architect, County Hall, Wakefield.

FOREIGN AND COLONIAL.

Building Trade in Morocco.

Mr. Consul Madden, in his joint Report for the years 1910-11 on the trade of Casablanca (Morocco), states that owing to the continued expansion of the town and environs the demand for building materials of all sorts is very much on the increase. Cement, lime, and plaster were imported in 1911 to double the value of the importations in 1910. Cement comes chiefly from France and Belgium. Belgian cement arrives in wooden casks of 180 kilos, weight, costing from 7 fr. 50 c. to 8 fr. per cask (called artificial Portland cement), c.f. Casablanca, payment at three months or 25 per cent. discount for cash. French cement is about the same price. British is better, but rather dearer, at about 8s. 3d. the cask of same weight. Lime chiefly comes from Belgium and France, and plaster from France and Spain. As the population, both native and European, is still largely increasing new suburbs of the villa class of house are appearing on all sides, mostly flat-roofed constructions on the ground floor only, but some in European style, quite altering and greatly improving the environs of the town, gradually driving out of existence the mud-brick Moorish villages that used to cluster round the town, these giving place to native settlements comprising small stone rooms. Accommodation for newcomers is very difficult to obtain, so that on all sides numbers of wooden shanties are springing up and are immediately occupied. Building is very expensive owing to the cost of materials, which are scarce by reason of the immensely increased demand, and owing to wages being very high, as a result of the cost of living, and the relative scarcity of skilled workmen. Notwithstanding the activity displayed in the building trade, all rents have gone up considerably and are always rising. In town small houses of four to five rooms (including kitchen) are let at 90 fr. to 100 fr. per month. Houses of seven to nine rooms fetch 125 fr. to 150 fr. and even 200 fr. per month. Larger houses are let at from anything between 250 fr. to 500 fr. (10^l. to 20^l.) per month. Outside the town small villas of four to five rooms, with a small garden patch and yard at back, let for 125 fr. to 150 fr. per month. The labouring class pay about 14. per month for a single room dwelling of the type above referred to. At the beginning of the season 1910-11 the main streets were taken up in turn for the purpose of installing new drains. The benefit of this has undoubtedly been felt in the far better state of health of the population this year, though during the work it was an anxious time, as the old Moorish drains had been partly useless and in shocking condition for a great number of years.

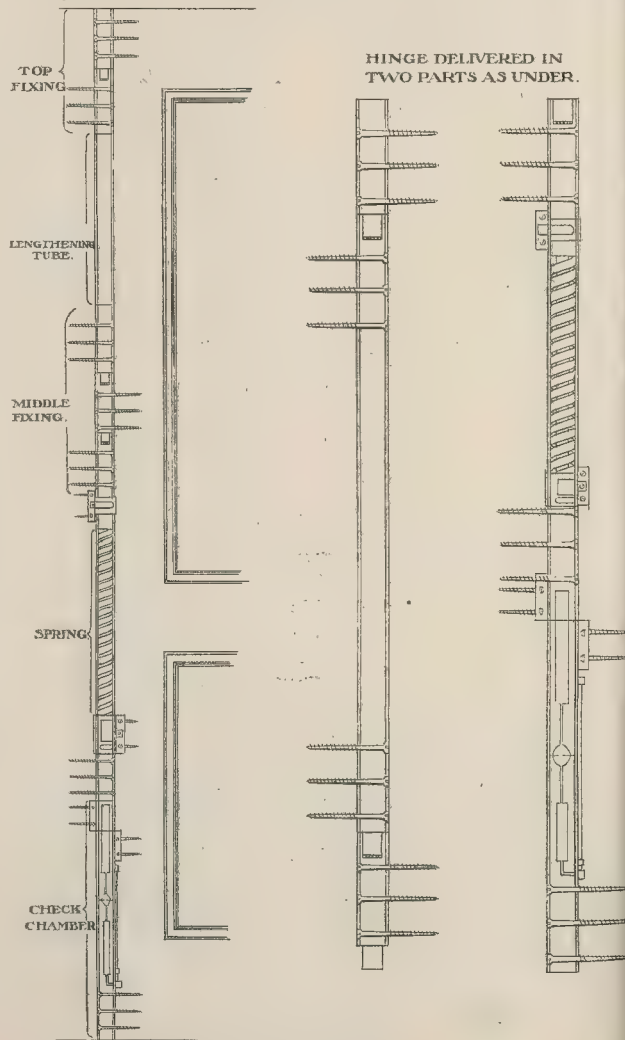
Bombay Waterworks.

The original supply of water for the city of Bombay came from Lake Vehar, and was inaugurated in 1859, the supply amounting to 7 million gallons daily, which was increased in 1865 to 10½ million gallons by means

of a second pipe line. In 1879 an additional supply of 3½ million gallons was obtained from Lake Tulsi, and in 1892 the Tansa scheme was completed, giving a further supply of 17½ million gallons daily. Owing to the increase of population and the large quantities of water used for municipal and trade purposes, the existing supplies are very inadequate, and works are now about to be undertaken for increasing them, and, at the same time, of improving the quality of the water. In the first place, Vehar Village is to be removed, so as to take away a source of pollution, the lake is to be fenced in and weeds removed, additional filter-beds are to be built at the same place, and a storage reservoir of 4,000,000 gallons capacity for the filtered water is to be constructed in Bombay. At the Tansa works, four villages are to be removed from the catchment area, and the Tansa Dam is to be raised by 7 ft., which together with an additional 48-in. main, will permit the supply of water to be brought up to double the amount hitherto available. The project now brought forward also includes the construction of two large service reservoirs, one at Ghatkopar capable of storing from seven to ten days' supply, and the other on Golangi Hill, with the capacity of 20 million gallons. The total cost of the works is estimated at 615,466^l, by Mr. H. J. Trivess Smith, the Water Engineer to the Corporation of Bombay.

TRADE CATALOGUES.

The Guildcor Hinge Company, Ltd., 28 Newman-street, Oxford-street, London, W. send us a booklet describing the Guildcor hinge. This contrivance is a jointed steel barrel, extending from the floor to the top of the door; a hinge, in fact, which, in addition to its cardinal function, effectually seals the space between the door and the frame, rendering it soundproof, draughtproof, and sightproof. In its simplest form it consists of two or three metal joints connected by a wood extended rod, the whole forming a rule joint. When a self-closing door is required, the hinge is supplied with a patent spring contained in the barrel, extending the whole length of the door. In its third and most elaborate form, it is supplied with a check action in addition to the spring; the mechanism in the case, as well as in the former, being contained in the barrel of the hinge. The Guildcor wind bolt, another speciality of this firm, is designed to obviate the necessity of employing a powerful spring, where it is required to hold swing doors in position against the wind. A door so hung requires the application of considerable force to open it; the Guildcor wind bolt enables a free and easy working spring to be used, with only sufficient tension to bring the door back to its closed position where it is automatically bolted.



Section of Hinge.

BRISTOL SOCIETY OF ARCHITECTS:

ADDRESS TO YOUNG ARCHITECTS.

At the second sessional meeting of this Society held on Monday evening, November 11, for the reconstruction and improvement of the Fine Arts Academy being in the headquarters of the Society, the meeting was held at Messrs. Fort's, No. 6, Alipromenade, Clifton, the President, Mr. J. Ostley, F.R.I.B.A., presiding, the Hon. Secretary announced the election of new members.

Graham C. Awdry, F.R.I.B.A., read a paper entitled "Some Practical Remarks to the Assistants, and Young Architects." The course of his remarks he said: "The pupil should make up his mind from very first that he has to be a thinking, sensible individual, and not a mere fragment of the machinery of an office. He must not take trouble to find out as he goes day by day and hour by hour the thing of what he sees or hears, and the reasons why certain things are done. Let him begin to put aside any feelings of pride he may have and freely ask of those who know."

As there is often but little time to spare in later life the many books that are available on the various subjects required he knows the pupil should devote all the time he can to reading them in his early days. He should advance, and especially when he is preparing for examinations, he will find the taking of notes as he reads a most useful aid to memory. He found this himself from actual experience. He will ask himself: What shall I note? All the book is valuable information. Shall I select? "Well," I said to myself when I was reading for examinations, "I have come across a lot of things I knew before, I don't think I shall forget them easily, here and there I find things I do not know; I shall only reading these once probably I shall not forget them." So I determined to make notes of the things I didn't know before. I got a book for each subject. One for history, architecture, one for materials, one for carpentry and joinery, one for sanitary engineering, and so on, and after reading a passage and understanding it, and the illustrations accompanying it, I put the substance of it shortly in my own words, underlining the most important, and sketched the illustrations in the book entirely by hand, so that the fact of doing it carefully at the detail as I drew it would impress the thing on my mind. I kept my note-books, and read them over and over again, for the entries being so condensed, didn't occupy so many pages as you might suppose; and even now I find them useful to refer to occasionally. I always carry a small sketch-book in my pocket, and make sketches of everything I see, whether old or new, that you come across. The grouping of roofs, little bits of architecture and detail, clever fittings and things; and make notes on colour and the position of colour schemes.

The Assistant.

The pupil develops into the assistant ought to endeavour to make himself an expert in the full meaning of the word, not a mere drawing machine. Those of you who are not yet practising on your own account will find when you come to that, and then to be really busy, how very much a desirable is the assistant who is capable of thinking out and putting through the office what is wanted by the chief than the assistant who is merely a drawing machine, even though very excellent one, because if long explanations have to be given to him as to how he must about the matter, . . . Then he will find that he could have made the detail for himself with his own hand and done more surely and correctly (though perhaps roughly) in the time that he has expended in having the assistant how to set about it. I know, for instance, how much of the full detail drawing of a batch of joinery must be done all over again when the thoughtless assistant has allowed nothing for the planning of the job, and has shown all the finished thickets fitted together, and every one of them $\frac{1}{4}$ in. too thick; or when the careless has omitted to refer to specification or to the notes for the scantlings and thicknesses of the work, and has simply enlarged a drawing without any regard for the size

of material, or for the value of it, as provided for by the contract.

As the assistant improves, if not from the very first, he ought also to get into the way of writing a proper business letter, one that will be concise, properly punctuated, free from ambiguities and loop-holes, free from undue committal. An architect in busy practice may not have time to write or even to dictate any but the more important letters, and a careful assistant ought to be capable of composing and writing for him, at his request, many of the less important ones, bringing them to him all together for his signature; but if they are carelessly composed, and the intention badly expressed so that the precise meaning is not clear, the hard-pressed architect will have to alter them, sometimes from beginning to end, and much of his valuable time will be wasted.

Hints on Surveying Work.

Let me advise the young surveyors to go to work in this, as in all the numerous other branches of our profession, on a definite system and in a methodical manner, not in a haphazard fashion, as so many do. If you will keep to one settled way of proceeding you will find you will rarely be hung up afterwards in plotting your plan, by finding out that you have omitted to take an important measurement, and so must either go on another long railway journey, perhaps, incurring much extra expense of time and money, or run the risk of much trouble and increased cost in the building operations hereafter. Make your sketches carefully, with care as to the proportion of length of one line to another, the area of one room proportionate to that of the preceding one, and so on, for not only can you by this means avoid the annoyance of discovering as you go further and further in rambling premises that there is no space left on your plan into which to fit the last room—the remaining pieces of the puzzle—but you will also have the correctness of your sketch to help confirm the correctness of your plan when you have drawn it to scale in the office. You will find that you have sketched the angle formed by the junction of two walls as a slightly obtuse angle, or a slightly acute angle, and that the diagonal, or tying measurements also, when plotted, produce this result; whereas if you had carelessly sketched it—as at a first glance it appeared—a right angle, you might wonder whether after all you had or had not made a mistake in your dimensions.

I do not think many assistants of young practising architects take the precaution of testing their measuring tapes, but it is of great importance to do it, especially if they are to be used for accurate surveys of town property. Many a tape that has had a good deal of use in its day will be found to have stretched 6 in. in its length of 66 ft. If you are taking a frontage of 132 ft. there will be an error of a foot, and if the tape is being sold or let by the foot of frontage at a high price the difference may amount to a large sum. For this reason it is well never to use a borrowed tape for an important survey. There is also a little mistake in calculation possible when using a tape that has by constant extension become strained beyond its proper length.

Unfortunately, I myself was once a delinquent. I wonder if any of you here have had a similar experience? Probably you are wiser than I was. It was a good many years ago. I was surveying some building land in a country town, fronting on a road and bounded at each extremity by a road at right angles to the frontage road. I had previously tested my tape, the only one available, and found it was 9 in. too long. I measured the frontage—some few hundred feet—and entered the total length as read from the tape in my book, with a note that the tape was 9 in. too long. A few days afterwards I laid down to scale the frontage for the purpose of dividing it into plots for a series of attached houses, and as the tape was 9 in. too long I deducted 9 in. from every tape length and a proportionate amount from the odd dimension. Well, some weeks later I came to peg out the plots on the actual land, to my astonishment I found, after starting at one end of the frontage and giving 25 ft. or so to every house, I had a surplus of 15 ft. of frontage at the other end of the row. Not enough for another house and yet I had to do something with it. Ultimately I let it go with the end or corner house as garden ground, thus increasing the value and rent; but what puzzled me was how came there

to be a surplus? I hunted up my papers and carefully examined my survey. I found the old tape I had used when I first measured the land and which was the only one obtainable at the time, and tested it again, finding I was quite right, and that it actually was 9 in. too long. Then I reckoned up the deduction I had made of 9 in. from every tape-length measured, and that was correct, and the total deduction I noticed was, curiously, exactly half the surplus frontage to an inch. Suddenly I saw my error. The tape was too long, so I had deducted from the readings the extra 9 in. of length. I ought to have added it on. The result of deducting it had been to double the difference in the wrong direction. . . .

I thoroughly believe, too, in every designer of a building personally writing the specification for it. It is irksome, monotonous, wearisome work, deserving of no end of fragrant puffs of tobacco and the respect of one's fellows, I am sure, but it is the proper thing to do. You who have designed the building must know better than anyone else what materials and what workmanship are necessary in order to produce the desired effect and in order that it may serve its purpose. No one else can see into your heart and brain. A little curve left out here and a little bareness or meanness in the dimensions of the timbers, there may make all the difference, and quite alter, and indeed spoil, the character of your cherished work, which you have dreamed about for months, and have, with your mind's eye, gazed upon with fond hope and anticipation ever since you first conceived the scheme.

Suppose your client to be one who will not spend a penny beyond the amount of the contract, and as your building grows you find day after day that your deputy specification writer has either omitted certain details altogether—never having thought of them as of any consequence, if indeed he had ever known you wished for them—or has so under-sized them and so meanly dealt with them that they will in no way fulfil your intentions. What can you do? You rage inwardly, but you must put up with it.

Or, again, suppose your deputy writer omits a most important item of workmanship or material, quite small in itself, but one that applies to a vast number of parts. It is an omission easily passed over unnoticed, because so small. One sentence might almost have been sufficient to describe it, and its cost to carry out once is a matter of a few shillings. It has, however, to apply to some hundreds of parts, and is, as you find when the particular things to which it belongs are about to be carried out, absolutely necessary. Your client believes he is going to have the work done properly for a sum he has agreed upon. Then in the middle of it all you spring upon him this extra of perhaps a very large sum. He naturally blames you, and yet your deputy specification writer or your quantity surveyor has caused all the trouble. Of course, sometimes you cannot help deputing work, even of this important nature, to others; but my advice is, after long experience, always write your specifications yourself if you possibly can, no matter how much you dislike the occupation, and write them in a businesslike way, in careful order as regards clauses, in proper sensible terms so expressed that by no stupidity or cunning on the part of those who have to execute the work can they be misinterpreted or made to mean anything else but what you intended them to mean, and in proper division under various trades.

Extras and Dimensions.

The young architect will find it difficult at first to deal fairly and tactfully with the somewhat intricate work of the measurement, valuation, and adjustment of extras and omissions. I would advise him to settle all the really small items—those too small to measure—with the builder on the spot, agreeing with him upon a definite sum for each separate small matter, and writing it down in his book as he goes about over the building with the contractor, on completion of the work, showing him the entry; and, if the latter happens to be of a shifty disposition, getting him to initial it. This saves a lot of time. If the contractor suggests a sum for a certain small item which, from your knowledge of what has been done, you consider less than the work is fairly worth, do not pass it over, but say you think it worth more, and increase it to the amount you feel it is worth. The builder sees by this that you are considering his interests as well as

those of the employer, and when you come to perhaps a much larger item which you feel he is over-charging, and which you have to reduce, he is much more ready to agree to the reduction. The contract may be one for many complicated alterations in a rambling country house, and both he and you become very tired of standing about. The business is a very trying one for his temper and yours, and the occasion is one calling for a great exercise of patience and tact. . . .

Whenever one is looking into these questions of extras one should, of course, carry the specification about with one and constantly refer to it. Many things for which a builder asks extra payment will be found, on looking into the document, to be quite clearly covered by the clauses contained in it, and the claim will at once fall to the ground. Wherever, while a building is in progress, there is extra work being done which will afterwards be buried out of sight, such as in foundations, for instance, however pressed for time you may be, measure it at once before you leave the work, and put it all down clearly in your book in the presence of the builder or the foreman in charge. This is a rule which should never be broken.

Visits of Inspection.

In speaking of these matters I am supposing that there is no clerk of works, and that the architect has to rely entirely upon himself. When under these circumstances he pays his periodical visits of inspection he must, of course, be more than ever careful to probe into the executed work. It is well always to select parts where the men, and perhaps the builder also, least expect you to peer into what is no longer visible on the surface. Naturally they do not like you even suggesting that you are going to do it, but, of course, you must be firm. If a man makes a great deal of fuss over my suspicions are aroused at once. . . . Sometimes I have found that the workmen desire to do the work well, but are hampered by the builder. . . .

Clients.

There are a few points with regard to dealing with clients that I think I may venture to bring before you. I have found from experience that it is always wise to consider their particular characteristics, and to try to see things from their point of view as well as from one's own. No two persons are exactly alike. Try to know each one, and don't let your judgment and your temper be upset by what is probably, after all, only their usual, though peculiar, way of looking at and speaking or writing of things. For instance, one man will write a letter that makes one burn under a sense of injustice when one receives it, and yet he probably had no intention of producing such a strong effect as that. His embroachment is of the strength he has been accustomed to use on thick-skinned builders and horny-handed workmen, and for the moment he forgets that the application of it to your sensitive skin will stir every nerve and leave a raw place.

Whenever you receive such a letter try to imagine the writer and his peculiar temperament, and think of him as perhaps just returned to his house tired with a long day's work or a long journey, bothered by several little worries which have nothing to do with his business with you, upset by his wife possibly, or by talking over and magnifying in his own mind the annoyance concerning which he is bound to write to you at once or miss the post; and then put the letter aside and think it over calmly. When you are yourself feeling quite comfortable physically, and the sting of the embroachment has passed away, take a scrap of paper and a pencil and draft a reply. Put it in your pocket, and later on draw it out and read it over again. You will still see in it, even after that, expressions that may well be softened; little words that you know will touch him up and make him feel he has been unjust to you in writing as he did, but which on second thoughts you feel you can well afford to alter. Until you have got rid of all the smart of the embroachment, believe me, you are not in a fit state to write. You cannot be. Your cool judgment is upset. You will afterwards regret it if you do. Think to yourself that he is in all probability already regretting that he wrote to you as he did. Remember also that a written sarcasm or a written bitter word, or even a written strong word, does not pass away or become softened by time as spoken words do, but it remains at hand, to be read

again and again. You cannot get it back. You cannot unwrite it. Again, we should do well to remember that unless we write what we have to write in such a way that it cannot be read by the recipient so as to mean anything but what we intend it to mean there is always the danger of that peculiarity of temperament in the recipient asserting itself, and causing the true meaning, your meaning, to develop into something quite different in his less practical and more excitable brain. And, again, if you do have a few days' satisfaction in thinking that you have made another man who has treated you most unfairly and unjustly, in a moment of irritation, ashamed of himself, you are paying a very high price for it if you lose thereby a client who might have been the source of six or twelve months' profitable work for you. Of course, occasionally you might be better off without certain men as clients, and without their work, but there are very few instances so flagrant, I think, as to make it your honourable duty to cut off your relationship with them, and even then the feeling of personal injury and insult should be carefully subordinated to the feeling of dishonour to the profession and your fellow architects as a body.

Nothing is so disappointing to a client as the discovery that he will have to pay a thousand pounds for what his young architect has told him he can probably get for seven hundred. Yet young architects, and many elderly ones, too, I fear, are constantly bringing about this disappointment. It is not always their fault, but in most cases it is. . . .

Having secured your client, and we will assume it has been done, as it ought always to be, with his eyes wide open, take care not to lose him. Be entirely open with him. Just as there ought to be no "secrets apart" between solicitor and client, so ought there to be none between architect and client. Humour him. Get him to confide in you, showing him always that you are worthy of his confidence. He will come to understand that your work is carefully done, and is fully worth what you will get for doing it. Sometimes it will happen that he is not fond of spending money, and feels justified in hoarding it because he has seen such bad use made of it. . . .

Mistakes and Errors.

And now at the end I want just to say a word on the subject of mistakes and errors. Who does not occasionally make a mistake? Who of us does not now and then forget something which should have been remembered? Well, if it so happens that we have done so, let us not try to throw the blame upon another. Let us own up at once that the fault is ours. Believe me, a client or an employer will, so far from thinking less well of you on account of the error you have made, think far more highly of you for telling him straight about the matter. He will think to himself, "This is a man I can trust. He is honest with himself and with me. He knows how it came about, he feels keenly the position, and will not forget it, and so will be unlikely to make that mistake again. Another is much more likely to make it than he is. I will continue to believe in him." Let us remember, too, that a great man has said words like these, "He who never makes a mistake rarely makes any."

In conclusion, let us do our best in small things just as carefully as in great things. The opportunities of dealing with the great things depend upon the careful treatment of the small things. And let us bear in mind always this great fact:—when this short life is over the thing that will really matter, so far as we ourselves are concerned, is not what we have succeeded in accomplishing, but what we have tried to accomplish.

The President thanked Mr. Awdry for his lecture. Mr. Mowbray Green, F.R.I.B.A. (Bath) proposed, and Mr. C. F. W. Denning, Lic.R.I.B.A., seconded, a very hearty vote of thanks. This was supported by Messrs. Maynard Froud, Lic.R.I.B.A., and J. Foster Wood, F.R.I.B.A.

SCHOOLS AT CAERPHILLY.

The new higher elementary schools at Caerphilly were opened last week by Lord Pontrypit. The buildings have been erected from the designs of the County Architect, Mr. D. Pugh Jones.

THE MUNICIPAL ENGINEER.

At a recent meeting of the Institution of Municipal Engineers Mr. F. Latham, M.Inst.C.E.I., in the course of his Presidential address, referred to the status of the municipal engineer. "The municipal engineer of to-day," he said, "is the expert of less than a quarter of a century ago. Works which would have necessitated the knowledge and experience of the specialist a quarter of a century ago are undertaken by the municipal engineer of to-day as a duty. Municipal authorities expect the best and most up-to-date advice from their engineering officers on all subjects, whether it be sewerage, water supply, sea defence, public buildings, or building and sanitary law. The experience required by the municipal engineer is extremely wide, and he has an everyday routine in which that knowledge has to be speedily directed from one subject to another by an active, level-headed mind. . . .

We have only to look back in history as far as the introduction of the turnpike system in England to realise the enormous advances in modern engineering. At that time the roads throughout England were so bad that the North, in the year 1770, rutted 4 ft. deep were measured in their surface. The Newcastle road appears to have been in even a more disreputable condition; it was stated "a more dreadful road cannot be imagined." When it is remembered that everything that was transported on land in those days had to be sent by road in the absence of railways and canals it will be realised what a state existed.

In 1763 it took a fortnight to travel from London to Edinburgh. No wonder that it has been said: "Twenty miles of slough and an unbridged river between two parishes were greater impediments to intercourse than the Atlantic Ocean now is between England and America." The men who came forward after another to make roads, bridges, canals, railroads, steamships, telegraphs were all engineers of natural ability, with love for their calling in life.

These men were the founders in modern days of that particular constructive and mechanical science of civil engineering which has advanced with such leaps and bounds as to have a universal application. By its cultivation and development such progress in wealth and civilisation and healthy conditions has been made throughout the world as without this would have been absolutely impossible.

These modern engineering instincts, however, did not spring up like Autochthonæ from nothing of like character. On the contrary, we have evidence of the cultivation of similar arts and sciences from time immemorial. That the ancients were well skilled in engineering matters is evidenced by the works of the Egyptians, the Greeks, and the Romans have likewise left sufficient evidence of their inventive abilities to prove the advance which that nation made in engineering. England was devoid of an engineer's services throughout the Dark Ages which followed the downfall of the Roman Empire, and even the great Roman roads of this country, and, in fact, throughout the whole world, were allowed to go to ruin. The world, however, was not devoid of engineering skill. At the breaking up of the Roman Empire the Roman Colleges of Artificers and Guilds of Builders and Masons became spread over Europe, and developed a mixed character of the practical and the religious. These instincts were in turn retained and imitated by the mediæval architects. Thus by the Normans and within the monasteries during those ages were retained the secrets of the science and arts of the Roman Guilds of Builders and Masons, but these were chiefly utilized in the building of religious edifices, strongholds, and castles. These were, indeed, the works of constructive architects and masons of first-class order, which fact must have preserved for us the basis of an inventive mind, to be matured and developed by science as we now see it in the profession of the engineer. It will be evident that those guilds of constructive architects who could erect such magnificent buildings as cathedrals, castles, and strongholds in this and other countries must have possessed engineering instincts.

The civil engineer of to-day, however, does not profess to be an architect, but the municipal engineer cannot afford to neglect this very

Mr. Hannen informed the defendant that Mr. Addis had been in their employ, but he was not very competent, and they waited for an opportunity of terminating the employment without hurting the employee. This opportunity came when he fell ill, and certainly there was no resignation. Time went on, and no particulars had been received from the plaintiff. Then there came the meeting at Sefton Park between plaintiff and Mr. Morle. Plaintiff took Mr. Morle to nineteen places where there were matters he objected to, and the next day Mr. Morle reported to Mr. Farquharson. They went through the lists point by point, and in two cases obvious mistakes had been made, which were at once corrected. With regard to the rest, Mr. Farquharson could only say those objections struck him as frivolous and unfounded, and as showing on the part of Mr. Addis unfamiliarity with the details of the surveyor's profession.

Mr. Farquharson, as he had withheld the certificate, found himself in a position of great difficulty, until at last he felt he could no longer withhold it, and he felt also that Lord Decies might be placed in a position which would involve much litigation. With regard to the objections made by the plaintiff, he said those other seventeen queries of plaintiff's were, in his judgment, the result either of ignorance or misconception, and if that was his honest opinion it was his duty to express it. It was also an unreasonable attack upon the builders by a gentleman who had been in their employ.

Defendant, giving evidence, said he personally inspected the work all through. The total cost came to 19,800*l.*, according to Messrs. Evill & Morle's quantities, and the balance at the end of December was 6,800*l.*

Evidence was also given by Mr. Benjamin Hannen, Mr. Morle (the quantity surveyor under the contract), and Mr. T. E. Bare, of Messrs. Bare, Leaning, & Bare, quantity surveyors. The last named expressed the view the plaintiff had raised points which were not necessary in the matter, and that he had not had the requisite experience as a quantity surveyor.

The jury found the statements in the letter defamatory, and that they were not true. They assessed damages at 50*l.* His Lordship entered judgment accordingly.

KING'S BENCH DIVISION.
(Before Mr. Justice BANKES and a Common Jury.)

Builder's Slander Action.

On Thursday, last week, an action was heard in which Mr. Alfred George Cook, builder, of Keat's-grove, Hampstead, claimed damages from the defendant, Mr. George Gradon, of Hill View, Parliament-hill, Hampstead, for slander alleged to have been uttered concerning work carried out at defendant's house. Plaintiff further claimed 90*l.* balance for work done and materials supplied. The slander was denied.

Mr. Marshall Hall, K.C., and Mr. Scarlett appeared for the plaintiff; and Mr. Ralph Bankes, K.C., and Dr. Hibbert were for the defendant.

Mr. Marshall Hall, in opening the plaintiff's case, said the house in question was a somewhat old one, and near it in the garden was a wooden shed, which was used as a billiard-room for a small-sized table.

The defendant, who was a chartered accountant in the City, apparently wanted the shed enlarged, and about September 14 or 15, 1911, he handed to the plaintiff a sketch plan showing what he desired to be done, and giving the positions of the wooden shed and also of another building, which was used as a laundry. The plaintiff went into the matter, and on September 23 sent in an estimate for building a new billiard-room for the sum of 487*l.* 7*s.* This estimate was accepted, and the work was proceeded with. The moment they began Mr. Gradon thought he would have a bigger building, and eventually a bigger one was decided upon. The plaintiff considered that the old estimate had been done away with, and the work, in fact, could not possibly be done at the old price. It was a question whether an existing boundary wall could be used, but as the local authority would not allow if the plaintiff accordingly had to build a new wall.

Running underneath the building was an old drain, which Mr. Cook pointed out would have to be tested.

In the course of operations he received a letter from Dr. McCleary, the Medical Officer of Health for Hampstead, and then saw Mr. Kershaw, the principal sanitary inspector. The defendant told plaintiff he had better test the drain, and the test was carried out with water, and defects were found. A report was made to the defendant, who said: "I cannot

help it. You must do your best for me." The existing pipes were earthenware, and Mr. Gradon agreed the best thing would be to relay the drain with iron pipes, and that the plaintiff should do the work.

In reply to a letter from the defendant the Medical Officer of Health wrote:

"I think you have been misinformed. The drains were tested and found to be leaking. . . . It may be possible to remedy the defects without relaying. If, however, it should be necessary to relay, I should recommend you to have iron pipes."

The drains, continued Counsel, were actually seen in their defective condition by Mr. Gradon himself. During the month of December the work was in progress, and no complaint appeared to be made against the plaintiff.

In course of time the billiard-room was finished, and there was no complaint about it except in regard to the price.

Several letters passed, and on January 1, 1912, the defendant wrote to the plaintiff:—

"It surely cannot surprise you that I am concerned about the heavy expense. You will also remember that Dr. McCleary said he did not require the drains to be laid anew in iron pipes, but only required the leakage found. It has all along occurred to me that by taking the drains in sections the leakage might have been located. Instead the whole has been taken up with serious loss to me."

The plaintiff sent in his account for the billiard room, and defendant, in reply, complained that the plaintiff had given a tender and then departed from it in his charges. There was no suggestion, said Mr. Marshall Hall, that any of the work was fraudulent, but only that there was an overcharge.

Defendant wrote again:—
"I returned this morning to find another part of the garden had been taken up. I hereby give you warning that as I have not authorised this work, I am not prepared to pay for it."

In the first week in February the workmen left the job, and Dr. McCleary sent a complaint that the work had been left in an unfinished condition. Mr. Gradon then wrote:—

"No one is more tired or annoyed over Mr. Cook's work than I am. I have spoken to, written to, and threatened the builder until I am tired. The only thing I could do was to call him off the job."

On February 5, said Counsel, the defendant went to see Dr. McCleary, and then uttered the words complained of in the case. In discussing the matter of the drains with him defendant said: "He (Cook) fraudulently made the job. There was no necessity for it."

Then in a letter to the plaintiff the defendant said:—

"I find what I all along suspected, that this work was not demanded by the local authority. . . . You determined to open up the whole drainage system, and relay it contrary to my instructions. I have not the slightest doubt now in my own mind that from the first you intended to manufacture this job. Before you had opened up one particle of ground you had delivered in my garden eight or ten long iron pipes, when, even if there were a leakage, one or two pipes would have been sufficient. I have every ground for doubt whether there was a leakage at all."

Counsel added that there was a balance of about 90*l.* due to Mr. Cook upon the building transactions.

Plaintiff gave evidence in support of this statement, and said the Hampstead sanitary inspector, Mr. Kershaw, told him he must get the drains tested to see if they were watertight. Witness found they were open at the collar, and he thought iron pipes were necessary on account of the nature of the soil.

Mr. Bankes, K.C. (cross examining): Did you break up every drain-pipe with a sledgehammer, so that no one could see whether they were defective or not?—Witness said the pipes were broken in the trench, as they were certain.

Did your man tell you some of the pipes were sound, and did you say they were to be broken up all the same?—Nothing of the kind.

Mr. Gradon ultimately told you not to go on with the work. Why did you go on in defiance of his orders?—It had to be finished by somebody. For one thing, I should like to complete my own work.

Isn't that making a job?—I don't think so. Dr. McCleary, who was in February Medical Officer of Health at Hampstead, spoke to the defendant on the subject, and said something to the effect that plaintiff had done work he had not been authorised to do.

Mr. Bankes: Could the leaks be filled by pouring in liquid cement?—It might have been tried.

At the conclusion of the evidence for the plaintiff Mr. Bankes submitted that on this question of slander there was no case to go to the jury. There was, he said, no sort of evidence to go upon.

The Judge said he thought he must rule. Mr. Marshall Hall asked leave to amend and substitute libel alleged to be contained in a letter from the defendant.

His Lordship, however, said he could not allow that course.

For the defence, Mr. Bankes said the plaintiff had no authority from the Borough Council, and, moreover, had none from the defendant. When he continued doing the drainage work it was in absolute defiance of defendant, who ordered him to stop. Mr. Cook's attitude was that he did go on because somebody would have to do it. The drainage system, as it had existed, had given no cause for complaint of any kind, either of leakage, smell, or danger to health. The defendant was never shown a leakage from beginning to end, and the policy adopted was to open the drains, smash them up, put in iron ones, and make Mr. Gradon pay. The latter had said they were to be put right if leaking. If on the strength of this added Counsel, the builder is able to break up the whole of the drains, we have arrived at a point beyond which it is impossible to go.

Mr. Gradon, the defendant, said he was told all along by plaintiff it was the sanitary authority which was compelling the work.

With regard to the billiard-room, witness never authorised a bigger building.

Other witnesses were also called. His Lordship, having decided there was nothing to go to the jury upon the slander issue, left a number of questions upon the rest of the case.

The jury's findings were:—

1. That the defendant gave the order to plaintiff's employee, King, to be repeated to the plaintiff, that the billiard-room was to be made larger;

2. That defendant knew the building erected was more expensive than that which plaintiff estimated;

3. That the relaying of the drains was necessary;

4. That plaintiff did represent to the defendant that the district authority had required him to relay the drains, but that defendant did not act upon that representation in allowing the plaintiff to relay the drains.

The Judge: That is judgment for the plaintiff. There is the question of the amount, and I advise the parties to settle it between themselves. Dr. Hibbert, for the defendant, asked for the costs on the slander issue.

The Judge: I won't enter judgment now, but the case can be mentioned again on Wednesday.

On Wednesday the case again came before the Judge, and it was announced that the parties had not been able to agree as to the amount.

After hearing Counsel, his Lordship said he would enter judgment for the plaintiff for 67*l.* 19*s.* 7*d.*, and costs upon the claim for work done, and on the counterclaim judgment for defendant for 15*l.* 11*s.* 3*d.*, with costs. Defendant was granted costs upon the issue of slander.

Solicitors:—Mr. E. L. Greaves, Fleet-street, for the plaintiff; Mr. J. Tucker, Bedford-row, for the defendant.

District Surveyors' Fees.

At Lambeth Police Court on the 9th inst., before Mr. Hopkins, Messrs. Spiers & Son, Ltd., builders, of Hill-road, St. John's Wood, were summoned by Mr. Bernard Dickes, District Surveyor, for the recovery of 1*l.* 19*s.* 9*d.* fees alleged to be due to him in respect of a building at New Kent-road. This was a friendly dispute brought before the Court in order to obtain a decision as to the fees payable to District Surveyors in respect of skeleton-frame buildings. Before the London County Council (General Powers) Act of 1909 all the London Building Acts were based on the assumption that the buildings would be of brick construction. In order to meet the case of steel-frame buildings the Act of 1909 was passed. Sect. 26 of that Act provides that the amount of the fee payable to District Surveyors in respect of such buildings shall be equal to two and a half times the amount of the fee specified in regard to new buildings in Part I. of the third schedule of the Act of 1894.

The contention of Mr. Passmore, on behalf of the District Surveyor, was that that fact was not in substitution of the fee specified in the Act of 1894. The

of Mr. Dicksee was put in. It included an item of £2. 6d., the fee charged under the old Act, in addition to the fee of £s. 3d. payable under the 1909 Act, and to the former item that the defendants' exception.

Dicksee, in giving evidence, said the cost of extra work entailed by steel-framings was perfectly enormous. On behalf of the defendants, Mr. Price said that the natural interpretation of the 26 of the Act of 1909 was that the fee in stated was in substitution for the fee payable by the Act of 1894. Mr. Hopkins took that view, and gave judgment for the District Surveyor for the amount of, less the £2. 6d., in dispute.—*The*

OFFICIAL REFEREE'S COURT.

(Before Mr. EDWARD POLLOCK.)

The Defence to a Contractors' Claim:

Black Brothers v. Metropolitan Water Board.
EDWARD POLLOCK, who last week decided his decision in the claim by Messrs. Black Brothers, contractors, of Plymouth, against the Metropolitan Water Board (a party of the hearing of which has appeared as *Builder*), summoned the legal advisers of the parties to the court on December 11. Mr. Pollock said he understood now that Holman Gregory, K.C. (for the Board), did to rely on Clause 20 of the agreement of defence to the claim. He thought that the pleadings now stood the Board could rely upon that clause, because it seemed that if that had been put forward by the Board the advisers of the contractors (plaintiffs) might have taken a different line. Therefore, if the Board desired to do so, the point concerning Clause 20, he thought it would be necessary to amend the pleadings. Whether the Board desired to do so was another question.

Holman Gregory, K.C. (for the defendant Board), said that if it came to a question of costs, he was not prepared to ask for amendment. His submission, however, was that if that had been put forward by the Board under Clause 24, it did not preclude (Counsel) from referring the Referee to the terms of the contract.

Official Referee said that a new agreement would have had to be made under the terms of the Board. He added that, in his opinion, the contractors could not have set that there was any fresh agreement, because there was nothing in any way which would bind the Board. Therefore the Board could not set up any fresh agreement to bind contractors.

Hudson, K.C. (for the plaintiffs): In addition to Clause 20, you have, sir, offered me to amend, and you do not propose to do so. If you look at the pleadings you will find that the Board's counterclaim is founded on Clause 34 of the agreement. Now, defendant's Counsel added, wished to raise this point of law.

Gregory said he had only introduced the matter when Mr. Hudson himself raised it.

Pollock: I shall deal with the case as it stands then.

In Counsel: We are much obliged to you.

LONDON COUNCILS.

Acton.—Plans have been passed for Messrs. Hed & Vignolles for the extensions to a factory in Cunningham-street, Acton; also for Mr. G. A. Gale for the erection of twenty-three houses in Dordrecht-road. The Surveyor has been instructed to prepare plans for the erection of a convenience at Mount at an estimated cost of 700l.

Acton.—The Surveyor has been instructed to report as to the cost of paving the footway on Johnson-avenue.

Battersea.—Electricity mains are to be extended in various parts of the district at an estimated cost of 322l. The portion of the in Sheepcot-lane, between Culverland Henley-street, is to be taken up and with 9-in. pipes at an estimated cost of 100l.

Battersea.—Plans for the Borough Engineer have been approved for making up a portion of the main road at an estimated cost of 100l. Also, a portion of Chesley-gardens and Chesley-gardens at a total estimated cost of 100l.

Battersea.—Plans have been passed for Mr. J. on for the erection of twenty-three houses in Chesham-road.

Greenwich.—The roadway of the new street connecting Wellington-street with Creek-road, and also a portion of the roadway of Wellington-street, is to be paved with random sett paving, and the footways made up, at a total estimated cost of 250l. The tender of Messrs. J. Mowlem & Co., Ltd., Grosvenor Wharf, Westminster, S.W., has been accepted at 855l. for forming and paving Vanbrugh fields as a new street. Plans have been passed for Mr. S. A. Yeo for the erection of "Earl Grey" public-house, Straightmouth, and for Mr. A. Shore, for seven houses, Highmore-road.

Hackney.—New street works are to be carried out in portions of Ashstead and Lingwood roads. The sewers in Pendar-road is to be reconstructed for a length of 400-ft., or thereabouts, with 9-in. glazed stoneware pipes, at an estimated total cost of 91l. The tender of the Strand Building Company, 200, Strand, W.C., has been accepted, at 1,151l., for the construction of an underground convenience in Kingsland-road. Other tenders were received from Messrs. W. Silk & Son, 13, High-street, Homerton, N.E., 1,611l. 10s.; Messrs. Brand, Pettitt, & Co., 247, West Green-road, Tottenham, N., 1,690l.; Messrs. Barrett & Power, St. Thomas' Works, Lyme-grove, Hackney, N.E., 1,469l.; Messrs. J. E. Whiter & Co., 89, Newington Butts, S.E., 1,371l.; Messrs. William Shurmer & Sons, Ltd., Riverside Works, Upper Clapton, E., 1,360l.; Mr. Herbert Mann, 13, High-street, Collier's Wood, Merton, S.W., 1,285l. The sixteen stanchions on which the coal bunkers at the Council's Electricity Works rest are to be stiffened and lengthened at an estimated cost of 1,400l., and the work is to be carried out by Messrs. W. J. Jenkin & Co., Ltd. The following plans have been passed:—Mr. D. S. Barclay, forty houses, Leadale-road, and twelve houses, Lingwood-road; Messrs. Moon & Ballinger, nine shops and flats, Lea Bridge-road; Mr. A. Dixon, on behalf of Messrs. Whitbread & Co., Ltd., alterations to "The Harvelock" public-house, Albion-road, London Fields; Mr. C. R. Price, additions to factory, Culford-mews, Balls Pond-road; Messrs. Goodall & Son, rebuilding 73, Kingsland High-street; Messrs. J. Garey & Sons, cinematograph hall, Brooksby-av. walk; The tender of Mr. F. J. Gorham, Point-hill, Greenwich, S.E., has been accepted, at 3,995l., for the erection of a library in Northwood-road, Clapton. Other tenders were received from: Messrs. F. & G. Foster, Camden Works, Norwood Junction, 4,121l.; Messrs. J. E. Whiter & Co., 89, Newington Butts, S.E., 4,224l.; Messrs. A. & S. Wheeler, 193, High-street, Stoke Newington, 4,273l. 12s.; Messrs. W. Lawrence & Son, 21, Finsbury circus, E.C., 4,394l.; Strand Building Company, 200, Strand, W.C., 4,454l. 10s.; Messrs. Davey & Armitage, Elmer-avenue, Southend-on-Sea, 4,485l.; Mr. F. Coxhead, Bulwer-road, Leytonstone, 4,496l.; Messrs. W. Shurmer & Sons, Riverside Works, Upper Clapton, 4,563l.; Messrs. H. & G. Taylor, Hayes-lane, Beckenham, 4,566l.; Messrs. F. Webster & Son, Grove Vale Works, East Dulwich, 4,599l.; Messrs. J. Smith & Sons, Ltd., 106, New Bond-street, W., 4,643l.; Messrs. Brand, Pettitt, & Co., 247, West Green-road, Tottenham, 4,652l.; Messrs. E. Lawrence & Sons, Ltd., 15 and 16, Wharf-road, City-road, N., 4,655l.; Messrs. C. Wall, Ltd., 4, Lloyds-avenue, E., 4,904l.; Messrs. Markham & Markham, 79, Essex-road, N., 4,953l.; Messrs. J. Waddington & Sons, Ltd., 6 and 7, Creed-lane, E.C., 5,095l. 5s.; Messrs. Allen & Co., Picnic Wharf, Westminster, S.W., 5,250l.; Mr. S. E. Moss, Southend-on-Sea, 5,577l.

Hendon.—Application is to be made to the Middlesex County Council for a contribution towards the cost of paving the footway of Cheapside, between Golder's Green-crescent and Finchley-road. The Surveyor has been directed to submit plans and estimates of the cost of carrying out improvement works in Bell-lane. The Surveyor has submitted plans and estimates amounting to 4,470l. for making up Golder's gardens, Gainsborough-gardens, Powis-gardens, Hampstead-gardens, Alyth-gardens, Forbes-gardens, and Temple gardens. The Highway Committee, before definitely deciding upon the execution of this work, have asked the Surveyor to prepare an alternative specification for making up the roads in a less expensive manner. A report is to be brought up by the Surveyor as to the making up of Armitage-road. Sanction has been received from the Local Government Board to borrow 5,798l. for private street improvements at Langney Park, Tennyson-road, Shakespeare-road, and Milton-road, Mill Hill; also 606l. for street improvements in Castle-street and Sunny Gardens-road. The tender of Messrs. J. E. Whiter & Co. has been provisionally accepted for the erection of the Central Fire Station. The contract price is 6,113l.

Hendon and Isleworth.—Electricity mains are to be extended at an estimated cost of 250l. Sanction has been received from the Local

Government Board to the borrowing of 8,258l. (1) for replacing the existing Jarrah wood-paving in High-street, Hounslow, by crescoted deal blocks, and (2) for laying "Durax" paving in the margins of the road outside the tramway tracks between Brentford Bridge and Isleworth Railway-station. Hounslow-avenue and Murray-avenue, Whitton, are to be made up at estimated costs of 1,029l. and 603l. respectively. Plans have been lodged by Messrs. J. Dorey & Co., Ltd., for additions to a factory in Brentford End, Isleworth.

Islington.—A portion of the sewer in Pembroke-street is to be demolished and replaced by one constructed of 9-in. stoneware pipes, imbedded in Portland cement concrete, and laid to an improved gradient at an estimated cost of 235l. Electricity mains are to be extended at an estimated cost of 170l.

Lambeth.—The General Purposes Committee have under consideration the question of the utilisation of ground at the rear of the Town Hall for the provision of public baths. Plans have been lodged with the London County Council by Messrs. E. W. & E. S. Caldwell for the erection of a building on the site of Nos. 124-26, Denmark-hill. Repairs are to be carried out to the wood-paved carriageway of Kennington Oval at an estimated cost of 100l.

Lewisham.—Plans and estimates have been approved for making up a portion of Perry-rise as a new street. For kerbing and channelling a further portion of this road the tender of Messrs. Fry Brothers has been accepted, at 840l.; as has also the tender of the Thames Stone Company, Ltd., for paving the footways with artificial stone at 3s. 10d. per super. yard. The offer of the Stanford's House Property Investment Company, Ltd., to kerb and pave with artificial stone a portion of the footpath on the north side of George-lane, has been accepted. Artificial stone in lieu of tarmac-paving is to be laid in Brownhill-road and Stanstead-road at a total estimated cost of 163l. The tenders of Mr. W. Pearce have been accepted for kerbing, channelling, and making up the carriageway of Arran-road, at 2,558l., and for paving the footways with artificial stone at 3s. 9d. per super. yard. The following plans have been passed:—Messrs. W. J. Scudamore & Sons, eighteen houses, Parkcroft-road, and nine in Newstead-road; Mr. J. Hughes, six houses, Braidwood-road; Mr. W. M. Proudfoot, shops, etc., Perry Vale; Mr. F. A. Walters, addition to Roman Catholic Church, Sydenham-road; Mr. J. Nicholls, six houses, Manwood-road; Mr. J. Watt, construction of 736 ft. of 12-in. pipe and concrete sewer in Bellingham-road, Catford. Mr. A. Roberts has lodged plans with the London County Council for the erection of additions to a factory in Hither Green-lane of Messrs. Newcombe's Taps-tre, Ltd.; as have also Messrs. Norfolk & Prior, for buildings at the corner of Bellingham and Thornsbeach roads.

Marblebone.—The sewer in a portion of Oxford-street is to be rebuilt at an estimated cost of 240l. The carriageway of Albert-road is to be re-coated with macadam. The cost is put at 665l. It is probable that in the near future, owing to motor bus traffic, the question of laying down a more improved system of paving will be considered. Mr. A. C. Wheeler and Messrs. Smith & Son have lodged plans with the London County Council for the erection of a building in Lodge-road, Park-road, N.W., and for additions to No. 27, Grove End-road, respectively.

Paplar.—Tredegar-road Bridge is to be reconstructed at an approximate cost of 6,000l. Plans have been passed as follows:—Mr. William Bailey, rebuilding 305, High-street; Messrs. Holman & Goodham, motor garage, Fairfield Works, Old Ford-road; Messrs. Holloway Brothers (London), Ltd., additions at St. David's Wharf, West Ferry-road; Messrs. Perry & Co. (Bow), Ltd., erection of Gilbert Bartholomew's Girls' Club, corner of Wrexham-road and Neve-street; Messrs. W. Johnson & Co., Ltd., extension to Borough Electricity Station, Violet-road.

Richmond.—Plans submitted by Messrs. Clark Brothers have been approved for constructing a new street to be known as Dickinson-avenue, Croxley Green.

Southgate.—Plans have been passed for Mr. T. Morgan for the erection of eight houses in Greenwood-gardens; as have also plans for Mr. H. C. Keene, for four houses in The Rise, Palmer's Green.

Southwark.—A plan has been lodged with the London County Council by Messrs. Bryant & Son, 200, Kennington Park-road, S.E., for sanction to the formation and laying-out of a street in continuation of Ambergate-street.

Stepney.—Mr. D. P. Hayworth has lodged plans with the London County Council for the erection of building upon the site of No. 264, Burdett-road.

Tottenham.—Tenders are to be invited for LONDON COUNCILS—continued on page 732.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxi. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*. It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

DECEMBER 20. — **R.I.B.A. Competitions.**—All work for the Studentships and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913. — **Belfast.**—DWELLING-HOUSES. — Premiums of 25*l.*, 15*l.*, and 10*l.* Particulars from the City Surveyor, Belfast (11. is.).

JANUARY 1, 1913. — **Dublin.**—MUNICIPAL BUILDINGS. — Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin, Deposit, 2*l.* 2*s.*

JANUARY 31, 1913. — **Jamaica.**—MUNICIPAL BUILDINGS. — To cost 9,000*l.* Premium 100*l.* Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (3a.).

FEBRUARY 3, 1913. — **Harrogate.**—SCHOOL. — The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 22, 1913. — **Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE. — Limited to six firms, named in "Competition News," December 1, 1911, page 635.

MARCH 1, 1913. — **Rangoon.**—MUNICIPAL BUILDINGS. — The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 300*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913. — **Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS. — Particulars from the Commercial Intelligence Branch of the Board of Trade, Basinghall-street, E.C. (see page 173, August 9, and page 350, September 27).

MARCH 1, 1913. — **Winnipeg.**—CITY HALL. — Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.

JULY 10, 1913. — **Town Planning Scheme.**—Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.

NO DATE. — **Dursley.**—WORKMEN'S DWELLINGS. — The Parochial Committee of the Dursley R.D.C. invite designs for about thirty workmen's dwellings. See advertisement in issue of October 25 for further particulars.

NO DATE. — **Folkestone.**—PROPOSED KURSAL. — Cost not to exceed 20,000*l.* Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8.

NO DATE. — **Motherwell.**—HIGH SCHOOL. — Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*

* NO DATE. — **Worthing.** — CHURCH. — Sketch plans are invited of a church to be erected in South Lancing, to cost, when completed, from 4,000*l.* to 5,000*l.* See advertisement in this issue for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 14. — **Bedwas.**—VILLA. — For the erection of one cottage villa at Bryngwyn-street, Bedwas. Plans and specification with Mr. Conder L. Rees, architect and surveyor, Bedwas.

DECEMBER 16. — **Birkenhead.**—ROOF. — For construction of a roof at the abattoirs, New Chester-street. Plans and particulars seen, and form of tender, with specification and quantities, from Mr. C. Brownridge, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Birkenhead, on deposit of 5*l.*

DECEMBER 16. — **Bridlington.**—PREMISES. — For pulling down and rebuilding premises, King-street and Chapel-street, Bridlington. Plans seen, and particulars, on deposit of 10*l.*, from Mr. T. Beecroft-Atkinson, architect, 11, Trinity House-lane, Hull.

DECEMBER 16. — **Trowbridge.**—ALTERATIONS. — For alterations and repairs to the Congre Infants' School, Trowbridge. Plans and specifications with Mr. J. G. Powell, County Surveyor, Trowbridge.

DECEMBER 17. — **Barnsley.**—HOUSES, ETC. — Erection of six houses, outbuildings, and boundary walls in Park-street, Barnsley. Plans and specifications seen, and quantities from Messrs. Crawshaw & Wilkinson, architects, 13, Regent-street, Barnsley.

DECEMBER 17. — **Bridlington.**—ALTERATIONS. — For making alterations in the People's Palace buildings, Bridlington. Plans and specification with Mr. S. Dwyer and Mr. C. F. Johnson, joint architects, 29, Quay-road, Bridlington.

DECEMBER 17. — **Consett.**—REBUILDING. — For proposed rebuilding of Edinburgh House, Middle-street. Plans, specification, and conditions with Mr. J. J. Eltringham, Lic.R.I.B.A., architect and surveyor, Blackhill.

DECEMBER 17. — **Farnham.**—COTTAGES. — For the erection of five cottages at Darvill-lane, Farnham. Plans and specifications seen, and forms of tender from the Council's Surveyor, Council Offices, South-street, Farnham.

DECEMBER 17. — **Leeds.**—BLOCKS. — Erection of sanitary blocks to section 6 at the Infirmary, alterations to block 2 at the Workhouse, Beckett-street, Leeds. Architect, Mr. G. Fredk. Bowman, 5, Creek-street, Leeds.

DECEMBER 17. — **Payhembury.**—BUILDINGS. — For reconstructing the vicarage house and erecting new farm buildings. Plans and specifications with the architect, Mr. James Miller, architects, County Chambers, Exeter.

DECEMBER 17. — **Rye-hill.**—SANATORIUM, ETC. — For the erection of Sanatorium, comprising main and secondary blocks, superintendent's house, laundry, and engine-house, etc., at Rye-hill, near Atherton, Co. Galway, and for a dispensary in Galway. Drawings and specifications with Mr. W. A. Scott, A.R.H.A., architect, 45, Mountjoy-square, Dublin. Quantities by Mr. James Mackey, 38, Dame-street, on deposit of 2*l.* 2*s.*

DECEMBER 18. — **Chester-le-Street.**—PAVILION. — For the erection of a new pavilion on the cubicle system at their Infectious Diseases Isolation Hospital, Chester-le-Street. Deposit of 3*l.* 3*s.* to Mr. John H. Mole, Surveyor, Chester-le-Street.

DECEMBER 18. — **Glasgow.**—ADDITIONS. — For proposed additional story to the Royal Infirmary. Drawings with the architect, Mr. James Miller, A.R.S.A., 15, Blythwood-square. Schedules from Mr. Peter Rintoul, Secretary, 212, West George-street, Glasgow, on deposit of 10*l.* 6*d.*

DECEMBER 18. — **Kendal.**—CONVERSION. — For converting the old brewery premises, Wildman-street, into a steam laundry. Plans and specifications with Mr. J. Walker, M.S.A., architect, Kendal.

DECEMBER 18. — **Wakefield.**—REMOVAL. — For removal of two temporary buildings from the Barnsley old Grammar School to Perry Fyston and North Elmsall respectively. Plans and particulars with the Education Architect, County Hall, Wakefield.

DECEMBER 19. — **Chesterfield.**—HOUSE, ETC. — Erection of a new lock-up, court-house, and deputy chief constable's residence, etc., in Tapscott-road, Chesterfield. Plans and specifications with the architect, Messrs. Hunter & Woodhouse, Belper. Quantities on deposit of 2*l.*

DECEMBER 19. — **Holywell.**—INFIRMARY. — Erection of a new Infirmary at Holywell, North Wales. Plans and specification seen, and quantities, with form of tender, from the architects, Messrs. John H. Davies & Sons, 14, Newgate-street, Chester. Deposit of 3*l.* 3*s.*

DECEMBER 19. — **London.**—STATION. — For building a relief station at Blackwall-lane, East Greenwich. Specification, plans, conditions, and form of tender with Mr. A. Roberts, F.R.I.B.A., 92, London-street, Greenwich. Deposit of 1*l.*

DECEMBER 19. — **Swansea.**—COTTAGE. — For erection of a lock-keeper's cottage at the eastern end of the Prince of Wales Dock. Plans and specifications with Mr. A. O. Schenk, M.Inst.C.E., Harbour Offices, Swansea.

DECEMBER 20. — **Belfast.**—SCHOOL. — For erection of a school in the city-avenue. Quantities from Mr. S. C. Hunter, Scottish Provident-buildings, on deposit of 2*l.* 2*s.* Plans and specifications with Mr. T. Houston, architect and civil engineer, Kingston, Wellington-place, Belfast.

DECEMBER 21. — **Braintree.**—LODGE, ETC. — For erection of a caretaker's lodge, dressing-boxes, etc., at new open-air swimming bath. Plans and specification with Mr. H. H. Neakivell, Surveyor's Office, Vestry Hall, Braintree.

DECEMBER 21. — **Carriackmacross.**—ADDITIONS. — For building additions to, and otherwise improving, the churches of Corduff and Corcraugh, Carriackmacross. Plans and specification with Mr. J. J. McDonnell, architect, 27, Clibber-street, Belfast.

DECEMBER 21. — **Edinburgh.**—COTTAGES. — For erection of two blocks of four and three cottages and one cottage, with attics for attendants, at the Dalrymple, Village Uphall. Plans with Mr. J. Kyd, Clerk and Treasurer, Chambers, Castle-terrace, Edinburgh.

DECEMBER 21. — **Wedgebury.**—INSTITUTE. — The Salfordshire Education Committee invite tenders for a County Metallurgical and Engineering Institute. See advertisement in this issue for further particulars.

DECEMBER 23. — **Abercynon.**—THEATRE. — Erection of an electric theatre at Abercynon, for Abercynon Palace, Ltd. Plans and specification seen, and quantities, on deposit of 2*l.* from Messrs. Johnson & Richards, architects, Merthyr Tydfil.

DECEMBER 23. — **Bristol.**—OFFICE. — For the erection of Bristol, Notice, new sorting-office, including specification, and conditions and form of contract with Mr. F. A. Huntley, H.M. (M) of Works, Small-street, Bristol. Quantities in form of tender, on deposit of 1*l.*, from the Secretary, H.M. Office of Works, etc., Storey-gate, London, S.W.

DECEMBER 23. — **Glasgow.**—WHARFING, ETC. — The Trustees of the Clyde Navigation invite tenders for the construction of 1,110 lin. ft. or three of timber wharfing in front of South Quay, Kingston Dock, and the erection of a goods wharf, 1,083 ft. long by 60 ft. wide, embankment, excavator, mason and brick work, steel work, timber work, glazier work, slating, plaster work, painter work, and causewaying of quays and shed floor. Drawings seen, and specification quantities, and forms of tenders from the Trustee's Engineer, at 16, Robertson-street, Glasgow.

* DECEMBER 23. — **Liverpool.**—LABOUR EXCHANGE. — The Commissioners of H.M. Works and Public Buildings invite tenders for Labour Exchange at Canada Dock. See advertisement in this issue for further particulars.

DECEMBER 23. — **Widnes.**—BUILDINGS. — For the erection of buildings and walls in connection with the extensions of the Council's town's gas and stables. Plans, specifications, and quantities with the Surveyor, Mr. Sydney H. Morgan, A.M. Inst.C.E., Deposit of 1*l.* 1*s.*

DECEMBER 30. — **Altrincham.**—SHELTER, ETC. — For erection of shelter and conveniences at a recreation ground, Broadbath. Plans seen, and specification and quantities from Mr. H. Brown, Surveyor, Town Hall, Altrincham.

* JANUARY 2, 1913. — **London.**—ADDITIONS. — The St. Pancras Guardians invite tenders for additional bedrooms for officers over east wing, in central block at Infirmary, Dartmouth Hill, N. See advertisement in this issue for further particulars.

* JANUARY 4. — **Ashford.**—SCHOOL. — The Kent Education Committee invite tenders for two new Council school, to accommodate eighty scholars. See advertisement in this issue for further particulars.

JANUARY 9. — **Swansea.**—SHEEDS. — For erection of one framed and braced steel dock, storied extension of the grain shed at the Prince of Wales Dock, with roof covered with galvanneal corrugated sheeting; two framed and braced steel single-storied extensions of the grain shed at No. 1 Quay, King's Dock, with sides and roofs covered with galvanneal corrugated sheeting. Forms of tender contract, applications and conditions, and drawings, on deposit of 3*l.* 3*s.*, from Mr. Talford Strick, Chief Harbour Officer, Swansea.

* JANUARY 13. — **Beckenham.**—SHELTERS, GREENHOUSES, ETC. — The Beckenham U.D.C. invite tenders for two rustic thatched shelters, fencing, and greenhouse at Kelsey Park. See advertisement in this issue for further particulars.

JANUARY 17. — **Childswickham.**—ALTERATIONS. — For altering and extending Childswickham Council School, near Broadway. Particulars from Mr. R. S. Phillips, architect, Shire House, Gloucester, on deposit of 2*l.* 2*s.*

* JANUARY 21. — **East Ham.**—SCHOOL. — The East Ham Education Committee invite tenders for erection of Brampton-road School, to accommodate 1,491 scholars. See advertisement in this issue for further particulars.

NO DATE. — **Newcastle.**—ALTERATIONS. — For alterations to schoolroom of Central Primitive Methodist Church, Northumberland-road, Newcastle. Names to Messrs. T. Davidson & Sons, architects, 1, Eldon-square, Newcastle.

NO DATE. — **Whitby.**—CONVENIENCE. — For the conversion of part of warehouse into a public conveniences, and the removal of dustbin, etc. Particulars from Mr. Thos. Kay Scott, Surveyor, Offices of U.D.C.

ENGINEERING, IRON, AND STEEL.

DECEMBER 17. — **Dewsbury.**—BOILERS. — For erection of two water-tube boilers and superheaters brickwork, and mechanical stokers complete. Specification and details from Mr. R. B. Carrington, Borough Electrical Engineer, Bradford-road, Dewsbury. Deposit of 1*l.* 1*s.*

DECEMBER 17. — **Ramsbottom.**—WORK. — For erection of overhead electrical work necessary for about 3½ miles of road. Drawings seen at the offices of the U.D.C. Specification and general conditions of contract on deposit of 5*l.* 5*s.*

Nature and Place of Sale.	By whom Offered.	Date of Sale.
MERCHANT'S STOCK, Etc.—On the Premises	Robson & Perran	Dec. 17
MATERIALS, PLANT, Etc., SOUTHWARK BRIDGE-ED., S.E.—On the Premises	H. J. Bromley & Co.	Dec. 18

LONDON COUNCILS—continued from page 729.

making up a portion of South-grove and road between Avenue-road and South-grove. The passageway at the rear of Nos. 745 to 757, High-road, is to be made up and paved.

Twickenham.—Plans and estimates by the Surveyor for making up Cole Park-road, Cole road, Hill View-road, and a portion of Denton-road, have been approved. The respective estimated costs are: 5,117*l.*, 462*l.*, 821*l.*, 341*l.*, and 768*l.*, and tenders are to be invited for carrying out the work. Plans have been lodged by the London General Omnibus Company for alterations and additions to their motor garage in Cambridge-road.

West Ham.—The tender of Mr. J. T. Luton, 138, Romford-road, Stratford, has been accepted, at 69*l.*, for the erection of a new handicraft centre at Upton-lane School.

Wimbledon.—Repairs are to be carried out to the carriageways of Grosvenor-road (sets) and Haymarket (wood) at a total estimated cost of 215*l.*. About 147 ft. of new 15-in. pipe-sewer is to be constructed, 3 ft. lower than the existing sewer, in Albany Court-yard (which is to be filled up), at an approximate cost of 160*l.*. The consent of the London County Council has been obtained to the straightening of the southern side of Beak-street, between Regent-street and Warwick-street, and to the widening of such street at its junction with Regent-street. Plans have been lodged with the London County Council by Messrs. Thompson & Walford for additions to Albert Hall-mansions.

Willesden.—The Education Committee have been asked to prepare a scheme for the provision of shower baths at the Council schools.

Wimbledon.—Plans prepared by the Surveyor have been approved for making up Sherwood-road at an estimated cost of 144*l.*, and a portion of Lancaster-road at an approximate cost of 850*l.*. Sanctions have been received from the Local Government Board to the borrowing of the following amounts for making up the streets mentioned:—Portion of Broadway-news, 192*l.*; portion of Havana-road, 154*l.*; portion of Langholm-road, 1,450*l.*; Olive-road, 182*l.*; Strathmore-road, 406*l.* Plans have been passed for Mr. T. W. Moss for alterations at "Hillbrow," Murray-road; also for Messrs. A. Luff & Sons for the erection of a motor garage at The Drive. Mr. J. S. de Vulder has lodged plans for alterations to Nos. 45 and 46, Hartfield-road.

Woolwich.—Two hundred yards of the carriageway of Footscray-road is to be placed at the disposal of the Road Board for resurfacing with ordinary macadam. Electricity mains are to be extended in various parts of the district at an estimated cost of 318*l.*. The tender of Mr. J. W. Ellingham has been accepted, at 567*l.*, for the construction of a convenience at North Woolwich. Plans have been lodged with the London County Council by Mr. W. Pearman, 5, Leghorn-road, Plumstead, for additions in front of Nos. 124 to 130, Plumstead Common-road, as have also plans by Mr. J. O. Cook, 1, Eleanor-road, Woolwich, for the re-erection of the North Kent Brewery Tap public-house, Lakedale-road, Plumstead.

OBITUARY.

The Late J. T. Bressey.

Supplementing our remarks in our issue for November 29, p. 661, on the decease of Mr. John Thomas Bressey, we may add the following, taken from the last issue of the R.I.B.A. Journal.—Mr. Bressey "had practised in the City at Ethelburga House, Bishopsgate, for nearly fifty years (latterly in partnership with his son, Mr. C. H. Bressey, F.S.I.). During a period of forty-five years he acted as Surveyor to the Wandstead Local Board and its successor, the District Council, for which authorities he designed the Council Offices, Isolation Hospital, the sewerage system of the district, and other public works. He also held the appointment of architect to the Wandstead School Board during the whole term of that body's existence, carrying out a number of large elementary schools in Cann Hall-lane, Carey-road, Down-sell-road, Trumpington-road, Cobbold-road, etc. The churches of Holy Trinity (Wandstead Ship), St. Gabriel (Walthamstow), and the Wesleyan Chapel (Wandstead) were of his design, as well as the spire of Christ Church, Wandstead. His firm was responsible for many domestic and commercial buildings in London and its suburbs, such as the Holborn Silk Mart, depots for Messrs. Pickford & Co., factories at Bow and Poplar, and the development of several building estates. He was a Past-Master of the Coopers' Company, and took a deep interest in the growth and welfare of the Parish of Wandstead, in which nearly his whole life was spent."

PATENTS.

APPLICATIONS PUBLISHED.*

24,991 of 1911.—Thomas Edward Farrands: Derricks.

25,287 of 1911.—John Todd: Construction of chimney-pots, chimney-cowls, and ventilating terminals.

1,612 of 1912.—George Southern: Apparatus used for or in connexion with the spreading or distribution of tar or other liquids to roads or such like.

3,408 of 1912.—Masahide Hamabusa: Process for manufacturing light firebricks.

8,488 of 1912.—Otto Rehnitz: Lathing or plaster supports capable of being rolled up and the process for their manufacture.

9,114 of 1912.—Oswin Hansom: Water-heating apparatus.

10,038 of 1912.—Arthur Haywood: Window fastener.

10,088 of 1912.—Joseph Southall: Fall bars for cooking ranges.

10,141 of 1912.—James McCulloch Ross: Means for completing and economising the combustion of fuel in stoves and the like.

12,153 of 1912.—Florimund Vereycken: Flushing cisterns.

15,759 of 1912.—Jens Peter Larsen: Locks.

15,789 of 1912.—Jean Ravasson-Mollien: Flushing mechanism for water cisterns.

17,497 of 1912.—Henry Donald Hope: Glazing windows and the like and devices therefor.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor. All communications should be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications. The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors. We cannot undertake to return rejected communications, and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them. All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from attention to this.

Any communication to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance. N.B.—Illustrations of the First Premier Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

November 20.—By EDWIN FOX, BOTSFIELD, BURNETTS, & BADDELEY.

Mile End.—23 to 25, 28 to 34, Wilson-st., f.g. rents, 100*l.*, reversion in 63 and 81 yrs. 410

Tottenham.—3 to 15 (odd), Lawrence-rd., f.g. rents 20*l.*, reversion in 63 and 81 yrs. 265

Holloway.—312, Hornsey-rd. (s.), f.g. 70*l.* 950

Peckham.—85, Kirkwood-rd., f.g. 36*l.*, 88*l.* 220

By HENRY LANGSTON & CO.
Whitechapel.—Hessell-st., Morgan House, u.t. 70 yrs., g.r. 14*l.*, w.r. 83*l.* 225

By ROBERT GORE, & MENEY & CO.
Marylebone.—19, Upper Charlton-st. (s.), u.t. 17 yrs., g.r. 28*l.*, gross rental 122*l.* 330

Shepherd's Bush.—24, Davisville-rd., f.g. 32*l.* 330

Kentish Town.—200, Kentish Town-rd., u.t. 36 yrs., g.r. 6*l.*, w.r. 52*l.* 150

By F. C. SQUIRE & CO.
Sydenham.—Sydenham Hill-rd., Elliot Lodge and Oak Cottage, area 1 a. 2 r. 24 p., f.g. 2,735

By CHARLES SPARROW & SON.
Marylebone.—41, Hazewood-av., u.t. 29 yrs., g.r. 6*l.*, y.r. 48*l.* 325

10, Parnham-st. (s.), u.t. 29 yrs., g.r. 6*l.* 155

By DOUGLAS YOUNG & CO.
Peckham.—285 to 277 (odd), Southampton-st., f.g. rents, 33*l.*, 16*l.*, reversion in 102 yrs. 1,460

New Malden.—61, Acadia-rd., f.g. 18*l.* 533

By GEORGE TARN, BAINBRIDGE, & SON.
Whorlton, Durham.—Stedwich Estate, 375 acres, f.g. 38 p., f.g. 1,200

Beoley, Worcester.—Clifford's Farm, 43 a. 2 r. 38 p., f.g. 1,205

November 21.—By FRITH & CO.
Holloway.—25, Archway-rd. (s.), u.t. 75 yrs., g.r. 20*l.*, y.r. 70*l.* 410

Palmer's Green.—35, Tottenham-rd., u.t. 93 yrs., g.r. 6*l.*, 10s., y.r. 28*l.* 180

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

Streatham.—24 and 26, Parklands-rd., f.g. rents 14*l.*, reversion in 95 yrs. 141

Tooting.—8, 9, 10, 13, and 15, Brethwood-rd., f.g. rents 4*l.*, 10s., reversion in 95 yrs. 141

By HUNTER & FINE.
Whitstable, Kent.—Pastureland, 67 a. 2 f. 81 p., f.g. 141

By MAY & ROWDEN.
Rogent-st.—9, Glasshouse-st., f.g. 50*l.*, reversion in 96 yrs. 141

By C. C. & T. MOORE.
Plaistow.—17 to 27 (odd), Douglass-rd., f.g. 24*l.*, reversion in 71 yrs. 141

1, Douglass-rd., f.g. 24*l.*, 10s., reversion in 71 yrs. 141

Bow.—32, Addington-rd., u.t. 33 yrs., g.r. 6*l.*, w.r. 40*l.*, 8s. 141

By NEWBORN & SHEPHERDS.
Highgate.—50, High-st. (s.), f.g. 60*l.* 141

2, South gr. (s.), f.g. 50*l.* 141

Kentish Town.—27, Spencer-rd., f.g. 40*l.*, 6s. 141

6, Wesleyan pl., f.g. 32*l.* 141

Hamstead-rd.—No. 215, f.g. 55*l.* 141

Camden Town.—13, Rochester-ter., etc., f.g. 141

Hamstead-rd. 16, Robert st. and 7, Roberts-mews, u.t. 9 yrs., g.r. 13*l.*, y.r. 80*l.* 141

Boych-rd., f.g. 30*l.* 141

39 yrs., g.r. 7*l.*, 10s. 141

Malinesbury-rd., f.g. rents 119*l.*, 8s., u.t. 33 yrs., g.r. 30*l.* 141

2, Westbury-st., u.t. 32 yrs., g.r. 12*l.*, 10s., u.t. 33 yrs., g.r. 50*l.*, 15s. 141

By RIDER & SONS.
Willesden.—25 to 29 (odd), Ravensworth-rd., f.g. rents 16*l.*, reversion in 85 yrs. 141

By WESTON & SONS.
Clapham.—4, Broadbent-rd., u.t. 31 yrs., g.r. 4*l.*, y.r. 30*l.* 141

2, Westbury-st., u.t. 32 yrs., g.r. 12*l.*, 10s., u.t. 33 yrs., g.r. 50*l.*, 15s. 141

Bruxton, 51, Burton-rd., u.t. 23 yrs., g.r. 5*l.*, 15s., y.r. 40*l.* 141

75, Treherne-rd., u.t. 51 yrs., g.r. 5*l.*, 8s., y.r. 32*l.* 141

Drury-lane.—16, Bertington-st., plot of land, f.g. 141

By PARS, SMITH, & ARNOLD.
Weston-under-Penyard, Hereford. Wharton Farm, 269 acres, f.g. 141

Contractions used in these lists.—F.g., for freehold ground; l.g., for leasehold ground; r., for improved ground; g.r., for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; g.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; m. for lease; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gins. for gardens; yd. for yard; g. for grove; b.h. for beerhouse; p.b. for public-house; o. for office; s. for shops; c. for court.

PRICES CURRENT OF MATERIALS.

* Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—of which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.

Picked Stocks for Facings 1 10

Per 1000, Delivered at Railway Depot. 2 10

Flattens 1 13 0 Best Blue Pressed 4 10

Best Fareham 3 12 0 Best Blue Pressed 4 10

Best Bed Pressed 5 0 0 Fire Bricks 4 10

GLAZED BRICKS—

Best White, Double Headers 14 10

Ivory and Salt, One Side and Two 13 10

Glazed Strichs 12 7 6 Ends 13 10

Headers 14 17 6 Two Sides and 18 10

Quoins, Bullnose, one End 18 10

and 44 in. Flats 15 17 6 Spikes & Squints 17 10

D'ble Strichs 17 17 6

Second Quality £1 10s. per 1000 less than best.

Thames and Pit Sand 6 9 per yard, delivered 5 8

Thames Ballast 36 0 per ton, 3 10

Best Portland Cement 36 0 per ton, 3 10

Best Ground Blue Lias Lime 19 0

NOTE.—The cement or lime is exclusive of ordinary charge for sacks.

Grey Stone Lime 13s. 6d. per yard delivered

Scourbridge Fireclay in sacks 27s. 6d. per ton at yard

STONE.

Per Ft. Cube.

BATH STONE—delivered on road wagons, 1

Paddington Depot, 1

Do. do. delivered on road wagons, Nine Elms 1

Do. do. delivered on road wagons, Nine Elms 1

PORTLAND STONE (30 ft. average)—

Brown Whistled, delivered on road wagons, 1

Paddington Depot, Nine Elms Depot, or 1

Pinlloe Wharf, 1

White Bashed, delivered on road wagons, 1

Paddington Depot, Nine Elms Depot, or 1

Pinlloe Wharf, 1

Per Ft. Cube, delivered at Railway Depot, 1

Do. do. 1

Closeburn Red 1

Beaumont 1

Greenhill in blocks 1 10

Darley Dale in 2 4

blocks 2 4

Talacro & Groggy 2 4

Bed Corsehill in 2 8

blocks 2 8

STONE (Continued).

Superior—Best Road Quality.	
Per Ft. Cube, Delivered at Railway Depot.	s. d.
bed random blocks	2 10
Per Ft. Super., Delivered at Railway Depot.	
sawn two sides landings to sizes (under 40 ft.)	2 3
rubbed two sides ditto, ditto	2 6
sawn two sides slabs (random sizes)	0 11 1/2
to 2 in. ditto, ditto	0 7
to 2 in. ditto, ditto	0 6

SLATES.

Per 1000 of 1200 at Railway Depot.	
Best blue	s. d.
unfading green	15 17 6
20 x 12 ditto	18 7 6
18 x 10 ditto	13 5 0
16 x 8 ditto	10 5 0
20 x 10 permanent	11 12 6
green	9 12 6
18 x 10 ditto	9 12 6
16 x 8 ditto	6 12 6

TILES.

At Railway Depot.	
Best "Hartshill"	s. d.
brand, plain sand.	42 0
facto (per 1000)	45 0
Do, pressed (per 1000)	42 6
Do, Ornamental (per 1000)	47 6
Hip (per doz.)	4 0
Valley (per doz.)	3 6
Staircase (Hartley)	42 6
Beds or Brindled (per 1000)	42 6
Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0
Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard.
Best 3 in. by 11 in. and 4 in.	s. d.
7 in. and 11 in.	13 10 0
Best 3 by 2	14 10 0

WOOD (Continued).

BUILDING WOOD (Continued)—	At per standard.
Battens: best 2 1/2 in. by 7 in. and 8 in.	s. d.
11 in. by 7 in. and 8 in.	11 10 0
Battens: best 2 1/2 by 6 and 3 by 6	0 10 0
7 in. and 8 in.	1 0
Deals: seconds	0 10 0
Battens: seconds	0 10 0
2 in. by 11 in. and 2 in. by 6 in.	2 10 0
2 in. by 4 in. and 2 in. by 5 in.	9 0 0
Foreign Sawed Boards—	0 10 0
1 in. and 1 1/2 in. by 7 in.	more than battens.
1 in.	1 0 0
Fire timber: best middling Danzig or Momele (average specification)	5 0 0
Seconds	4 10 0
Small timber (8 in. to 10 in.)	3 17 6
Small timber (6 in. to 8 in.)	3 5 0
Swedish balks	2 12 6
Pitch-pine timber (30 ft. average)	5 5 0

JOINERS' WOOD.

At per standard.	
White Sea: first yellow deals.	s. d.
3 in. by 11 in.	24 10 0
3 in. by 9 in.	23 10 0
Battens 2 1/2 in. and 3 in. by 7 in.	17 0 0
Second yellow deals, 3 in. by 11 in.	19 0 0
Battens 2 1/2 in. and 3 in. by 7 in.	18 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0
Battens 2 1/2 in. and 3 in. by 7 in.	11 10 0
Petersburg: first yellow deals.	31 10 0
3 in. by 11 in.	23 10 0
Do, 3 in. by 9 in.	13 10 0
Battens	13 0 0
Second yellow deals, 3 in. by 11 in.	18 10 0
Do, 3 in. by 9 in.	16 0 0
Battens	11 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0
Do, 3 in. by 9 in.	13 0 0
Battens	10 10 0

White Sea and Petersburg.

First white deals, 3 in. by 11 in.	15 0 0
Do, 3 in. by 9 in.	14 0 0
Battens	11 10 0
Second white deals, 3 in. by 11 in.	14 0 0
Do, 3 in. by 9 in.	13 0 0
Battens	10 10 0
Pitch-pine deals	19 0 0
Under 2 in. thick extra	0 16 0
Yellow Pine—First, regular sizes	45 0 0
Oddments	32 0 0
Seconds, regular sizes	33 0 0
as inch	28 0 0
Kauri Pine—Flanks per ft. cube.	0 4 8
Danzig and Stettin Oak Logs—	
Large, per ft. cube.	0 3 0
Small	0 2 8
Wainscot Oak Logs, per ft. cube	0 6 8
Dry Wainscot Oak, per ft. super.	0 10 0
as inch	0 10 0
1 in. do.	0 8 1/2

WOOD (Continued).

JOINERS' WOOD (Continued)—	s. d.	s. d.
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch.	0 0 10	0 1 1
Selected, Figury, per ft. super. as inch	0 1 6	0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	0 1 0
Teak, per load	18 0 0	22 0 0
American Whitewood planks, per ft. cube	0 5 8	0 6 0
Prepared Flooring, 6 in.—		Per square.
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1 1/2 in. by 7 in. yellow, planed and matched	0 16 0	1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	0 15 0
1 1/2 in. by 7 in. white, planed and matched	0 15 0	0 16 6
1 in. by 7 in. yellow, matched and banded or V-jointed brds.	0 11 0	0 13 6
1 in. by 7 in. "	0 14 0	0 18 6
1 in. by 7 in. white "	0 10 0	0 11 0
1 in. by 7 in. white "	0 12 0	0 15 0
6 in. at 6 d. to 8 d. per square less than 7 in.		

JOISTS, GIRDERS, &c.

In London, or delivered at Railway Vans, per ton.	
Rolled Steel Joists, ordinary	s. d.
sections	8 10 0
Compound Girders, ordinary sections	10 0 0
Steel Compound Stanchions	11 10 0
Angles, Tees, and Channels, ordinary sections	20 0 0
Fitch Plates	10 0 0
Cast Iron Columns & Stanchions, including ordinary patterns	8 0 0

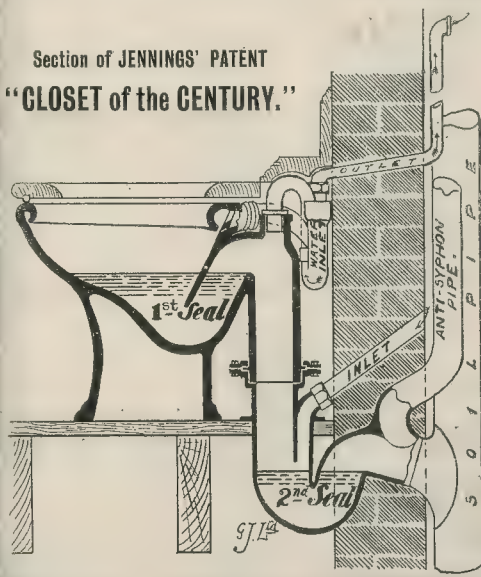
METALS.

Per ton, in London.	
IRON—	s. d.
Common Bars	9 0 0
Structural Crown Bars, good merchant quality	9 5 0
Structural "Marked Bars"	11 0 0
Mild Steel Bars	9 5 0
Hoop Iron, basis per ton	10 0 0
" Galvanised	17 10 0
" (And upwards, according to size and gauge).	
Sheet Iron Black—	
Ordinary sizes to 20 g.	10 5 0
" 24 g.	11 5 0
" 28 g.	12 15 0
Sheet Iron, Galvanised, flat, ordinary quality—	
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0
Ordinary sizes to 22 g. and 24 g.	16 0 0
" 26 g.	17 0 0

In re the Royal Commission Enquiry into the Retention or Abolition of the Intercepting Trap.

H. P. Boulnois, Esq., M.I.C.E., in summarising the long discussion on this matter at the ROYAL SANITARY INSTITUTE, Nov. 12 and 19, 1912, EMPHATICALLY advocated "That the water-closet MUST be doubly sealed."

JENNINGS' Gold Medal "CLOSET OF THE CENTURY," with syphonic discharge, IS doubly sealed and secures absolute disconnection from the soil pipe or drain and ensures at all times CONTINUOUS FRESH AIR CIRCULATION BETWEEN THE TRAPS.



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TENDERS.

THE CHRISTMAS HOLIDAYS.—The week after next the *Boulder* will be published on Tuesday, the 24th inst., and to ensure attention all communications for the Editor must reach our office by the first post on Monday, the 23rd.

* Denotes accepted. † Denotes provisionally accepted.

BRADFORD.—For erection of a children's home at Thackley. Mr. F. Holland, architect, 22, Manor-road, Bradford:—

Masons: W. North & Son, Idle, Bradford...	£1,100	0	0
Joiner: T. Patrick, Clayton, Bradford	494	0	0
Plumbers: T. Obank & Sons, Thackley	272	0	0
Plasterers: E. Mitchell, Idle, Bradford	218	15	5
Slaters: Hill & Nelson, Bradford	138	0	0
Painters: S. P. White, Bradford	45	15	6

HENDON.—For the branch stores of the Hendon Co-operative Society, Ltd., Edgware-road, Hendon. Mr. Frank Bethell, architect and surveyor, Market-square-chambers, Enfield Town:—

			Weeks.
A. Porter	£2,083	0	21
Gough & Co.	2,061	2	22
A. Fairhead & Sons	2,057	0	16
W. Tout.	2,050	0	24
Brand, Pettit, & Co	2,045	0	25
A. Monk, Edmonton*	1,987	0	18
W. Gibson & Co.	1,984	0	24

LONDON.—For erection of a school for physically defective children on the Elthorne-road site, Islington, for the London County Council.—

for the London City Council.—	£5,501	0	0
W. E. Blake	5,491	0	0
A. E. Symes	5,491	0	0
Loke & Co.	5,475	0	0
McLaughlin & Harvey, Ltd.	5,377	0	0
H. Roberts	5,377	0	0
L. H. & R. Roberts	5,250	0	0
W. Lawrence & Son	5,234	0	0
Patman & Fotheringham, Ltd.	5,233	0	0
Radford, Pettit, & Co.	5,211	0	0
McCormick & Sons, Ltd.	5,197	0	0
J. Chessum & Sons	5,182	17	6
E. Lawrence & Sons, Ltd.	5,107	0	0
J. Willmott & Sons	4,950	0	0
[Architect's estimate comparable with the tenders is	£5,300.]		

SOUTH CHINGFORD.—For proposed new public elementary school to accommodate 300 infants, for the Essex County Council. Mr. Frank Whitmore, County Architect, Chelmsford:

Allen Bros.....	£5,299	Foster & Son.....	£1,322
Glasscock & Sons...	4,642	Strand Building Co.	4,237
Robinson, jun.....	4,631	Clark & Sons.....	4,196
Brand, Pettit, & Co.	4,619	Davey & Armitage..	4,185
J. & J. Dean.....	4,534	Mattock Bros.....	
W. Pavey.....	4,498	Wood Green*.....	4,117
Sharplin.....	4,345		

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ORSETT.—For erection of a porter's lodge at the Hospital, Stifford, for the Orsett Joint Hospital Board.

Mr. C. M. Shiner, A.R.I.B.A., architect, Adelphi, W.C.	1
Brown Bros.....	£395
W. T. Green.....	£32
G. Brown.....	380
W. E. Walsham, Grays*	27
L. Lown.....	360
J. J. Lawrence.....	337

WIMBLEDON.—For the erection of a private house at Marryat-road, Wimbledon. Mr. A. E. Watson, architect, The Cottage, Puller-road, High Barnet. —

J. Styles & Son	£2,300	Peacock Bros.	£2,400
T. Holloway	2,280	C. P. Kearley	2,100
J. Carmichael	2,185	Pasterfield &	
J. Burges & Sons	2,136	English*	2,080
C. Oldridge & Sons	2,132		

WOKINGHAM.—For picture palace. Mr. Cecil Perkins, A.R.I.B.A., architect, Church-road, Bracknell. Berks :—

Curtis	£1,111	0	Hughes	£1,028
Bell	1,250	0	Langman	987
Brown	1,115	0	Seward, Woking-	
Allnatt	1,040	0	ham*	974
Payne	1,031	0		

[Architect's estimate, £1,000.]

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Pipe in coils	22	7	6	—	
Soil pipe	22	7	6	—	
Compo pipe	23	7	6	—	
ZINC—Sheet— In casks of 10 cwts.	33	15	0	—	
Vello Montagne	33	15	0	—	
Silesia	33	10	0	—	
Zinc, in bundles, ls. per cw. extra.					
COPPER—					
Strong Sheet	per lb.	0	1	1	—
Thin	"	0	1	2	—
Copper nails	"	0	1	0	—
Copper wire	"	0	1	0	—
BRASS—					
Strong Sheet	"	0	1	0	—
Thin	"	0	1	1	—
Tin—English Ingots	"	0	2	3	—
GOLDEN—Plumbers’	"	0	0	11	—
Tinplate	"	0	1	2½	—
Blowpipe	"	0	1	2½	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	24l.	36 oz. fourths	44l.
" fourths	2d.	32 oz. thirds.....	54l.
21 oz. thirds.....	34d.	" fourths.....	54l.
" fourths	3d.	Fluted Sheet, 15 oz. 3d.	
26 oz. thirds.....	44d.	" 21 oz. 4d.	

ENGLISH BOLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft. Delivered.

$\frac{1}{4}$ Bolled plate	2d.	Figured Bolled, Oxford Bolled, Occasional, Muffed, and Bolled Cathedrals, white	3d.
$\frac{1}{4}$ Rough rolled and rough cast plate	3d.	Ditto, tinted	5d.

* Not less than two crates.

OILS, &c.		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 2 5
" " in barrels	"	0 2 6
" " in drums	"	0 2 7
Boiled,, " in barrels	"	0 2 0
" " in drums	"	0 2 10
Turpentine in barrels	"	0 2 5
" " in drums	"	0 2 7
Genuine Ground English White Lead, per ton 30		5 0
(In not less than 5 cwt. lots).		
Red Lead, Dry		26 12 6
Best Linseed Oil Putty	per cwt.	0 10 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.		Per gallon.
		£ s. d.
Fine Pale Oak Varnish	.....	0 8 0
Pale Copal Oak	.....	0 10 0
Superfine Pale Elastic Oak	.....	0 12 6
Superfine Hard-drying Oak, for seats of Churches	.....	0 14 6
Fine Elastic Carriage	.....	0 12 0
Superfine Pale Elastic	.....	0 10 0
Fine Pale Maple	.....	0 10 0
Fineest Pale Durable Copal	.....	0 13 0
Extra Pale French Oil	.....	0 12 0
Superfine Pale French Oil	.....	0 15 0
White Pale Enamel	.....	1 4 0
Extra Pale Paper	.....	0 12 0
Superfine Japan Green Size	.....	0 10 0
Best Black Japan	.....	0 16 0
Oak and Mahogany Stain	.....	0 9 0
Brunswick Black	0 8 0
Black	0 8 0
Knottin	0 10 9
French and Brush Polish	0 10 6

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THE NEED FOR CRITICISM.

CRITICISM is the herald of art; without it there can be no great creative work; no important change can ever take place in any of the spheres of man's activities without a preparatory period of initiation and selection. The mind as naturally tests the new and strange as it accepts what is familiar and tried. There is no time more than the present when there has been a greater need for that discriminating intelligence, which is the essence of criticism, to guide and direct. We are lost in a whirlpool of conflicting theories, of bizarre and strange opinions; what appears to be the direct way of advancement has a hundred divergent ways, each leading into a cul-de-sac. No better instance of our indecision and uncertainty can be given than the debated subject of the architectural style that should be given to the buildings which are to adorn the new capital of India; opinions as to what is appropriate range from the Indian-cum-English style, the style of officialdom, to the latest style of American classic, whilst Italian

Renaissance and Competition-Palladianism are favourites.

This confusion of thought is not caused by want of interest, but rather from a lack of any real force of cultured opinion, from any criterion of taste which should serve to enlighten and guide us. The national mind, the slave of the accomplished fact, so clamorous for results, so much more concerned with immediate realisation than with the inner meaning or spiritual significance of the thought behind the act, is apt to regard criticism with suspicion if not with active dislike.

The chief function of criticism is creative as opposed to its negative or destructive side; and of constructive or creative criticism we have had very little experience.

Attacks of virulent brutality and hastily-expressed individual preferences are not criticism; they are fundamentally opposed to that calmness of judgment and equability of temperament which is the nature of the truly critical mind that ever seeks to form and mould opinion by appealing to the reason rather

than to the prejudice of man. Appreciation is the goad of art, but to be of any value such appreciation must be critical and intelligent. To see things as they really are, stripped of all that is false and non-essential, to discover the underlying motives, this is the work of the true critic.

Platitudes and superficial comparisons, false enthusiasms and sickly sentimentalism are to the vigorous intellect stupefying and deadening; they are the weeds and undergrowth which choke, and if not cleared away eventually destroy the new-sprung corn. The shibboleths of the schools, the catchwords of the studios confuse and mislead us; in place of clear thinking and right reasoning we have violent likes and dislikes, the votive offerings of blinded devotees to the fickle fashion of the hour.

All art is selection, and it is as important to know what to reject as what to retain—the one is the corollary of the other—and it is in this discovery that criticism can do yeoman service. We are as enthusiastic as we are industrious,

but the object of our enthusiasm is ever changing, and our industry serves but too often to send us another step in the wrong direction. Enthusiasm undirected, uncontrolled, without that spirit of penetrative curiosity, which is only another name for criticism, can but take us further from the truth. Enthusiasm is not devotion, neither is zeal fervour.

Art demands our lifelong service, our very heart's blood; she spurns with disdain our hot-headed impulses of the moment, our gusts of wayward and fitful passion. Humility is the artist's best guide, an eager desire to follow after perfection; the ever open mind, a faculty for critical inquiry, these qualities lead to work of permanent and lasting value.

Nothing that is well done is easily done, and to find out what is to be done and the way to do it is the eternal problem.

We are the heirs of a great tradition, a splendid inheritance. Our national architecture, both Gothic and Classic, is a stimulus and incentive, and if for a time we have been led away by false doctrines, signs are not wanting of a more chastened mood, in which we are not so ready to stand on our own sufficiency, but to seek for and discover anew those everlasting principles which underlie all that is best and most worthy of acceptance.

English architecture did not—as many would have us believe—come to an end about the year 1800, neither did the world stand still at the culmination of the Italian Renaissance. Some periods in man's history, it is true, have been more sympathetic to the encouragement and development of the arts than others, but the soul is ever progressive, and if for a time it rejects, it is only later on to renew, and with greater eagerness to pluck from the past what it needs for its furtherance and enlargement. The masters of the early XIXth century, both in this country and abroad, found in the study of classic themes that inspiration which gave distinction and direction to their work; it was a return to first principles, which explained and enriched their inherited ideas.

Neither should we limit ourselves to the study of the works of our own country; the world is an open book, the beauty of France is at our doors, the wealth of Italy is to be had for the asking, and the more recent achievements of our cousins on the other side of the Atlantic excite our wonder and admiration. The danger is that when introduced to the great works of a past or present people we lose our sense of proportion and fitness, only to be carried away on a flood of unreasoning emulation which can but find expression in a weak imitation.

We should look beyond mere differences of style and expression, to trace out cause and effect, to find out what is the common human denominator that makes their work of special interest for us, to discover for ourselves how the manners and customs of a particular race are reflected in the architecture to which they give birth. Unless we can make a thing our own it does not exist for us, it will always remain something aloof and alien, until the key of sympathy unlocks the door of under-

standing, when we enter into possession, and what was foreign has become intimate, part of ourselves, something that can never be taken from us.

We may admire the refined elegance of the buildings erected in France under Louis Seize, but this does not mean that we want French mansions under the guise of hotels in Piccadilly. The work of the Italian Renaissance is ever a fruitful source of beauty, but is a Venetian palace designed for a water front the best realisation we can give to a West-end club or a town hall?

America has of recent years produced buildings so full of beauty, so infused with the vitality of Classic art, and withal so expressive of the needs and ideals of to-day, that it is little wonder if we fall under their spell and thoughtlessly hasten to deck ourselves in borrowed plumage.

It is the superficiality of our study that is our real weakness; we do not probe deep enough; we have but half learned our lesson, and are repeating, parrot fashion, that which properly acquired would become part of our natural expression. What should be knowledge has become pedantry. Should we admire the American, we deck our competition drawings all over with innumerable Greek frets, and the orders march apace, though not always in a very orderly and regular manner. Should we seek inspiration from the French, our façades are at once doleful with tearful Ionic columns and heavily-weighted swags; we retain the French licence and lose the French charm. Should we aspire to Greek culture, Doric columns of ponderous proportion are at once in evidence, probably supporting light iron balconies!

It is this patchy and fragmentary stringing together of motives that so often makes our designs poor and commonplace. We aim to dazzle by our learning and to astonish by our originality rather than to please with our sincerity. The one great objective of education should be to awaken our sense of criticism, to accustom us to the balance of opinion, to the comparison of men and periods, to that free play of the intellect that in all our studies we may seek for latent beauty and intimate knowledge rather than for that which is evanescent and accidental. Our sketch-books should be filled with the analysis of motives and buildings rather than with the merely picturesque, and a taste for delectable tit-bits should be rigorously suppressed. We should not be content with a mere surface acquaintance. If we wish to understand the richness of Italian art we must know something of the fullness of Italian life that produced it; if we seek to obtain the refinement we admire in certain buildings of the French we must realise something of the manners and tastes of those whose delight they were; and, above all, if we hope to tread in the footsteps of the Greeks, to gain something of that culture and marvellous perfection which is shown in the least of their works, we must find their view-point, we must have something of their elemental simplicity, we must endeavour not so much to copy their work as to understand something of the spirit and

temper in which they carried it out. We cannot become Greeks merely by learning their language; we can only approach them through a knowledge of their character, their aims and ideas.

It is impossible to draw any distinction between the critical and creative faculties of the mind; criticism or appreciation must in some form or other always precede creation; it may be conscious or it may be instinctive, but conception is impossible without selection. The great masters in all the arts have always been intensely critical. Peruzzi lingered over each moulding with loving care; in none of his buildings is there a single piece of extraneous or ill-considered detail. Raphael's paintings are the result of many trials and essays, and with Leonardo da Vinci criticism was carried to such lengths that the completion of a specific work was often impossible. Again, when we consider the sculpture of the Greeks—probably of all races in all times the most critical—are we not amazed at its perfection of finish, at the careful consideration and proportion of parts? In its wonderful completeness it would seem that nothing could be added or taken away. With all Greek art the determining factor was criticism; in sculpture, in architecture, and in literature the one outstanding quality of the Greeks was their intense love of exactness and excellence.

NOTES.

Exhibition of Drawings by French Architects at the A.A. THERE is good reason to believe that the idea of exhibiting in London a selection of studies by French students of architecture in Paris will be realised next spring. To the Architectural Association must be given the credit of formulating the scheme, and we understand that the President and Vice-Presidents of the Société des Architectes Diplômés par le Gouvernement have given it their most cordial support. It is proposed to arrange the exhibition in the Galleries at Tufton-street, and the drawings sent over will be carefully selected with a view to illustrating the course at the Ecole des Beaux-Arts which leads up to the work required to obtain the diploma granted to successful students by the French Government on the termination of the course. Such an exhibition cannot fail to be most interesting, and it should make clear to all who take advantage of it how wide are the differences underlying the systems of architectural education which have grown up in the two countries. Our own building traditions are not likely to be assailed by any attempt to impart methods which are altogether foreign to us: all through the ages we have been ready to learn from the other side of the Channel, but we have never failed to impart a touch of national character into anything that we may have borrowed. We welcome such an exhibition, not only for the interest in all quarters it is sure to arouse and for the lessons it should teach, but also as an indication of the friendly spirit prevailing between the two countries. We wish every success to the project, and should like to think

it may be possible for our own authorities to return the compliment in course by sending to Paris a collection of students' works gathered from the leading schools in England.

The Danger to St. Paul's. THE threatened danger to the fabric of St. Paul's by the construction of a subway near its east end, to which we referred last week, is receiving consideration that the gravity of the situation demands. We are glad to learn that Conferences are being held between the Chairman of the Parliamentary Committee of the London County Council, the Chairman of the Highways Committee, and Canon Alexander and Mervyn Macartney as representing Dean and Chapter. In the *Times* of 16th inst. Mr. Macartney points out that all through the negotiations—which have already extended over a period of 10 years—the reports of the engineers consulted, who foretell no danger to the Cathedral by the execution of their scheme, have been accepted as more trustworthy than those of the architects whose opinion the risks incurred are formidable. That the present "surveyor" to the Cathedral has good grounds for anxiety apart from those based on his own knowledge and experience—were any needed—is afforded by evidence he has produced of what happened in 1831, when Mr. Cockerell was the Surveyor, and it was proposed to construct a sewer on the south side of the Cathedral. Such famous engineers as G. B. Sneyd and Brunel then supported the architect in opposing what would appear to be a far less dangerous undertaking than that now proposed. Scientific methods may have greatly improved in the meantime, but in dealing with a subsoil charged with water, as that beneath St. Paul's is known to be, the risk of serious disturbance cannot be eliminated, and experiments in that particular spot might lead to a national disaster.

St. James's Palace and the Peace Conference. THE State apartments of the Palace have been prepared for the purposes of the Balkan Peace Conference. Delegates. They will hold their full conferences in the Picture Gallery, in which is preserved Holbein's portrait of King Henry VIII., who built what was formerly called "The Manor House," reputedly, after Holbein's designs and under the directions of Cromwell, Earl of Essex, upon the site of the 15th-century leper hospital, dedicated to St. James. Some remains of the ancient hospital chapel, which Charles I. set up for the private chapel (now the Chapel Royal) of the Palace, were found in the course of the enlargement and alterations made by Sir Robert Smirke in 1836; Holbein, it is said, painted the ceiling (1540), and there Sir Christopher Wren married his second wife. The Picture Gallery has a Tudor fireplace bearing Queen Elizabeth's coat-of-arms. The adjoining Tapestry-room, or Old Presence Chamber, together with the Entrance-room, Guard Chamber, Queen Anne's Drawing-room, and the Banquet Hall will be used by the delegates. In the Tapestry-room is a fireplace the stone head of which is sculptured with the

initials "H." and "A." (Henry and Anne Boleyn), and with other devices; the tapestry, made for Charles II. in the Mortlake works, represents the amours of Venus and Mars. In this room the new Sovereign is received by the Privy Council, and is proclaimed and presented from the bay window to the people assembling in the Friary Court.

Downside College.

WE congratulate the *Morning Post* on its endeavour to arouse public interest in architecture by a weekly article on some one modern building, and in Mr. March Philipps they have obtained a writer who is always interesting and forcible, though we cannot always accept his conclusions. Downside College, which is the subject of his first article, is an excellent example of the work which has given Mr. Stokes a deserved reputation, and in this building Mr. Philipps sees a reversion to a national and reasonable type of architecture. We may say at once that we find the writer's thesis more interesting than his actual criticism of Mr. Stokes's work. Of the change from Gothic to Tudor architecture he says: "The sudden shifting from the exaltedly spiritual to the comfortably mundane point is one of the most striking mental revolutions recorded in history. What was wanted for the easy social and civic life in vogue at the time was spaciousness, breadth, and amplitude; not a vertical style in a word but a horizontal one." Mr. Philipps's point is that the architecture of the Tudor period was suited to the national character and wants, that it presents a medium through whose means modern life can express itself reasonably and naturally, and he says of the Renaissance: "It never took root. It never grew. Tended by professional experts, and often in their hands producing important results, it remained alien to the national sentiment; and that the consequence of that alienation has been that by degrees the experts have worked their inspiration dry, and there is now a feeling gathering head that the classic ideal is about played out." The adoption of the Renaissance here is put down to Inigo Jones. "It had genius for a champion. As surely as the Sparrow killed Cock Robin, so surely did Inigo Jones kill Gothic, and kill it with an architrave." If all this indeed be true it would be another instance of the trite saying that outsiders see most of the game, but in any case we welcome such able and picturesque criticism as Mr. Philipps's, as we feel that, though truth may not necessarily result from thought, it cannot be arrived at without it.

ROYAL ACADEMY SCHOOLS EXHIBITION OF STUDENTS' WORK.

AN exhibition of students' work is always interesting, since it is among the students of to-day that we may expect to find those who will make a name in the future. We are inclined to think that among the work in the most recent exhibition there was little trace of marked merit, but, on the other hand, much of it reached a very praiseworthy standard of excellence.

We notice, in examining the works of students of the Architectural School, that

they can be divided into two main divisions—that of students who grasp the fact that the traditions and usages of the past have fixed definite standards of classical proportion and detail, and that the first great essential for the student is to arrive at a thorough understanding of such standards, and, on the other hand, the work of those students who appear to think that design consists partly of taking liberties with those standards—an error which will vitiate the success of their later efforts. It is truly written that a man cannot add a cubit to his stature, and it is equally true that he cannot play with and alter the proportion of features of architecture with wisdom or hope of success. Originality worth the name must always mainly consist in the possession of an unusual grasp of the possibilities of combination and grouping, and not of the employment of unusual detail—a fact which is often not sufficiently understood by the student.

The Travelling Studentship (England) and 60*l.* go to Mr. Oliver Frederick Savage for his design for a Detached Town Residence for a nobleman. The subject is quietly and soberly treated in a manner somewhat reminding us of the river fronts of Greenwich Hospital. A fault in the terrace, or garden front, is that it is too much cut up by the three pilastered bays which repeat, with smaller plain intervals, between them. This front would have been a better composition had the central feature been omitted. The plan is reasonably and well laid out, and the whole of the drawings show a nice sense of proportion and detail, though the windows of the principal story are a little narrow for their height. One of the outstanding designs is No. 25, in which the author has planned his buildings on three sides of an open courtyard, the opposite or terrace front being marked with a pediment in the centre. The architectural treatment of this design is very pleasing, particularly that of the ground floor, with its rusticated Order, the attached columns of which are well disposed. The whole design shows a real grasp of the principles of proportion, and the detailing is excellent. More than any other rendering of the subject it suggests a great town house. No. 124 submits a good set of drawings, admirably detailed, but there is a lack of a domestic note about the design, whose author has spent considerable ingenuity in varying his Order, an ingenuity which might have been more profitably employed. No. 128 submits an admirable set of drawings and a clever plan, and No. 129 a quiet design characterised by the omission of pilasters and columns and wide wall spaces at the angles of the fronts. Generally, we feel that there is in most of the designs submitted a want of a sufficiently-marked domestic note.

Mr. Geoffrey P. Agnew Fildes obtains the first prize of 15*l.* and silver medal for architectural students (First Term) for a very well-planned and proportioned Memorial Church with columned porticoes. The author has evidently studied classic proportion with some effect, and, although his detail is in places a little weak, the design is an admirable and meritorious piece of work. Mr. William Henry Hanlyn obtains the second prize of 10*l.* and a bronze medal for a well-considered design for a Loggia. In No. 160 we have a praiseworthy and well-proportioned study for a Town Church. No. 157 shows a very cleverly arranged and grouped design for a Customs House, illustrated by slight but effective drawings. No. 156 is another design for a Customs House on simple, well-proportioned Georgian lines. No. 154 in his design for a vaulted Loggia submits a scheme not without merit, but characterised by a weird sense of proportion showing a want of training. In No. 155 we have a study for a Memorial Chapel to Commemorate the Indian Mutiny, which contains some good work, of a neo-Grec type; the treatment of the dome and its drum is not, however, entirely successful. No. 147 is another design for a Memorial

Chapel; the lower part of the design is extremely well-proportioned and pleasing; but the upper part is weak. The detail submitted with it, though simple in character, is very well thought out; indeed, it may be said to show more knowledge of Renaissance detail than any other drawing in the Exhibition. In No. 169 we have a design for a Loggia, the proportions of which, though somewhat too attenuated, are on the whole pleasing and characterised by great refinement.

The Town Church shown by No. 167 is quiet and pleasing; the voussours round the arched openings are unduly long, and would not look well in execution. No. 139 submits some very clever drawings illustrating his design for a West-End Club House in a late Renaissance manner. A prize of 20*l.* and silver medal goes to Mr. Charles F. Butt for an ambitious design for a Picture-Gallery which has considerable merit.

Mr. Charles F. Butt also obtains a first prize of 20*l.* and silver medal for his drawings of the west front of St. Martin's-in-the-Fields, including the tower and one return bay. They are well and sympathetically drawn. An outline perspective drawing of the east end of the same church is submitted by Mr. Walter Llewellyn Clark, and obtained a silver medal.

Mr. Augustus Gaffett Bryett obtains a prize of 5*l.* and silver medal for his design for one bay of a hall for a City Company or Guild, with colour decoration, and also the first prize and silver medal for a set of architectural drawings, and Mr. Harold Thomas B. Barnard is awarded a prize of 5*l.* and silver medal for the original composition in ornament for his treatment of the end of a stone staircase. The sketches of the travelling student which are exhibited show, as might be expected, both great facility and industry, but do not call for any special mention. The work submitted in the Architectural School is, as we have said, excellent on the whole, but none of it is of unusual distinction or merit.

In landscape painting the Creswick prize, 25*l.* and silver medal, is awarded to Miss Evelyn Muriel Young, the subject being "In an Orchard," and an extra prize of 5*l.* is awarded to Miss Una Hook. In the design for the Decoration of Part of a Public Building Mr. James Williams obtains the first prize of 30*l.* and a silver medal for his treatment of the subject "Romans Disembarking Slaves," which is admirably treated, and far in advance in composition to that of any other competitor. The second prize of 10*l.* and a bronze medal go to Gerald Leslie Broochurst. No. 15 submits a design for the same subject characterised by very pleasing colour. The Armitage first prize, 30*l.*, and silver medal are awarded to Mr. Horace Edward Quick for a design in monochrome, "Joseph's Brethren Bringing the Coat of Many Colours to Jacob," while the second prize, 10*l.*, and bronze medal go to Miss Hilda Marion Hechle. The prize, 10*l.*, and silver medal for composition in colour are awarded to Miss Florence Margaret Walden for a clever impressionist sketch of what appears to be a ball scene.

The cartoon prize (An Orator: to be treated classically) is withheld, as is also the first prize and silver medal for painting from the life, the second prize and bronze medal for which is awarded to Mr. R. J. Swan. Only the second prize for two paintings of a head from the life is awarded to Miss Florence Margaret Walden, while no one competed for the perspective drawing in outline of the Bromley Room in the Victoria and Albert Museum, open to painters and sculptors only. Mr. Horace Edward Quick and Mr. Hilary F. Cleveland Skinner obtain the first and second prizes and medals for drawings from the life, and Miss Hilda Marion Hechle the silver medal for studies of drapery. The prize and silver medal for drawing from the antique are awarded to Miss Nancy Wordsworth Arnold.

For the model of a design, the subject given being "Sisera and Jael," Mr.

Alfred Henry Wilkinson obtains the first prize for a very spirited and artistic composition full of action and strength, while the second prize and bronze medal are awarded Mr. Joseph Herman Cawthra. The first prize for a model of a bust from the life is withheld; the second goes to Mr. Alfred Henry Wilkinson, while a prize of 5*l.* and silver medal is awarded to Mr. Allen Howes for a model from the antique. The first prize and silver medal and second prize and bronze medal for a set of three figures from the life are awarded to Mr. Allen Howes and Mr. Peter Induni respectively. For painting from still life a prize and medal are awarded to Miss Sylvia E. Gamlett.

On a general survey the sculpture appears to us to be of a higher quality than the painting, but in common with the architectural exhibits there is little of outstanding merit and much which shows praiseworthy work and fair achievement.

THE RECORD OF OXFORD.*

To write a book on Oxford a man should be an archaeologist, an artist, and an alumnus of the University. Mr. Aymer Vallance is all of these things. He was educated at Oriel, is a recognised authority on antiquarian subjects, and we know him both as a designer and a writer. It is, therefore, no surprise to find that he has handled his great subject with knowledge, with discernment, and, best of all, with reverence. Indeed, if I complain a little further on of his brevity, it is with some admiration in the complaint, realising that an Oxford man who finds his pen let loose on Oxford must have greater difficulty in restraint than in expansion.

There is no question about the beauty of the volume which Mr. Aymer Vallance has written and which Mr. Batsford has published. Its beauty, in fact, has to be reckoned with as a large part of its value. No pains have been spared in the production; and the author makes a graceful acknowledgment to the publisher as both initiator and helper. The cover is designed by Mr. George Kruger, who also draws, and draws excellently, the coats-of-arms in the Heraldic Supplement. The title and decorative frontispiece are by Mr. Harold Nelson, the end-papers—a design of Oxford fritillaries—are by the author, and a group of well-known names, ancient and modern, represent the artists whose work, supplemented by the excellent photography of Mr. A. E. Walsham, makes up the graphic portion of the volume.

Oxford men have waited long to have something which they can place without shame on their shelves beside the monumental Cambridge work of Willis and Clark. Have they now got it? They have got what the prospectus quite truthfully describes as "the most beautiful, interesting, and complete book" yet issued on the Colleges of Oxford; but their new possession cannot honestly claim—perhaps it would not wish to claim—a position parallel to that of its great Cambridge predecessor. In giving the work the fullest praise for its attractive and engaging survey of England's finest group of architectural treasure it is impossible to state that it fulfils the service which its rival did for the sister University.

The title—a small matter this—is unfortunate. In the first place, it will be noted that the scope of the work is not confined to colleges, for it includes, very properly, the University Church of St. Mary and the Bodleian Library; and, secondly, the term "old" is one which should be avoided by a writer who expects his work to be of more than passing interest. Let Mr. Vallance imagine the survival of his volume for 100 years, and he will perceive at once the inefficiency of an expression the significance of which is always changing. The choice

* "The Old Colleges of Oxford: Their Architectural History Illustrated and Described." Aymer Vallance, Oriel College, M.A. (London: B. T. Batsford. 1912. Four guineas net.)

of a title is generally the result of a process of elimination. I should like to select one from those which have probably found their way to the wastepaper-basket. In any case, "old" as applied to any art is an inadequate and rather ladylike term wholly lacking in historic meaning.

A shortcoming which more seriously affects the value of this splendid work is the author's partiality. One recognises that it is the price to be paid for the warmth and interest of his text. A man can hardly write vividly without enthusiasm, and he can scarcely have enthusiasm without strong likes and dislikes. It would, therefore, seem that we must choose between a history and an essay, and, as each kind of work has its value, it is perhaps unwise to complain at getting the latter instead of the former. Still, were the choice fully offered, Oxford seems to deserve, and her lovers seem to demand, an account of her treasures which would set them down in historic catalogue rather than in selective criticism.

Mr. Vallance is hard on most modern work, very hard on all those who have altered things mediæval, and justly hard on destroyers; but we mistrust his power of fair record when we discover that he has no tolerance for that Classic period of the XVIIIth century which, with all its faults, is an intensely genuine reflex of a phase of Oxford learning, and, when all is said, is undoubtedly a living element in the beauty of the ancient place.

For example, the High-street frontage of Queen's (to which honour is done in a beautiful photograph) falls under the author's lash. With him, we deplore that the XVIIIth-century owners of the college thought fit to destroy the XVth-century chapel; and probably most of us, with our tender love for antiquity, would like to have back again the quaint huddle of buttresses, dormers, chimneys, and gables which are shown in Loggan's print. But to go beyond this and to describe the stately composition by Wren (or Hawksmoor) as robbing the college "for evermore" of its "noble aspect" is surely to under-rate a very stately and beautiful work which stands most worthily in the street which all acclaim as the finest in Europe. To Mr. Vallance the expression of Oxford's culture in the age of Anne is merely a "corrupt fashion."

Even if we agree with his taste, it is impossible to avoid criticising the justice of his method in this connexion. He is dealing, he says, with buildings, not with men; therefore he will avoid chronicling those worthies who had no share in the architecture of these colleges. Wyclif, and Johnson, Newman, Burne-Jones, and William Morris are to find no place in his book, for they had no control over the building craft of the place. This is understandable, and, if true, is reasonable. But it is strange that a chronicle of Oxford buildings and builders should contain no mention of Dean Aldrich as the designer of Peckwater Quad at Christchurch. The Dean's rather problematic share in the buildings at Trinity is recorded, but there is no hint given of his work in his own college, nor of his claim to be the designer of the contemporary erection at Corpus. Some may not like these things, but the fact that they were designed by a man who, besides holding high ecclesiastical and University office, was an excellent musician and the author of a book on logic that held sway for 100 years, is at least a very noticeable symptom of the connexion between a learned corporation and its outward architectural show.

The absence of plans is a defect in the book which a later edition will probably rectify. The plans in the Cambridge book—distinguishing ancient from modern by a tracing placed over an engraving—are supremely valuable. In the present volume plans are almost wholly absent. There are, it is true, some chapel diagrams in the introduction, and outline plans are given of Magdalen and New College; but, strange

it may seem, there are more Oxford plans Clark and Willis than are to be found in an Oxford monograph.

This is enough by way of complaint. Readers will enjoy the author's introductory chapter, which is not merely a general description of the growth of Oxford as a diversity town, but a very good account of the evolution of the college. In this he gives special attention to the development of certain features; for example, the college chapel, in connexion with which he points out as others have previously noticed, that, as the chapel was valued in mediæval collegiate life, it was not a sanctioned element in the earliest colleges, which were originally attached for purposes of worship to neighbouring churches, and only attained, after years of effort, to the dignity of having their own oratories. Mr. Vallance also gives an interesting account of the origin and use of those wide ante-chapels which are a social feature of our English collegiate churches.

From the subject of general development the introduction passes to architectural details, and gives a good, though not very exhaustive, account of certain particular features of Oxford design in various materials. The main body of the book is made up of chapters on the buildings treated college by college. These separate discourses are, it must be admitted, not very lengthy. The most extensive is on Magdalen, and this occupies more than ten pages of text, some of which are largely absorbed by inset illustrations. In fact, the whole story of twenty colleges, one Hall, and three independent buildings is disposed of in a hundred pages, ably interspersed with generous illustrations. It is obvious, therefore, that in respect the work cannot pretend to be a rival of the Cambridge record, which provides, besides its volume of plans, three to four books of some 600 pages each. It would by no means suggest that the present publication is merely a collection of illustrations strung together by a stream of prose. It is certainly much more than that; and at times the letterpress does seem almost as if it were created by the profusion of graphic and photographic matter, it certainly must be acknowledged that the author has very skilfully performed the task of compressing a large measure of history and criticism into the narrow compass left at his disposal. And, to allude once more to his precision of dislikes and regrets, I find it impossible to withhold sympathy from some of his strictures. That chapel by Gilbert Scott which appears to have been opposed by an angry Heaven into the stranglehold of Exeter, and so hurled into place as to leave a merely accidental footway between its eastern end and the adjoining buildings—what an exotic accident it is! And it been built for a college that as yet had no chapel one might even so murmur at its inappropriate character; but we must not go further and mourn with Mr. Vallance the loss of that fair Caroline building—shown so tenderly in Nash's sketch—rich, far from justifying the excuse of decay, yielded only to blasts of gunpowder. In the way, the two views of Exeter are ascribed as "from the south." Both are from the west.

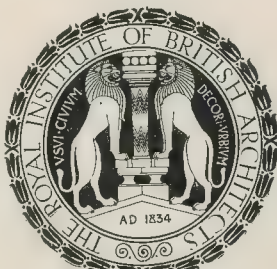
Keble is to Mr. Vallance a thing abominable. In calling it "a suburban seminary" it is, one supposes, substituting the language of gentle scorn for some hotter epithets of oppression. I am halfway with him in his error; but one winter evening, when all one and brick stood grey against the glow of sunset, it seemed to me that Butterfield there flung up a bit of shape which in 10 years, when time had done the taming of its rude colour, Oxford would admire. Since at evening a seventh part of those two centuries has gone by.

It is interesting to see the use made of the Turner drawings among the illustrations. Their inclusion is perhaps one of the signs that mark the character of the work, for

their appeal is to faculties much less prosaic than our historic sense. Any of us could make a drawing which would prove a far better record of Magdalen Tower than is Turner's delightful romance on this theme. But I for one do not regret the introduction even of that wanton sketch of Balliol which the publishers of the "Oxford Almanack" rejected on the ground that it had too little regard for the facts of the subject. As to its shadows, one can only say in excuse for them that the picture is a kind of cinematograph representing progressively morning, noon, and evening. (The touches of northern sunshine one cannot so readily defend.)

One of the Turner drawings—the well-known view of Brasenose—pre-serves the memory of the lost Cain and Abel group. Mr. Vallance says it was a coarse copy. Perhaps it was. My own memory of it dates from those days of youth which do not know a coarse copy of a John of Bologna from an original. If Mr. Vallance had had room in his book for frivolities he would have told the story of the final end of that work of art. This is the oral tradition. A distinguished Continental writer, engaged upon a monograph, visited Brasenose to inspect the college's example of the work of Giovanni di Bologna. He was informed, perhaps with a little embarrassment (the college had Walter Pater among its Fellows), that the statue had been disposed of to a specialist, whose name and address (in a suburb of the city) were given. The foreigner visited the specialist and found him to be in very truth an expert in lead—in fact, a plumber. "Where," said the visitor, "is the Brasenose example of the art of John of Bologna?" "The what?" said the plumber. "The Cain and Abel," said the cognoscente. The tradesman, understanding at last, led his guest through the shop to the house, through the house to the yard, and, pointing to certain coils of pipe (some of it, the story says, was 4-in. pipe), exclaimed dramatically: "Them's your Cain and Abel!"

PAUL WATERHOUSE.



The usual fortnightly meeting of the Royal Institute of British Architects was held on Monday at No. 9, Conduit-street, W. the President, Mr. R. Blomfield, A.R.A., in the Chair. The Secretary announced that the Council had admitted the South Australian Institute of Architects to alliance with the Institute.

THE WALLS OF VISBY.

Mr. Horace Porter, M.A. Cantab., then read a paper on "The Walls of Visby," of which the following is an abstract:—

"The wonderful City of Visby is in the Island of Gotland, which is a low-lying plateau of limestone rock some 70 miles long by 35 in breadth, in the middle of the Baltic Sea. The island has been a part of the Swedish kingdom since 1645, and during the last two centuries the modern little town of Visby has come into being among the ruins of the past. Along the ramparts thirty-eight towers and bastions have survived out of the original tale of over fifty. Very striking is the impression which these towers produce as you approach the town. It is the Queen City of the Baltic that confronts you, the Visby of the XIIIth century, during which those ramparts grew up, and I shall divide their history into three

periods, coinciding more or less with the beginning, the middle, and the end of the century.

I.—First Period.

Only those Gotlanders who were established at Visby were allowed to share in its life and privileges. The rest found their goods taxed and themselves shut out from its markets, as much by its exclusive laws as by the wall with which, at the beginning of the XIIIth century, the town was enclosed. Only a wall of moderate height was built at first, varying from 15 ft. to 18 ft. The masonry was squared, uncounted rubble of local limestone, the lower part being built with very large stones. It was finished at the top with wide battlements, alternately plain and pierced with a loophole. For a short distance at the north-east corner the later work has been cleared away, so that the wall stands out in its original line.

The line of this enclosing wall seems to have been determined by the ridge of rock over which the famous "Vis" formed the southern extremity. It is built along the edge of this ridge, on the landward side, and down the slope to the sea at the north and south ends of the town. Along the sea-front it followed what seems to have been the old line of the shore for a distance which I find given as 1,950 yds. The three landward sides are estimated at 2,400 yds., making a total circuit of 4,350 yds. A considerable portion of the south and west walls has disappeared, but the rest of the line remains standing, with only a few breaches.

Three buildings, at any rate, along the ramparts seem to have been in existence before the wall was marked out. The square, solid fortress now known as the "Krut Torn," or Powder Tower, down by the sea; the so-called "Mint-House" on the slope at the north-east corner; and a remarkable building between the east and south gates, evidently deserving of a worthier title than the "Tjörhof," or tannery, by which it is now distinguished. I should conjecture that we have here one of the oldest buildings which still exist at Visby. Certainly it must have been already standing when the first wall was planned, for this buttresses against it with straight joint on either side. Also it cuts obliquely through the line of the wall, instead of projecting at right angles, as do all the other buildings along the ramparts, with the exception of the "Mynt-hus."

Certain other buildings—six in number—I take to have been erected together with that first city wall, and the first point to notice about them is that they are all ranged about the south-east end of the rock ridge, which formed the first focus of the town. There is the south gateway tower, giving on to the main road into the country, and two square towers just beyond this, where the wall turns westward: all simple structures of only a moderate height. I measured the tower next to the south gate, and found its dimensions as follows:—Projection, 15 ft. 3 in.; face, 30 ft. 6 in.; height, about 43 ft. Northward of the south gate, between it and the Tjörhof, are two more buildings which seem to have been erected together with the wall. One, the "Kejsar Hus," is a striking example of a XIIIth-century house possibly a storehouse and hall of exchange for the German merchants. A short distance beyond the Tjörhof again stands a semicircular tower which I think was also built with the wall. It is the only one built with a rounded face, and the masonry is of a bold and simple character.

II.—Second Period.

This period in the history of the ramparts I should place, roughly, at about the middle of the XIIIth century, a time of great building activity within the city. The towers which seem to have been erected together with the wall stand round about the important south-east rock plateau, and the six which, from details in their construction, I should place in the second period are ranged along the remaining section of the east wall. The two towers which give the impression of being the earliest built along this stretch occupy the two most commanding positions at angles in the wall, at either end of a slightly projecting platform of rock. The importance of these towers (Nos. 9 and 13) is further emphasised by the bastions built on to the face of No. 9, and along the north side of No. 13, apparently for the purpose of enfilading the ditch in between. They are pierced with loopholes, and are somewhat roughly built up to the height of the rectangular bases of the towers, which are the only two

thus fortified. The towers themselves are constructed on the plan adopted with the majority of those added later, as projections outside the rampart. They are open towards the town, and present, on the outside, a rectangular base up to the lower level of the battlements, or about 13 ft. above the ground. Above that level the walls are carried up as five sides of an octagon, the change in form being effected by cutting off the external angles with what I may perhaps term *broaches* sloping sharply back against the diagonal faces. Each face is pierced with narrow embrasures, one above another, and access to the different levels, on the inside, was evidently obtained by means of wooden floors and ladders, the sockets for which can still be seen.

This type of structure is repeated in thirteen of the towers still standing, with no essential differences, but with certain variations of detail which help to suggest the order of their erection. The rectangular base in the later towers is carried up above the level of the battlements to the height of the raised rampart—i.e., about 30 ft.

The growing anxiety for the safety of the town also found expression in the building of gateway towers over the east and north entrances. The latter presents some interesting features.

III. Third Period.

The work done to the ramparts during this period comprised the raising of the city wall and the addition of forty or more new towers of various types. They are all open on the inside, with the one exception of the north-west corner tower, popularly known as "Cames." The two small towers between this and the "Krut Torn" (known as the "Jungfru Torn") are also practically enclosed. They are built as battlemented buttresses against the outer face of the wall, which apparently was not raised along this seaward side. It is only about 15 ft. high here, on the inside, with wide battlements.

Two more square gateway towers were built (Nos. 12 and 1). A number of rampart towers were also added, with rectangular base and five-sided upper part. Four of these were built along the north wall and six along the east wall.

The most remarkable feature of the later work is the type of balcony tower, or bartizan, evolved in the raising of the ramparts. These "saddle" or "hanging" towers, as they are termed locally, are, so far as I know, peculiar to Visby. They were added as further defence midway between the taller towers (i.e., from 120 ft. to 140 ft. distant from these, on either side), and must originally have been about twenty in number. But only eight now remain, the rest having fallen down—in most cases bringing the wall with them—owing to their unusual method of construction. This is aptly described by their popular name of Saddle-towers, their side walls being perched across the top and astride of the raised rampart for some 6 ft. above the summit of this. They are carried about halfway down the wall on either side, and rest upon large stone corbels. Like the other towers, these "saddles" are open at the back, and the battlemented face is supported by a wide arch built against the rampart wall.

The arch on the outer face springs from corbels, but it apparently was not bonded into the rampart wall. A portion of this has been left standing in one instance, showing the corbels, and also a fair face against which the arch had rested.

The simplicity of outline forms one of the most striking features of these bartizans. Another characteristic point to note is the absence of uniformity in the height, span, and form of their supporting arches. Most of them are pointed, but they are rounded in one or two of the smaller "saddles" on the east wall. The span of these is barely 20 ft., while those on the south wall measure 25 ft. These variations give rise to some interesting questions of construction, and I believe the explanation is to be found in a feature of the original city wall which was almost entirely obliterated by the work of raising and thickening done at this third period. That work included a strong buttress of fairly rough masonry built against the inner face of the wall, round the three landward sides, and supported upon a row of low pointed arches springing from the ground. These arches form another striking and, I believe, unique—feature of the Visby ramparts, and in the references to them that I have come across in the guide-books of the place it seems taken for granted that they belong to this third

period, and that the buttress was arcaded in this unusual fashion either to economise materials or possibly to provide space for storage.

The general effect in most parts—and especially inside the north wall—certainly suggests the impression of the arches being simply a part of the buttress, but various details, taken together, point to an earlier origin. I believe that the first city wall was provided on the inside—for a great part of its length, at any rate—with a projecting ledge or platform from 2 ft. to 3 ft. in width, supported upon a line of arches built against the wall up to a convenient height for looking out between the battlements. On the slope above the Mint House just such a ledge has been exposed, and it would have been a feature of obvious utility in so large a circuit of wall with so few towers as were in the original scheme. Outside some of the oldest towers the buttress stops a few feet short, leaving a small platform open immediately above the arches, and below a doorway in the side wall, which projects, in these earlier towers, inside the rampart. Also here and there along the inner face of the south and east walls a line of flat stones can be distinctly traced immediately above the arches. It seems clear that these were in existence before the raising of the rampart, and that the ledge above them was utilised as a base for the later buttress work and for the side walls of the saddle-towers. The corbels supporting the front arches of the "saddles" are built in with the later masonry between the old battlements, and rest upon the lower level of these.

The line of inner arches was interrupted by the earliest towers, but the later ones were built against the outside of the rampart up to this height, and then carried up, with faced masonry, flush with the interior face of the wall. The towers stand open now down to the ground, but the broken masonry at their inner angles affords undoubted evidence of the arches having been originally carried across. The great height of the north wall would require a thicker buttress, and I suggest that here it may have been found needful to ease over the original arches, so as to obtain a broader base than the narrow platform would afford.

The author concluded his paper with an interesting account of Visby's Fall.

Mr. Axel Haig,

in proposing a vote of thanks to the author, said he was a native of Gotland, and could confirm everything which had been said. He knew the place from a boy, and well remembered hearing terrific noises at night and in the morning finding that portions of the wall had fallen. Mr. Porter had told them a great deal, but there were certain things he had not dealt with. He would have liked to have heard a reference to the old castle built by King Eric, of which there were still some remains. In the XVIIth century Charles XI. of Sweden wanted linc, and many of the stones of the castle were taken for that purpose. There was also once an interesting building in the middle of the west wall built by a prince, and a residence, but only the cellar walls remained.

Mr. Geoffrey Lucas,

in seconding the motion, said the walls were most romantic and interesting, and the town itself was fascinating. The churches were remarkable, and would repay a great deal of careful study, as they revealed aspects of mediæval work which they were not acquainted with in this country to any great extent. They had, he believed, one or two churches in this country with central columns in the nave, as was frequent in Gotland, but the churches there were vaulted, and the column arose from the system of vaulting; they were not truly twin-nave churches. Mr. Porter said the walls of Visby safeguarded a rich mercantile community, and that was the impression they conveyed. If one might criticise them at all, he would say they suggested the idea of amateur fortifications having to be amended to suit later methods of attack. One did not find any great military science displayed, such as was to be seen in some of the great fortified centres of France. Perhaps the Visby walls were earlier in date than the scientifically fortified towns one found in other mediæval cities, and were first built to protect the foreign merchants from the attacks of the Gotland peasantry. One aspect of the walls which had not been touched upon was the moat or ditch. There was an immense ditch cut from the limestone. It was three-

fold on the north side and quite wide and spacious on the east side. Probably the inhabitants got their material from the ditch for building the walls, and there could be no doubt that they relied on it to prevent the invaders reaching the base of the fortifications. Visby conveyed a splendid idea of the appearance of a mediæval fortified town.

Professor Beresford Pite

said the subject was a very interesting one. It was scarcely artistic, except in an indirect sense. After wide travel they seemed to come to the conclusion that there was no architectural style about fortifications at all. The walls of York did not differ from those of Visby, of Dover, of the Tower of London, and many of the great continental cities, except perhaps in a few details which lay around the doorways. They were all about the same height, and had about the same scheme of military towers, and were much about the same thickness. Visby, from all they had seen in the photographs, might have been some unknown English town. But there was a great deal of fascination about these fortifications. When they looked at the photographs one wondered what was the use of the towers. What was it all for? How did the machine work? Probably the most enlightening publication on the subject was the series of articles by Viollet-le-duc in the *Dictionnaire Raisonné*. Mr. Burgess thoroughly understood the fascination of walled cities, and that extraordinary example at Cardiff showed them really what a patch of Visby might have looked like when it was in fighting trim. He would like to commend the whole subject to architectural students from the point of view of the purpose and usefulness of these fortifications. These were not new vistas to their architectural otherwise; their picturesqueness was somewhat of the Battersea Park Grotto order. Their main lesson was the entire directness and purpose of the whole thing. It meant war and defence, and unless they took the point of understanding, the military purpose which lay at the back of it all, it was not a profitable study. The York walls were very interesting, for they could go round the walls on top and through the towers and form an idea of how it all worked, but he would invite members of the Institute residing in London to not forget that they had a live fortress in London still. If anything really went wrong with the dockers or anyone else, the point of which attention would be drawn was the old mediæval fortress—the Tower of London—which was still the military centre of London, and was one of the few old mediæval fortresses still kept in fighting trim. He suggested that students would do well to get an order from the Governor and spend some hours on the curtain walls, and try to follow the "hang" of the old tower. Of course, London was not Visby, but it occupied much about the same position with regard to an important port that Visby did. There was one broad and general distinction between these continental towns and this country, which was that the former were practically independent States, and had to arm themselves not only against pirates, but against their next-door neighbours, and that accounted for the complete fortification of continental cities.

Mr. Fitzroy Doll,

who remarked that it was just forty years ago since he had spoken in that building, said the what interested him much more than the walls was what happened within the walls of Visby. Within them the seed of the "Third Estate" was sown and germinated and grew up. The merchants went there to protect themselves against hordes of robber knights and the clergy who overran the whole of Germany. In one of the churches of Visby was deposited the chest of the Hanseatic League—that great League to which the people of England were mixed in a manner that few had taken the trouble to find out. Visby had the chest, and three other cities had aldermen appointed to hold the keys. There was no doubt that the whole of their municipal government in London emanated from that combination; they even gave this country its money, and to this day they spoke of their money as "sterling," which came from the Hanseatic merchants, who were called "esterlings." Nearly all the Guilds of London also came from that organisation. That League influenced them enormously as a Teutonic race, and, curiously, whilst this country had retained the influence, Germany had adopted more the French system of that municipal government. He wished more of

young men would go to the towns in the north instead of all going South, and coming back and making bad Italian architecture. If they would only go to towns like Lubeck, Rostock, Visby, and so on, they would find that many of those who now had the greatest reputation in the architectural profession had in the past filled their sketch-books with drawings in those cities.

The President

remarked that the discussion had branched out in all sorts of directions. Mr. Fitzroy Doll was extremely interesting, but he felt it was drawing long how to trace the origin of their local movement to Visby.

Fitzroy Doll

said he would refer the President to the Bodleian Library.

The President

said, as a modest historical student, he would only say it was a surprising generalisation. The old German towns were immensely interesting historically, and were picturesque, but he could not recommend students to study in them except for historical purposes. If they wished to study their art they must go to the quarters in Italy and France. Professor Doll had directed their attention to the interesting question of military fortification and engineering, and by implication pointed out the futility of constructing such works except for a special purpose. He thought this question of development of military fortification might be carried forward. They thanked Mr. Porter for the way he had worked out the history of the dead city, and he would suggest that there be other dead cities the history of which might be taken up.

The motion was carried.

Porter,

said that if anything he had said would result in others going on to deal with the subject he was rewarded. Mr. Haig might perhaps look into the very interesting work now being carried out at the churches of St. Clement and St. Nicholas. In regard to St. Clement, the foundations of three former churches had recently been discovered. The President announced that the next meeting, a business one, would be held on January 6.

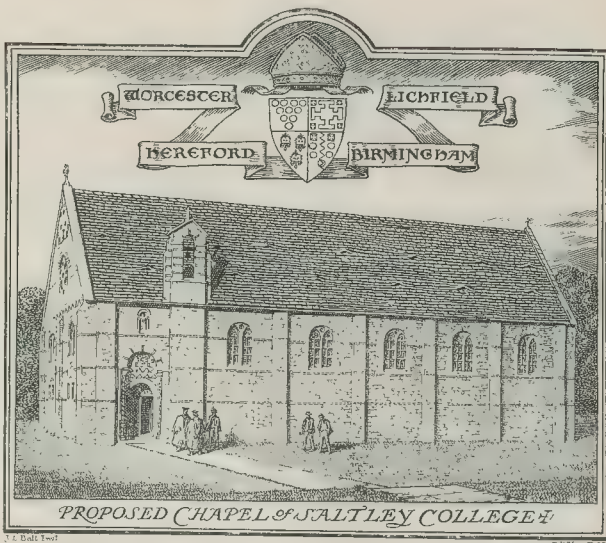
CHAPEL OF SALTLEY COLLEGE.

A CHAPEL has long been desired for the Saltley College of the four dioceses of Worcester, Lichfield, Hereford, and Birmingham. The present building is on a part of the College grounds adjoining the east village, and is built of mottled Hollington walling with ceilings of white Hollington, to harmonise with the College, and is roofed with red tiles. A very extensive scheme of colour decoration is intended in the interior. Messrs. Arncliffe and Sons, of Birmingham, are the builders.

VICTORIA AND ALBERT MUSEUM.

The following additions to the Department of Architecture and Sculpture which have recently been placed on exhibition are of particular interest.

A recumbent effigy of a knight in Reigate (A 10-1912), painted, gilt, and decorated in gesso, was purchased from the Lesnes Abbey Excavation Committee of the Woolwich Archaeological Society, with the consent of the vicars of Christ's Hospital, the owners of the freehold. This figure, which may be identified as commemorating a knight of the Lucy family, is an admirable example of an English monumental effigy of the London School, dating from about 1320-1340; the head unfortunately missing, but the rest of the effigy is well preserved, and the remains of the effigy are extraordinarily brilliant. Three finely-designed capitals and one shaft of transitional type, dating from the end of the 14th century, were purchased from the same source. The Augustinian Abbey of Lesnes, between Plumstead and Erith to the east of London, founded by Richard de Lucy in 1178, was suppressed in 1525; the effigy was excavated from the site of the Lady Chapel.



Two candle-bearing angels of carved lime-wood (A 16, 17-1912) by the great Franco-German sculptor, Tilman Riemenschneider (born about 1468, died 1531), were bought out of the funds munificently bequeathed by the late Capt. H. B. Murray. These angels had long been known to special students of Riemenschneider's work, but their position in the remote village of Wolferstetter, near Kulsheim, in Baden, made them difficult of access, and their high qualities could hardly be discerned under a disfiguring coat of modern paint. The colour has now been carefully removed, and the beautifully-carved surface of the figures revealed; they may be dated about 1510. The Museum has possessed for many years a large group of two figures forming part of an altarpiece of the Holy Kindred, by Riemenschneider, and two little heads of Adam and Eve which, if they are admitted as his work, must be considered his masterpiece in sculpture on a small scale.

A further acquisition out of the funds of the Murray bequest has been that of a small and exquisitely-finished group in wood of the Lamentation over the Dead Christ (A 15-1912), the work of a sculptor of the Middle Rhine district in the first half of the XVth century; the treatment of the heads to some extent recalls the work of Conrad Meit of Worms. It was formerly in the Spitzer and Dollfus collections, dispersed in Paris in 1893 and in March of the present year respectively.

Besides the acquisitions by purchase, the department has been generously presented by Miss S. Mary Forbes with a life-sized terra-cotta group of a mother nursing her baby (A 27-1912), by Jules Dalou (born 1838, died 1902).

"THE TRIANGLE CLUB."

A SMALL, but interesting exhibition by members of this Club is being held this week at the Maddox-street Galleries. The Club consists of an equal number of architects, sculptors, and painters, all of whom have been members of the R.A. Schools; and its special object is the association of the "Three Arts" with a view to encourage co-operation and to form a mutual bond of sympathy between their various exponents. Although it has been in existence about eight years, this is the first public exhibition that has been held. Architecture is represented by scale drawings of designs and some photographs of executed work, mostly by Mr. Basil Oliver, Mr. S. C. Ramsey, and Mr. Alan Brace. The sculpture and paintings are also the work of young men who have not been influenced by any of the later more violent art movements. The general atmosphere suggests serious, unaffected effort, and the result in one or two instances is striking. The most important piece of sculpture is Mr. John Angel's group of three figures entitled

"Rescued." The composition of this group is singularly harmonious, while the modelling is restrained without any loss of character. This work suggests the advance that British sculpture has made in recent years. Mr. Angel should go far. Mr. Allan G. Wyon's "Heracles Rescuing Alectis from Hades" is a vigorous imaginative work; and physical energy is well portrayed in the modelling of Mr. J. A. Stevenson's nude figure of a man pulling at a rope. We were glad to notice the expression of considerable decorative power in some of the paintings. The work of Mr. W. Beck Savage and Mr. Charles V. Holder is particularly interesting in this respect. The former artist's "Susannah and the Elders" and "Passingford Bridge" are not so much the painting of subjects as decorative compositions; the comparatively low tones are combined in a certain effective and sympathetic form of arrangement. Mr. Holder's small picture, "In the Studio," an artist's model reclining on a couch, is quite masterly in the disposition of mass and colour. Mr. Douglas Gray's work is as yet a little immature, but his "Summer Evening" and "View near Croydon" show pleasant promise. Mr. Hugh de Poix's "The Bathers," a group of nude figures in a classic landscape, is also, decoratively, very promising. There are numerous portraits at the exhibition. Mr. J. Blair Leighton's three-quarter figure, "C. White, Esq., Expounding Progress," is probably the most capable in treatment and expression. Mr. Hugh de Poix's "Unmasked" is a striking work, although both the colour and treatment are a little crude. With the exception of the mural tablet to the memory of the late Ernest Crofts, R.A., the joint work of Mr. Allan G. Wyon, sculptor, and Mr. Basil Oliver, architect, we do not notice that collaboration which might be expected to result from membership of such a club, and we would commend the possibilities of such co-operation to its members.

SUMMER SCHOOL OF TOWN PLANNING.

IN view of the success of the first Summer School of Town Planning held at the Hampstead Garden Suburb in August last, under the auspices of the University of London, it has been decided to hold a second summer school next year at the same centre. It will last for a fortnight, commencing August 2 and continuing till August 16, and during that time the lectures and demonstrations on town planning and subjects practically connected therewith will be given by some of the leading authorities. Last summer certificates were awarded to the students by the Extension Board of the London University, and a number of architects and engineers have already found these certificates of great advantage. Particulars can be obtained upon application to the Hon. Secretary of the Summer School, Mr. J. S. Rathbone, The Institute, Hampstead Garden Suburb, London, N.W.



Scarcroft Grange, Yorkshire.

Mr. Sydney D. Kitson, F.R.I.B.A., Architect.

SCARCROFT GRANGE, YORKSHIRE.

This house was practically rebuilt several years ago, the only remaining portion being the twin bay windows to dining-room and school-room on the north. All the new walls are of brick covered externally with rough-cast, with wood cornices and Westmorland slate roof. At the same time a formal garden was laid out to the front of the house. Mr. Sydney D. Kitson, F.R.I.B.A., was the architect, and Messrs. G. Nettleton & Sons, of Roundhay, were the contractors.

THE EFFECT OF RECENT DECISIONS UPON THE ARBITRATION CLAUSE.

At a joint Southern and South-Eastern District meeting of the Institution of Municipal Engineers, held at No. 4, Southampton-row, London, on the 27th ult., Mr. W. Valentine Ball, M.A., Barrister-at-Law, read a paper on "The Effect of Recent Decisions upon the Arbitration Clause." In the course of his remarks he said, referring to the form of contract approved by the Royal Institute of British Architects, that the difficulty with which it was his object to deal, was not likely to arise if the R.I.B.A. form

was adopted in its entirety, because the arbitration clause which was there used expressly provided that the "architect" and the "arbitrator" shall be two distinct persons. The question between the employer and the contractor when the contract was being prepared would be, "Whose name is to be inserted as arbitrator?" That the parties would easily agree to the appointment of a person who was familiar with the kind of work to be done under the contract might be conceded. They would also find it easy, if a perfectly independent person was to be chosen, to select a person eminent in his profession, whose decision would be satisfactory to ratepayers on the one hand and to shareholders on the other. But in recent years the practice had grown up of appointing an engineer or surveyor who was actually in the employment of a municipal or other local authority to act as sole arbitrator under a contract to which that authority was a party. There were probably hundreds of such contracts in existence at the present time.

In actual practice the arbitration clause with which we have to deal to-day closely affected the engineer or surveyor who was employed by a local authority in connexion with the execution of a contract. When disputes arose they were referred to that engineer or surveyor, and the contractor—not unnaturally from his point of view—sometimes tried to get away from the decision of the very man with whom he had

been at issue. He brought matters to a head by ignoring the "agreement to refer." This he did by commencing an action. The local authority then took out a summons pursuant to sect. 4 of the Arbitration Act, 1889, to stay the proceedings on the ground that there was no sufficient reason why the matter should not be referred in accordance with the submission.

The Allegation of Bias.

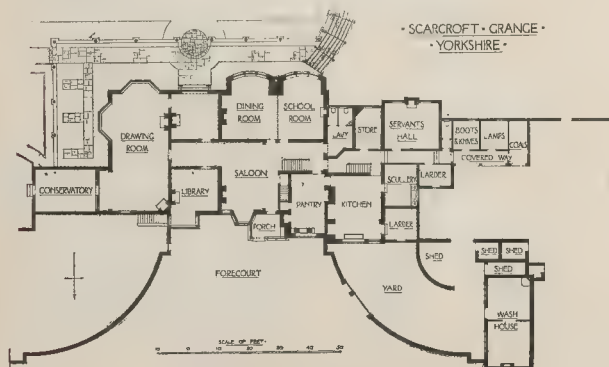
The question was: What would the Court hold to be sufficient reason? It was obvious that bias clearly proved would be sufficient to justify the Court in refusing to allow a particular man to sit as arbitrator; but the question of bias was not easy when considered in relation to a man who was a servant of the employer when the contractor agreed to his name being inserted in the contract as arbitrator. *hypothesis* such a man was obviously bound to his employer to some extent. What, then, was sufficient bias in the legal sense?

The author then dealt with a number of recent and very important cases on this subject, with a view to showing that the time had arrived for local authorities to reconsider their whole position. He said:—

"In order to succeed because of alleged bias a probability, not a mere possibility of bias, must be shown (*Eckersley v. Mersey Docks*, 1894, 2 Q.B., 667). The mere fact that the arbitrator is the servant of one of the parties is not sufficient to disqualify him; for this is a fact which must have been known when the contract was signed.

A distinction is to be drawn between circumstances known to exist at the time of the contract and those which afterwards supervene. For instance, in a Scotch case, a firm of contractors who had undertaken to build a public building agreed with the Town Council that a particular gentleman should act as arbitrator in case of disputes. The gentleman subsequently became elected "Dean of Guild," and thereby, *ex-officio*, a Town Councillor. It was held that this disqualified him from acting as arbitrator (*Edinburgh Magistrates v. Lowndes*, 1903, 5 F., 711).

The case of *Belcher v. Roedean School*, 1901, 85 L.T., 469, shows that the Court will be reluctant to revoke a submission to arbitration on the ground of interest. In that case a contract provided that all disputes and differences arising on a building contract were referred to the decision of the architect appointed by the building owners. The builders issued a writ against the architect for fraud and misrepresentation, and took out a summons to revoke the submission to arbitration. The



itect declined to admit the charges made inst him. It was held that an application revoke a submission to arbitration was one be granted with great caution, and that the mission ought not to be revoked.

here the Arbitrator is Practically Judge in His Own Cause.

It is important to notice that Belcher v. Dean School Board (*supra*) was decided on principle that to have made the engineer arbitrator would substantially have made him go in his own cause. Where, however, the matter in dispute is something in which the arbitrator is only indirectly interested, a pretence to him would not be prevented. For instance, in Skinner v. Uziel, 1898, 24 T.L.R., the plaintiff had employed the defendants underwriters under an agreement. Disputes were to be referred to a member of Lloyd's as arbitrator. A dispute arose, one of the questions being whether it was the general practice at Lloyd's to charge commissions. The Court awarded the arbitration to proceed upon the ground that members of Lloyd's were the most convenient tribunal to decide the fact whether alleged custom to take commissions at Lloyd's existed. It was not impressed with suggestion that a member of Lloyd's would be inclined to find in favour of a practice which followed himself.

It has been held that a mere expression of opinion in favour of one party is not sufficient to disqualify an arbitrator unless it appears that he has so made up his mind as to be open to argument (Jackson v. Barry Lwy Company, 1893, 1 Ch., 238). . . . In a later case (Freeman v. Chester Rural District Council, 1911, 75 J.P., 132), the facts were as follows:—There a contractor brought action to recover the price of certain works constructed for a local authority under a contract which provided for the reference of disputes thereunder to the engineer of the local authority. In answer to a summons to proceedings under sect. 4 of the Arbitration Act, 1889, he challenged the conduct of the engineer in relation to the works, the question being whether the engineer had not eluded himself by his own admissions from stating that the works had not been completed to his satisfaction, and that the period of time had not expired.

The Court (affirming the decision of Mr. Justice Lush), in the exercise of the jurisdiction conferred upon it by the Arbitration Act, 1889, refused to order the action to be continued.

Where the Personal Conduct of the Arbitrator Comes into Question.

In cases already cited have this common feature: the conduct of the arbitrator himself does not form the subject-matter of any of the disputes. In certain recent cases, however, the Courts have laid down a very clear principle applicable in such circumstances. It is that in considering the question whether a person who is the servant of one of the parties to a dispute, the Court should consider the nature of the question which has to be decided. In Blackwell & Co. v. Ormerod, 1909, 75 J.P., 129, the plaintiffs had contracted to carry out certain masonry work for the defendant corporation. The engineer had given a certificate, but had withheld a sum of 1,500*l.* under a penalty clause for delay. The company having brought action, the corporation objected that under the arbitration clause the dispute must be referred to the arbitration of the engineer. To the company's objection on the ground that the case was that the engineer did not allow the company to have proper facilities for proceeding with the work. The Court of Appeal refused to allow the action.

To this extent, then, have contractors secured protection from the arbitration clause; but the principle laid down by the Court of Appeal is likely to be extended. The Courts are very jealous of any interference with contract. The fact that this jealousy exists makes it possible for a contractor to hope to escape the obligations imposed upon him by the contract. If he has under-estimated the amount of excavation necessary, or the amount of materials to be provided for completion, the loss will be his. Again, if he has over-estimated the time which the works will take, or if unforeseen circumstances for which the employer are not responsible have arisen to delay the work, the loss is the loss of the contractor. It is difficult to see how any of the losses arising

from these causes can be avoided if the contractor has signed a contract which binds him hand and foot.

The most recent case on the subject which was heard by the Court of Appeal in March last—namely, Aird v. Lord Mayor of Bristol, Court of Appeal, 1912, shows that the Court will not extend, although it still adheres to, the principle above laid down. If the conduct or dealings with the engineer himself is in question, the matter will be taken from his hands. In that case the dispute arose under a contract entered into between the plaintiffs and the defendants, and dated March 17, 1902, for the construction and completion of a new wet dock at Avonmouth, and entrance lock, two entrance piers, a new wall, and other work in connexion therewith.

The contract contained an arbitration clause referring all disputes arising during the progress, or after the completion of the works, concerning the works or their cost, or the quantity or quality of the materials, or in respect of any additions, omissions, alterations, or deviations made to, in, or from the works or any part of them, to the engineer having the superintendence and control of the works of the Docks Committee of the Council of the City of Bristol, who should be competent to enter upon the subject-matter of such dispute with or without formal reference or notice to the contractors or the corporation. The value of the work done and materials supplied under the contract was 1,923,977*l.* 9*s.* 4*d.* In respect of which the defendants had paid 1,752,761*l.* 10*s.* 11*d.* and the action was brought by the plaintiffs to recover the balance—namely, 171,215*l.* 18*s.* 5*d.*—and damages for breach of contract.

The summons taken out by the defendants for an order staying the action, so that the dispute between the parties might proceed to arbitration in accordance with the arbitration clause, was opposed by the plaintiffs on the grounds (*inter alia*) that the engineer had, by his conduct in his capacity as engineer under the contract during the progress of the works, rendered himself unfit to be arbitrator.

Lord Justice Vaughan Williams, after pointing out that there was nothing in the facts as disclosed to show that the engineer had been guilty of any misconduct, said that of all the matters which had been alleged against the engineer, there were really only two of any substance. As regards these, they did not arise out of the original agreement between the parties; they did not fall within the schedule of prices where the price paid depended on the original schedule. The affidavits stated that specific agreements had been entered into, and that the engineer had departed from them. In such a case it was true to say that in so far as the engineer differed from the statement that agreements had been entered into and actually denied it, he was really acting as arbitrator in his own case. The question therefore to be determined was whether the engineer had in fact entered into these agreements, and whether he had departed from them. In his judgment, there was a strong *prima facie* case made as to the existence of these agreements, as well as a *prima facie* case of a departure from them. He would not go into details, because the action would have to go on, and it was not desirable at this stage to discuss the evidence. Putting it shortly, he was of opinion that in these two matters it was not desirable that the engineer should act as arbitrator. Under these circumstances, therefore, the appeal failed. In the event the trial as allowed to proceed. The last case to which I desire to refer is the decision of the House of Lords in Roberts v. Hickman. . . . It was there held that the grant of a certificate by an architect will not be a condition precedent to the builder's right to sue, if, by writing letters to the employer, and allowing himself to be influenced by his views, the architect has disqualified himself from acting judicially, although guilty of no fraud or improper conduct.

It appears that in this case the architect had written to the contractor: "I regret I cannot enclose certificate, my clients' instructions being that the certificate I next give you is to be a final one, including for a complete settlement of the work done, into which I shall be prepared to go after Easter." He also wrote on another occasion: "Had you not better call to see my clients, because, in the face of their instructions to me, I cannot issue a certificate, whatever may be my own private opinion in the matter."

In this case, as will be seen from the above extract, the conduct of the architect as arbitrator was not considered; it was his conduct in

relation to the grant of certificates which was under discussion.

The Court held in effect that he had so mistaken his position and lost his independence by listening to the employer that the grant of a certificate could no longer be considered a condition precedent to the contractor's right to sue.

Summary of the Cases.

Let me attempt to summarise the cases to which I have alluded. The contractor will not be compelled to submit to the decision of the employer's engineer as arbitrator (1) if the matter in issue is an unseemly personal dispute raising a vindictive feeling between the engineer and the contractor, and the engineer has so strongly expressed his view that it amounts to a prejudgment (*Nuttall v. Manchester Corporation*, 1893, 8 T.L.R., 513); (2) if the nature of the dispute is such that the cross-examination of the engineer is essential; (3) if the matter in issue is something outside the original agreement—e.g., a dispute as to whether the engineer and contractor had agreed to vary the original agreement; (4) if the conduct of the engineer himself is practically the only point in dispute.

Suggested Reforms.

I hope I have said enough to show that, although there are probably hundreds of contracts now in force in various parts of the country in which the arbitrator is the engineer of the employer, circumstances may arise at any time which will prevent his acting when the time for his services arrives. Is it not therefore time to consider what alternative to adopt? I propose to consider a few of them.

(a) *The Deletion of the Clause.*—Deletion of the arbitration clause would involve recourse to legal proceedings for the settlement of all disputes. Doubtless it might open a vista of litigation, and would therefore be rejected on that ground; but there is one fact in this connexion which it is well to bear in mind—namely, that a dispute arising under a building or engineering contract would not come before the Court and a jury, but before a special referee (i.e., an engineer appointed by the Court), or before an official referee. In the result the proceedings would be very similar to those which would take place before the arbitrator named in the contract. It is a trial of this kind which takes place if litigation ensues owing to the failure of an arbitration clause. Save that a reference to an official referee is reference to a lawyer, it very much resembles a reference to arbitration.

(b) *Reference to an Independent Arbitrator.*—Reference to an independent arbitrator appears to present almost if not quite as many objections as a reference to the Court. An independent person, even if he is an eminent engineer, has to be taught all about the nature of the work at the expense of the parties to the dispute. Witnesses to fact must be called in enormous numbers, while the expert witness, whose fees are considerable, must also be called at the expense of both parties. In the result the proceedings may drag on for days or even weeks. There are various ways of selecting an independent arbitrator. He may be named in the contract. If named, his independence may to some extent be affected by his being brought into business contact with one or other of the parties; but they would no doubt select a man who was not likely to have any such dealings with them. His appointment or selection may also be left to the President of the Institution of Civil Engineers for the time being, or to some other eminent personage. To leave it to a person who may happen to be President of an institution for the time being does not appear to be a very wise proceeding, inasmuch as the capacity of such person to select and appoint an arbitrator is a matter of pure speculation. It is much wiser, if it is desired to have an independent arbitrator, to leave him to be selected by agreement when the dispute arises, or, failing agreement, to be nominated by some eminent engineer of known capacity.

(c) *An Amendment of the Arbitration Clause.*—All the above proposals are open to the objection that they entail the expense inseparable from the appointment of an independent person. Numerous questions might arise in relation, say, to a sewerage contract, which could be decided by the engineer on the job without any objection being raised by the contractor. Suppose, for instance, the question was whether the cement supplied was capable of withstanding the prescribed tests. To have to refer such a matter to arbitration would be ridiculous.

Again, the question whether a delay of, say, two days was justifiable could be decided in five minutes by the engineer who had been on the job, but could not be decided until after a long hearing by an independent arbitrator. Short of arbitration by the engineer "on the job," I have endeavoured to make it plain that the next best thing is for the parties to retain their hold over the selection of the arbitrator by means of one or other of the above methods. At present the alternative to the arbitrator mentioned in the contract is settlement of the matter in dispute by litigation. It would seem that by slightly modifying the usual form of arbitration clause the desired result can be attained.

I venture to make the following suggestion: Frame the arbitration clause so as to leave the decision of every question arising under the contract to the engineer, but subject to a proviso that, should it appear to the Court on an application to stay any action or proceeding brought in relation to the contract that the engineer is disqualified from acting as arbitrator, the matters in dispute will be referred to an engineer, to be agreed between the parties, or, failing agreement, to be nominated by the President of the Institution of Civil Engineers. Another alternative is suggested by Mr. E. J. Rimmer, in his "Arbitration Clause in Engineering Contracts" (Constable & Co.). It is that, while preserving the finality of the decision of the engineer upon certain special points, a proviso should be added to the arbitration clause, stating that if any action is brought the defendant may either (a) have the action stayed and remitted to the engineer, or (b) have the matter referred to an independent arbitrator appointed in one or other of the manners above suggested. The same gentleman suggests that the decision in *Aird v. Bristol Corporation (supra)* may be got over by a new clause preventing the engineer entering into any agreement with the contractors unless certain conditions are complied with. I do not attempt to draft a form of clause: the actual wording would have to vary according to the other conditions of the contract and the circumstances of the case.

It might be argued that such an agreement would operate as an attempt to oust the jurisdiction of the Court; but it really would not have this effect. It simply means that the various steps above mentioned must be taken before the law courts can be asked to decide a dispute or refer a matter to an official or other referee.

My researches in this matter have led me to think that what the local authority, which is responsible to the ratepayer, desires in relation to a contract is certainty. Certainty, so far as humanly possible in the matter of price and time; certainty that work shall be done under trustworthy supervision; and last, but not least, reasonable certainty that disputes shall be settled economically and expeditiously by a man in whom they have confidence.

ARCHITECTURAL SOCIETIES.

Manchester Society of Architects.

Mr. H. T. Buckland read a paper on the 11th inst. on "Pitfalls in Professional Practice." Addressing himself to the younger members, he dealt with the small mistakes which architects would make. He said that these stood out in their memory after years of practice as the missed putts to the golfer. Dealing first with damp in walls, he described the bricks of the Midlands, and went on to recommend cement mortar in proportions of 8 to 1, in preference to ordinary hair mortar. He condemned the present tendency to design with flush sills and unthroated copings, and described how a tile creasing in one case had led the water right through the wall. Dealing with roofs, he referred to the unreliability of tiles. Passing on to foundations, he described the dangers of clay in dry weather. After touching on the shrinkage in timber, particularly maple, he went into the question of the responsibilities of architects in law.—A vote of thanks was proposed by Mr. Hardisty, seconded by Mr. Lodge. In responding, Mr. Buckland admitted that he knew a perfect remedy for a smoky chimney, but unfortunately he was unable to publish it to the profession at large.

Leeds and Yorkshire Architectural Society.

A general meeting of this Society was held at the Institute, Cookridge-street, Leeds, on the 12th inst. The President, Lieut.-Colonel Kirk, A.R.I.B.A., was in the Chair. Mr. J. H.

Foggitt's and Mr. Piet de Jong's drawings of a "Tour in Italy" were on view, and a paper on the tour was read by Mr. Foggitt.

Mr. de Jong (who was the joint winner of the Soane Prize last year) shows great versatility in his work, which comprises measured drawings in pencil and colour of palaces in Florence, tombs and fragments from the Forum at Rome, water-colours in Venice, and numerous examples of work in Assisi, Genoa, Siena, etc.

Mr. Foggitt also has a fine and interesting show, his drawings and sketches in pencil being crisp and the detail truly rendered. His measured drawings of the Church of S. Maria del Popolo are very well executed.

A vote of thanks was proposed by Mr. A. Winch, A.R.I.B.A., seconded by Mr. J. Braithwaite, A.R.I.B.A., and supported by Messrs. C. B. Howdill, A.R.I.B.A., and Douglas Bowman.

The Architectural Association of Ireland.

An ordinary meeting of this body was held at the Rooms, 15, South Frederick-lane, on the 10th inst., the President, Mr. Geo. L. O'Connor, F.R.I.A.I., in the chair. Messrs. Thomas B. Lowey and Horace F. S. Clay were elected members of the Association. Mr. Hubert Briscoe delivered a lecture, entitled "Through the Balkans to St. Petersburg and Moscow," consisting of an architectural, geographical, and historical survey of the vast northern kingdom. The lecture was fully illustrated with lantern views descriptive of Russian life and architecture. Mr. J. H. Webb, M.R.I.A.I., and Mr. Edwin Bradbury, M.R.I.A.I., proposed a vote of thanks to the lecturer, which was supported by Professor Seymour and carried with acclamation. The President announced that the next ordinary meeting would be held on Tuesday, January 14, 1913, when Mr. J. Hubert Worthington, M.A., will deliver a lecture on "The Culminating Period of Italian Renaissance."

The first visit of the session to buildings in progress was paid on December 5 to the new play centre, St. Patrick's Park, Dublin, which is being erected through the generosity of Lord Iveagh. Mr. Reid, member of the firm of Messrs. MacDonnell & Reid, architects for the building, conducted a large party over the works and explained the various interesting features of the scheme.

THE SURVEYORS' INSTITUTION: ENGLISH TIMBER: ITS MARKETS, VALUE, AND PRODUCTION.

At the ordinary general meeting of the Surveyors' Institution, held on Monday, December 16, Mr. M. C. Duchesne read a long and interesting paper on "English Timber: Its Markets, Value, and Production." We take the following extracts from the paper:—

"English timber—as is shown by the daily decreased demand—is continually being ousted by the foreign timber in almost every market. I know of existing markets for English timber which will be lost in the near future. Some of these have been looked upon in the past as the backbone of the local trade. In very few of these instances is this loss due to the inferiority of English timber to foreign, but either to the natural change of market demands and altered conditions, or, more often, as in the case of underwood, to unorganised marketing. There are new and good markets in plenty to take the place of existing ones as the latter die out, but all these are captured at once by foreign timber owing to its superior organisation. The out-of-date methods of many English timber merchants have compared most unfavourably with the foreign trade, both as regards converting and marketing the timber, and especially studying the consumer's requirements.

The processes by which English timber markets were captured by the foreigner were gradually developed over a number of years. The latter's whole policy has been to market timber by the best and most economical methods, to organise the supply to meet the demand, to advertise the advantages of the produce offered for sale, to find fresh uses for it, to cultivate new markets, and especially to consult the requirements, convenience, and wishes of customers. In the result architects now almost entirely omit English timber from their specifications, even when they might be anxious to specify it.

One may ascribe this partly to the ease with which any particular variety and quality of foreign timber is obtainable, partly to the many

incorrect impressions about English timber that have obtained a firm foothold. Should an architect wish to specify English oak he is usually informed by the contractor that there is none to be obtained. Again, many absurd and incorrect beliefs are held by architects regarding the sizes, and especially the quality, of English timber. This is mainly the result of unfair comparisons between English and foreign timber made by those who are interested in the latter. What should have been everyone's business has been no one's business, and hitherto nobody has taken steps to ensure fair treatment for English timber.

English timber has also been hit by the methodical marketing, which failed to ensure a regular supply. On many estates it has been the usual custom to sell timber only when money was wanted for payment of death duties or for other special purposes; at other times no timber was sold. If such methods were applied to other industries—if, for example, iron-ore were to be sold only when the mine-owner needed money—I think you would appreciate the serious effect such a policy must have on any industry.

The fluctuating and uncertain supply of English timber assisted the foreigner. It enabled him to provide just what was required at any time, and thereby secure our markets. He was competing against a local, disorganised, and small trade, and so could defeat the English timber merchant almost everywhere. It must be admitted, of course, that the foreigner enjoyed many great advantages; the chief of these he had very large supplies of cheap but excellent virgin forest available. Moreover, this country being an island, many of our best markets could be reached by water transport, the cost of which is small in comparison with conveyance by road or railway, and our large shipping and coal industries insured low freights. The many advantages the foreigner possessed were often advanced to excuse us for not taking steps to compete with him. One should remember, however, that the foreigner also had great difficulties to surmount which we are spared in this country. For instance, the problem and expense of transporting timber from the mountains to the seaports; difficulties as to power, labour, shipping, keeping in touch with our markets, and many other matters.

By organisation we should ensure constant and regular supplies. Not until these are forthcoming for a given purpose can we expect consumers to purchase supplies grown in this country. As in the case of underwood, instead of relying on local competition by local buyers with local demands for comparatively local industries we must proceed on much broader lines. I would remind you of the unlimited home market for timber—totalling approximately 30,000,000, per annum—which illustrates the fallacy of an argument I often hear advanced to the effect that English timber realises a poor price in a particular district on account of "the glut of English timber in the market." The actual fact is usually quite the reverse. The difficulty is more often to obtain sufficient supplies.

Another fallacy which I should like to expose is that the consumer always purchases foreign timber, because it is cheaper than English. Study the quotations in the various building and other journals where the current prices of imported timber are given, and you will realise the falsity of this statement.

There is one great advantage which we possess, viz., the great natural superiority of the varieties of our timber, especially our hardwoods. All authorities admit that there is scarcely a country in the world where timber of finer quality can be and, in many instances, is grown. This may be due largely to our climatic conditions and geographical position and to the superior timber produced by our indigenous trees. All authorities are agreed that for tensile strength, durability, and other important qualities there is no oak in the world to compare with English oak. The same remark applies to other of our native timber, especially English ash. The unique qualities of our native timber for special purposes points to the advisability of advertising the fact to the consumer. I attribute the loss of several of our best markets to the fact that we do not advertise our goods sufficiently to induce the consumer to pay a higher price for an admittedly superior article.

I have heard of English oak being set aside and a contract placed for foreign oak merely to save 1d. per cubic foot, notwithstanding that the timber was required for constructing railway goods wagons. Anything more ridiculous is

possible to imagine, and I shall contend that such purposes English oak is worth 50 per cent. more than any other oak in the world. The reason for this fact is not properly appreciated by the consumer in many cases does not appreciate it; and, to use a simile, because he has been so used to getting 1L for 10s. he thinks it only worth 10s. In any case, what is a 1L increase in the cost of the raw material compared with greater liability to repairs or in breakdowns?

Timber for Building Construction.

I have already referred to the unfortunate fact that architects at present almost entirely use English timber from their contracts. There are many varieties of English timber which might be more extensively used, but I, too, must confine my remarks to the question of oak, using this timber as an illustration. There is no question that for oak (selling, oak beams, oak entrance-gates and sills, and oak block floors there is no oak which can compare with our native wood, and its fine qualities and rich appearance are a figure.

One of the principal objections advanced against our native oak is that it is harder to work than the foreign. Speaking generally, it is quite true, but it is at once a proof of superiority. Nearly all valuable woods are so difficult to work than inferior. The prejudice against English oak under this head is very responsible for other objections advanced against its use, such as that it is more likely to split or warp. But consider the lovely old English oak of which there are so many examples everywhere. I am certain that if we will use as much care, knowledge, and skill in the conversion to-day as our forefathers used there would be little foundation for these objections. There is no branch where less knowledge and skill is brought to bear than in seasoning, and also the conversion of English oak for such purposes as interior work.

I have often argued the undoubted advantages that quartering oak has over our present methods of converting it, but I seldom get an experienced man who has ever considered the question seriously. About the only reason for oak not being properly quartered is that there is more waste in conversion. If this is to be advanced as an excuse, I would suggest that it is actually an excuse for incompetence, and an illustration of the disadvantage of conducting the timber trade on too small a scale.

If a business is conducted on a large scale, and a man knows his business, there is nothing which he cannot make use of in the oak-tree, even excepting the sawdust or the bark, as we are capable of being utilised to-day. Again, in this case the quartering of oak depends on the diameter of the log; but, as the London contractor—so one informed me—has to pay more for inch boards of English oak than for Spanish mahogany, I am convinced there is a large and lucrative trade to be done by architects. This conviction has been confirmed by conferences which we have held with them during the past twelve months.

Timber for the Furniture Trade.

It is common knowledge that the timber in demand for this industry is beech, as in the case of High Wycombe, Chesham, and other centres. There is also invariably a good demand for the best beech to be cut on the interior for wren-planks for pianofortes. Where such is converted for this last purpose it is desirable to include in the conversion the fitting of brush-backs, so as to utilise the upper or inferior parts of the tree. The furniture trade's demand for English nut for veneers and reproduction of old-time furniture, such as Jacobean, far exceeds supply.

Yew is another tree which has value for the furniture trade, partly for veneers for desks, etc., but also largely for export to France or Paris to go through the process of turning. Owing to the rich appearance of yew when treated in this manner a greatly increased consumption may reasonably be expected.

English oak is not popular generally in the furniture trade, being so hard to work. I am prepared to admit that for many details furniture foreign oak is more suitable than English, except for reproductions of old styles of English oak. At present I do not look to the furniture trade for a greatly increased demand for English timber except in one direction.

I should like to have treated in detail the one exception to which I refer, namely, the cutting of veneers and the manufacture of two and three ply wood, but it is far too extensive a question. There is undoubtedly an enormous future for this branch of the trade; in fact, the whole system of veneering opens up enormous possibilities for the use of substitutes in the place of solid wood. I have recently seen a log of English oak converted into leaves of veneer, of which there were 110 thicknesses to an inch. It might interest you to know that veneers of this thickness are sold in the trade at 2s. 6d. per 100 super. ft. Although this may seem a cheap rate, I will leave you to estimate what is the value of the raw material. I need scarcely add that it is only specially selected burls, mature and absolutely free from knots, that are suitable for veneers.

The various branches of the furniture trade cover a very wide range of goods, and there is scarcely a single wood which is not valuable for some purpose or other—lime, pear, hornbeam, and even holly being included in this remark.

The English Forestry Association.

It is impossible to explain in a few words the detailed policy of this Association, but its objects may be summarised briefly under two heads:—

1. To encourage the demand for English timber (and coppice), to advertise its superior qualities, to encourage its use by consumers, to organise the markets, and to assist the consumer to secure sufficient and regular supplies with the least possible trouble.

In pursuance of this first part of our policy the following are a few of the special steps we are taking (or have taken):—

(a) We are holding conferences with architects, railway and colliery managers, and representatives of other special markets to which I have alluded.

(b) We propose to distribute in the proper quarters information dealing with the different varieties of English timber and pointing out its special qualities for any particular purpose, and its advantages as compared with other timber—e.g., English oak for railway goods wagons, etc., English or Russian larch for fencing, etc., larch or Baltic fir for barge building, etc.

(c) We shall endeavour to give the fullest publicity to some of these points, so that the general public will insist on purchasing, and be willing to pay more for, the superior article—e.g., English oak for panelling, block flooring, entrance-gates, etc.

(d) We hope to act as a central bureau to which consumers can write on any point relating to English timber, and especially as to where supplies can be obtained. Architects wishing to specify English oak for panelling, or coopers desirous of purchasing English barrel-copps, will then know where to apply for information.

(e) We hope to organise new and to revive old woodland industries, and to take all necessary steps to ensure proper markets for our coppice and timber.

The above steps must have a beneficial effect on English timber: in fact, we can already point to good results. Moreover, we shall do everything to ensure a proper supply of the timber to meet the demand, and endeavour to bring about a proper organisation of the marketing.

2. To supply all information relating to English timber (and coppice), especially its marketing, and to assist members in every way possible in the sale by placing them in touch with the best buyers and taking steps to ensure them the best price obtainable.

To remove any misapprehensions I wish to emphasise that this is not a trading association, and we do not propose as a body to buy or sell any timber. We do not, therefore, compete with timber merchants. On the contrary, by creating a healthy demand for English timber, and improving the present position, we must do them a great deal of good, especially as we leave it to the recognised channels to supply this demand.

We do not charge commission on the sale of timber or otherwise, so we do not conflict with agents or auctioneers. We prefer in all cases to leave the actual negotiations on the sales of timber to be carried out between agent and purchaser. It is quite impossible for agents, with their numerous and increasing duties, unaided to keep in the close touch with markets that is so necessary to-day.

We limit our ground to the marketing and the commercial utilisation of timber, so that we do not interfere with the Arboricultural or any

other existing society, and we hope to work in cordial co-operation with all other bodies.

Let me now enumerate some of the advantages to be gained by

Combination in the Sale of Timber.

1. Permanent improvement in prices, by ensuring a full and regular supply of any description of timber for any special market. In many instances the greater the quantity of timber that can be relied on the better the price for every cubic foot.

2. Wider markets, since the larger the supplies of English timber from any district to any distant market such as collieries—the lower would be the cost of transport. A special traffic could be inaugurated, or special rates obtained, and alternative method, such as combined road haulage and shipping, could be organised.

3. Increased competition in the sale of timber by the introduction of buyers from a distance that it facilitates.

4. Additional strength obtained in fighting foreign timber or coppice.

ENGINEERING SOCIETIES.

The Society of Engineers (Incorporated).

The third annual general meeting of the Society of Engineers (Incorporated) was held at the Society's offices, 17, Victoria-street, on the 9th inst. Mr. John Kennedy, President, being in the Chair.

The Report of the scrutineers of the postal ballot for the election of Council and officers for 1912 showed that the following had been duly elected:—President, Mr. Arthur Valon; Vice-Presidents, Messrs. H. C. H. Shenton, Norman Scorgie, T. E. Bower; Members of Council, Messrs. Henry Adams, C. F. Walrand, Percy Griffith, H. C. Adams, J. R. Bell, S. Cowper-Coles, H. P. Maybury, B. H. M. Hewett, F. H. Hummel, G. A. Becka; Associate Member of Council, Mr. E. J. Simpson; Hon. Secretary and Treasurer, Mr. D. B. Butler.

It was announced that premiums for papers read at meetings and published in the *Journal* during 1912 had been awarded as follows:—The President's Gold Medal to Mr. W. P. Durnall for his paper on "The Generation and Electrical Transmission of Power for Marine Transportation."

The Bessemer Premium, value 5l. 5s., to Professor Herbert Chatley for his paper on "Resistance to Rolling."

The Clarke Premium, value 5l. 5s., to Mr. Gerald O. Case for his paper on "Ligno-Concrete."

The Burnays' Premium, value 2l. 2s., to Mr. J. P. Harris for his paper on "The Construction of a London County Council Low Level Sewer from Battersea to Deptford."

A Society's Premium, value 2l. 2s., to Mr. P. J. Waldram for his paper entitled "Test Deflections in Reinforced Concrete."

GENERAL NEWS.

The Christmas Holidays.

Next week the *Builder* will be published on Tuesday, the 24th inst., and to ensure attention all communications should reach the Editor not later than first post on Monday morning.

The Late R. Norman Shaw's Estate.

The estate of the late Richard Norman Shaw, R.A., is of the gross value of 104,627l., whereof the net personality has been sworn at 99,461l.

The Late E. B. I'Anson's Estate.

The estate of the late Edward Blakeway I'Anson, M.A., F.R.I.B.A., F.S.I., Surveyor to St. Bartholomew's Hospital and the Charterhouse, etc., is of the gross value of 87,194l., of which the net personality has been sworn at 70,746l.

The Late Mr. George Wilson's Estate.

The estate of the late Mr. George Wilson, F.R.I.B.A., of Edinburgh, has been sworn at 30,405l. gross.

Carpenters' Company Lectures.

The Carpenters' Company has again issued particulars of a course of lectures to be delivered in their hall on the arts connected with building. The names of the lecturers are a guarantee for the excellence of the intended lectures, and the whole series is an interesting one to artists

and craftsmen connected with buildings. The first lecture will be given on January 8 next at 7.45 p.m. by Sir Alfred East, R.A., the subject being "The Value of Colour to the Crafts."

Rebuilding of the G.P.O.

At a meeting of the Corporation at the Guildhall on the 12th inst. the Improvements and Finance Committee reported that the Postmaster-General had inquired if the Corporation had any schemes for public improvements as a result of the rebuilding of the General Post Office beyond the widening of Aldersgate-street, as in rebuilding on the site at St. Martin's-le-Grand it would be necessary to adapt the buildings to any widening improvements in the locality. The Committee suggested that Cheapside should be widened to 95 ft. at "Sweeting's Corner." That would involve the acquisition of additional land belonging to the Post Office and the setting back of Nos. 157, 157A, and 158, Cheapside. The Committee recommended that that course should be taken, subject to the London County Council's paying half the net cost. Mr. Seville moved the adoption of the Report. Mr. Deputy Wallace suggested that the Report should be reconsidered with especial reference to the necessity for simultaneously widening Newgate-street. The Court eventually adopted the Report.

Richmond Bridge.

A town's meeting was held at Richmond on the 17th inst. to consider resolutions urging upon the County Councils of Surrey and Middlesex the necessity of either widening the existing bridge across the Thames at Richmond or building a new one. The bridge is only 16 ft. 9 in. wide in the roadway, with footpaths barely 4 ft. wide on either side. After the meeting had expressed itself in favour of the erection of a new bridge a resolution was adopted declaring that the Middlesex and Surrey County Councils should be asked to consider the best means of improving communication between Richmond and Twickenham. A second resolution, recommending the authorities responsible to seek assistance from the Road Board, was carried unanimously. It may be of interest to mention that a plan showing a scheme proposed by Mr. Sydney J. Tatchell, F.R.I.B.A., for the improvement of Richmond, including the provision of a much wider bridge, was given in our issue for March 20, 1909.

A New Municipal Art Gallery, Dublin.

At a meeting held in the Mansion House, Dublin, a few days ago, a resolution moved by Sir Walter Armstrong was carried unanimously to take the necessary measures to enable the Corporation to avail themselves of an offer made to them by Sir Hugh Lane. Sir Hugh Lane has offered to present his collection of pictures, provided that before the end of next month some practical steps shall have been taken to erect a permanent gallery in a good situation for the collection as a whole. The Municipal Art Gallery is at present housed in Harcourt-street; it is suggested that a fresh site be chosen in the centre of the city, namely, in the park in St. Stephen's-green, presented by Lord Ardilaun many years ago. A subscription list has been opened, towards which a contribution of 2,500*l.* is conditionally promised by a resident in Canada.

United Service Club.

The "Senior," the oldest of the Service clubs in London, reopened their club-house in Pall Mall a few days since upon the completion of the enlargement, with many alterations, carried out by Messrs. Thompson & Walford, the architects. To Nash's structure of 1826-8, since extended on the east side (in 1842-60, by Decimus Burton), a further frontage of 40 ft. is added upon the site of two adjoining houses in Pall Mall. That site was taken for a large dining-room, with which is incorporated the old smoking-room, on the ground-floor, with a private dining and committee room on the first floor; and, on the second floor, thirty-nine bedrooms and bath-rooms. The old dining-room (south), facing the garden, is converted into a fine smoking-room; a new cardroom and a second billiard-room are provided. Messrs. Haines have cleaned and glazed many of the pictures, including the naval and military portraits. The new heating and ventilating arrangements are by Messrs. Kirkland & Capper.

Whitgift Hospital, Croydon.

The further widening of North End, Croydon, near the Whitgift Hospital, was again discussed by the Borough Council on the 16th inst., with the result that the old Elizabethan almshouses, as far as that authority is concerned, are now saved from demolition. The Council adopted, by thirty votes to eighteen, a plan of widening which will carry the new line of frontage across to the other side of the road opposite the hospital, thus leaving it intact. The scheme is estimated to cost 164,000*l.*

BOOKS.

An Account of Medieval Figure Sculpture in England. With 855 photographs. By EDWARD S. PRIOR, M.A., F.S.A., and ARTHUR GARDNER, M.A., F.S.A. (Cambridge: At the University Press. 1912.)

OUR first words are those of congratulation to the authors of this handsome volume. However apparent those influences which cannot be claimed as indigenous, influences which may be recognised alike in the Gothic architecture and sculpture of England, we cannot doubt that an indisputable case has been made out for the recognition of a distinct "school," or style, of native sculpture. Should it still be doubted, so careful has been the present survey, so closely-drawn a net has been cast around the subject, that it may be safely asserted that no further evidences can be forthcoming. It has been approached from the standpoint of motive, story, development, local peculiarities, materials—from every aspect which can complete the thoroughness of its treatise. All those acquainted with Mr. Prior's "History of Gothic Art in England" will be sure that he will prove as jealous a custodian of national prestige with regard to sculpture, as he showed himself in architecture. And this, indeed, is the case. There are, however, those who regard medieval art as something which is primarily, at least, beyond any one national claim, who look at it as a manifestation embracing the whole of western civilised Europe, and note its differences as secondary characteristics only. We would rather take this view of it ourselves—a view that is far more ready to admit the introduction of outside influences, than the authors of this book would possibly admit. Yet at the outset they make a bold concession in ascribing the style and the carving of Anglo-Saxon crosses of the VIIIth century to foreign sources. But this spirit of concession does not extend far, for they claim the Bradford-on-Avon angels, and the Romsey rood, as evidences of a Saxon school of sculpture. We find it difficult to isolate and establish English characteristics much before the XIIIth century, while in many examples of that period we must recognise French influence. But, broadly speaking, the sculpture of that period displays a style not only that is individual, but a style that is of the highest order. While preserving its traditions, traditions handed down from Greek sculpture, a style was evolved that was entirely new and original. It was the work of the mason. But with the XIVth century came the sculpture imagers, and under their hands the new and original was torn from the traditional to which these elements were bound, and the result belonged no longer to that high order of which we have spoken. These imagers must be classed with the shop sculptors, the producers of effigies, although this particular trade adhered to the traditions of their calling and continued to turn out good work throughout the century. These effigy-makers had their headquarters at London and Purbeck, and established what the authors speak of as the London School. Such a term of distinction may reasonably be applied in this instance. French influence is noticeable here as is Flemish in the Eastern counties. But the number of local "schools" distributed throughout the country to which our attention is drawn is something new to us. We find it difficult, for instance, to identify an "Exeter School," and relate the evident decadence exhibited by the sculpture upon the western screen with other local examples. We fail to notice the dominant contrast of handling that one meets with in Greek sculpture between examples that are contemporary, such as the style in which the Phigalean frieze is conceived, and that of the Temple of Victory, although many of the groupings are identical.

But comparative methods such as these, as employed by the authors, show the thoroughness

with which they have dealt with their subject, and, whatever classifications may be adopted, the splendour of the XIIIth century sculpture at Wells, Salisbury, Durham, and Westminster emerges, and arouses the admiration of the reader.

Staircases and Garden Steps. By GUY CADOGAN ROTHLEY. (London: T. Werner Laurie. Price 6s.)

OF all the features of interior building construction, stairways and fireplaces have been the most backward in development.

Regarding the latter, a writer says, in 1557, that in his young days there were not above two chimneys in "all uplandish towns." The dangers attendant upon their use prevented the advance of both; of attack in the one case and of conflagration in the other. Advance in house planning was kept at bay by these two considerations. It is the first case we are now considering. So long as dwellings were fortified it was necessary for stairways to be capable of defence, for which reason they were often external, or if admitted into the dwelling, were narrow and spiral, confined to a turret or within the thickness of the wall.

The protection offered by the courtyard plan of the Tudors was taken advantage of. Staircases were multiplied leading to the various parts of the building. Abroad, where this method of planning was more common, a broad flight led up from the yard, as at the Bargello, Florence. Broad flights were no new thing. They date back to the earliest Assyrian palaces, but they could have no place in defensive architecture. Even when the change came, stairs were relegated to the most obscure corners, and a descriptive term rather than "staircase" was "stairhole." That a staircase could offer welcome rather than defiance, was a conception reserved for a later style of architecture, when it took its place as an integral part of house planning. The ample and serviceable staircases of the Elizabethans, and the noble flights which figure in the palatial architecture abroad, and the Georgian at home, made this feature one of the most important in the hands of the skilful planner.

Such is the history of the staircase as it is set forth in the book before us. It would have been greatly assisted by additional plans, which might with advantage appear in a subsequent edition.

"Garden steps," again, for which a chapter is reserved, when treated with the science and success that they were in Italy, calls for fuller illustration and deserves ampler treatment.

BOOKS RECEIVED.

THE ART AND CRAFT OF GARDEN-MAKING. By G. H. MANSION. (London: B. T. Batsford. 2*l.* 10*s.* net.)

INSURANCE SHAREHOLDERS' DIRECTORY, 1912-1913. (Manchester: The Policy-Holder Journal Company, Ltd. 2*s.* 6*d.*)

A HISTORY OF ENGLISH GLASS PAINTING. By Maurice Drake. (London: T. Werner Laurie. 2*l.* 2*s.* net.)

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Lord Chylesmore, Chairman, presiding.

Loans.—The Finance Committee recommended and it was agreed that loans should be made to Borough Councils as follows:—St. Pancras, £1,76*l.* for electricity undertaking; Stepney, 7,150*l.* for site for depot; Shoreditch, 5,200*l.* for housing; and Westminster, 56,000*l.* towards improvements.

Regent's Park.—The attention of the Chairman of the Parks and Open Spaces Committee was called to "the large buildings which have been erected in Regent's Park in connexion with Bedford College," and was asked if he would take steps with a view to an urgent representation being made against the erection of any additional buildings in the Park. The Chairman replied that the whole matter was being considered by his Committee.

New County Hall.—In a Report presented by the Establishment Committee it was recommended that tenders should be invited for the erection of the superstructure of the new County

After some discussion, during which the Chairman of the Committee stated that eighteen members were to be invited to tender, of whom seven were London firms, the recommendation was agreed to. It was also decided, in order that the execution of the masonry and stonework might be effectively supervised on behalf of the Council, a form of contract should provide for a joiner and stonework, except granite, to be prepared within a radius of 20 miles from the Cross.

The next meeting of the Council will be held on Tuesday, January 21, 1913.

CORRESPONDENCE.

"A Thoroughly Up-to-Date Society."

SIR,—In common, I believe, with nearly all members of the R.I.B.A. I share the regret expressed in your leading article of November 29 which my attention has recently been drawn to on the policy of the Society of Architects officially enunciated in the President's annual address.

Mr. Tubbs is correct in stating that the main object of the Society's creation and the source of its early success was the promotion of the stipule of the compulsory training of all architects, and we know that it has since done no service in this cause. That this was a feeling and much-needed movement twenty years ago when the R.I.B.A. was against reform of the kind has been amply proved by subsequent conversion and its present efforts to obtain an Act if a workable one can be devised. It is a pity that instead of holding a watching brief for the fulfilment of its ideal it should be proposing to trespass on the principal functions of these examining teaching bodies.

Such a movement as the establishment in London of ateliers on the Parisian plan is feasible. It is without doubt in the best interests of architecture (which the Society professes to be) that the Architectural Association or the London University should organise such additional facilities for study. But your article offers very sufficient reason for pause before interfering with a rapidly maturing and thoroughly English system of training in the form of a continental course.

The Society originally laid down for its object the following lines:—

"That the R.I.B.A. was the proper body to promote and pilot such a Bill through Parliament."

"That the Institute should, if possible, be the sole examining body under any registration of architects. The Society wisely deprecated the multiplication of avenues into the profession, greatly increasing the difficulties of training, and hindering unanimity of the profession in efforts to uphold high ideals of practice and discipline. Many of us feel that a false step taken by the Society some years ago in publishing an examination of its own in opposition to these first principles, and, in my humble opinion, it will be making another false step in the same direction if it should pursue its projected scheme; though no one can expect to succeed in face of the present ample training facilities."

The Society would seem to have plenty of work before it in forming professional opinion, and in criticising or assisting the R.I.B.A. in the great and difficult project which it has undertaken.

W. H. SEFT-SMITH, F.R.I.B.A.

Should the Names of Assessors be Known?

SIR,—I have read in your issue of the 13th inst. a pleasure and interest the two kind critics of my open letter to the R.I.B.A. by my friends, Mr. W. A. Pite and Mr. P. Morley, and, would like, in reply, simply to ask a question. What ghost of a chance would the name of a really good English design with a touch of flavour of Tudor have had in the recent competition for the Manchester Art Gallery, or any other public building competitions—London County Council Offices, for instance? Mr. Pite's suggestion, with regard to the R.I.B.A. in making the assessing of all competitions, is admirable, if the Institute could be induced to give up its present advocacy and bias in favour of a particular style. I quite agree that no architect should compete unless a competent professional referee or body of assessors be called in to judge the work. But if

those judges, or that judge, is pledged to a Classic style, no English need apply! In short, the Tudor man has no chance.

Can it, then, be truly said that the influence of the assessor is negligible? It is not a question as to whether the lay public care or do not care if it is so. But it matters awfully to the future of architecture if all those are excluded who will not hold the candle to the devil and try to work in the fashionable style of the period.

I agree with Mr. Morley Horder that it would be far more difficult to make a modern town hall on Tudor lines than on Renaissance lines, because in the one case the elevation grows out of the plan, but in the other the plan is squeezed into the elevation. One system is creative, the other is adaptive. C. F. A. VOYLES.

Logic in Architecture.

SIR,—Your leading article under the above title in your issue of December 6th must commend itself to everyone who perceives and deprecates the lack of that quality general in British contemporary design. There is, however, one passage therein which I do not suppose that the writer either expects or desires to pass unchallenged.

Rejecting the school of Cockerell as "more or less exotic," he says, "we believe that in our own Renaissance, in the work of Inigo Jones and Wren and Chambers, we have models on which to base our work, and from which we can reasonably hope to develop a suitable style for the needs of to-day, and that such work is a much safer basis on which to build than that of the Neo-Grec or any so-called 'revival.'"

This is a point of view held by very many people, and the exact opposite is also held by very many people. Are we to have "the battle of the styles" again? I trust not. Nevertheless, I ask your indulgence for presenting the contrary standpoint.

I take it that the Jones and Wren school put their trust in the union of a sober and restricted classical vocabulary with the charms of colour and texture. They will endure no attenuated orders, no flat-pitched pediments, no pilasters of very slight projection, no shelf-like cornices bereft of bed moulds, no extremes of bas-relief externally or internally, no stucco, no thin iron sash bars, no "44-in. window reveals," etc. All these to them are "marks of the beast." They would have their buildings well quoined and corniced, thoroughly key-blocked and sash-barred, externally of honest red brick or Portland stone, internally wainscoted and plentifully garnished with pendent green-grocery; like this, and only like this, may a house or a town hall or a public library be.

Now we cavillers are not content with such limitations. The heavy entablatures get in our way sometimes, and we sigh for the licence of Mr. Robert Adam in this respect. We want broad three-light windows without the obligation to arch the middle light, we want to apply pilasters without immensely thickening the basement wall on which they stand, we want to use stucco without having to construct heavy projections, we want plate-glass French windows sometimes, bay windows often, we want trellis verandahs, stairs with continuous handrails, deep-shelved chimney-pieces, and rooms in which the decoration is in scale with delicate furniture.

All these Messrs. Jones, Wren, and Chambers withhold from us, no matter how ungratefully we receive the insistent keystones, the shouldered architraves, the broken pediments, and trophies of edible objects which are offered to us as the all-in-all of decoration.

Since the death of Chambers what has been added to the resources of his style? Something by Bonomi, something by Brydon, something perhaps by Norman Shaw. But Cockerell's was no limitable repository of this kind—he was no imitable quarry of unnumbered mines. And this is what we, too, must endeavour to achieve.

I do not suppose for an instant that the modern movement in England, most improperly called the "Neo-Grec," is destined to supplant anything worth having in our older "English Classic" tradition. But I do suppose and trust that it will make much that to-day escapes criticism beneath the loose cloak of "Jones and Wren" impossible. The new manner is a rigorous one in which mere colour and texture avail nothing, and in which the bad work will stand forth naked, and, let us

hope, ashamed. The tide rises, soon it will be at the flood, and soon, too, it will have ebbed. What may succeed then none can tell now, but it would seem safe to prophesy that the waves of "Neo-Grec" will leave some treasure on the sands. And the funds of architecture at present are very low.

H. S. GOODHART-RENDEL.

Pugin and Ruskin.

SIR, Mr. Randolph's letter in your issue of December 6 courteously points out that to speak of Augustus Welby Pugin as "the ardent lieutenant" of Ruskin is misleading. Its meaning clearly is that Ruskin led the way, and that Pugin supported.

It may, therefore, be useful to give a few dates. Pugin published his "Contrasts" in 1836; his "True Principles" in 1841. In both works he denounced shams and advocated truth in architecture in clear and vigorous English, and with no little humour.

It was not till 1849 that Ruskin's "Seven Lamps of Architecture" appeared; nor was the first volume of his "Stones of Venice" published before 1851. In these John Ruskin proclaimed, in poetical and beautiful language, the principles which Pugin had laid down many years before. The charm of Ruskin's prose was already famous through his "Modern Painters" and other writings, so that he certainly commanded a larger audience; but to speak of Pugin as his "lieutenant," in any sense, is an injustice which, as one who knew the man, I would correct. For this injustice does not stand alone. Even in the able article in the "Encyclopædia Britannica" the writer speaks of Pugin having designed much of the detail of the Westminster Palace "when he was working as paid clerk" to Barry. Pugin was living at Ramsgate and carrying on his own practice as an architect while supplying Barry with the details for the new building at Westminster. Those details included stone carving, wood carving, metalwork, tiles, stained glass, furniture, paperhangings, stuffs; besides many architectural schemes for the internal treatment. It is not many months since I deposited in the Victoria and Albert Museum a considerable number of these very designs. But to describe Pugin as Barry's "paid clerk"! On the whole, it is perhaps lucky for the writer that Pugin is dead.

J. D. CRACE.

INTERCOMMUNICATION COLUMN.

Clay Foundations.

SIR,—Having to do with an estate with clay foundations, I was much interested in the correspondence in the *Builder* of October 13, 1911, as I found that some of the buildings had sunk, leaving cracks. I was not anxious to do any underpinning work, partly owing to the expense and partly owing to my hope that with wet weather the clay would swell again and push the buildings back into their proper position. This had happened on a former occasion some years ago, though I regret I did not take notice of the dates. It may, therefore, be of some interest to you to know that, probably as a result of the recent exceptionally wet summer, the portions of the buildings which had subsided have almost resumed their normal position, and the cracks are almost filled in. I hope that with further wet weather, which may be anticipated during the winter, the cracks will entirely close. If this experience is borne out by others, it should be possible to prevent buildings erected on clay foundations from moving, by letting pipes vertically into the ground, one end just below the foundations, and the other at the ground level, and pouring or forcing water into the clay in exceptionally dry seasons. M. B. C.

TOWER AND STEEPLE, ST. MARY-LE-BOW, CHEAPSIDE.
Messrs. Dove Brothers, of Tokenhouse-buildings and Islington, are restoring the tower and steeple of St. Mary-le-Bow, Cheapside, and reinstating with new the stone worn by exposure to the weather and fractured by the iron cramps inserted when the spire was first erected. The defective slate covering to cornices is also being removed and replaced by sheet lead. Some thirty years ago the same firm removed and renewed two of the large stone columns to the base of the steeple, effecting this drastic restoration without the slightest settlement in the structure. The work has been carried out under the superintendence of Mr. E. S. Underwood, of Queen-street, Cheapside, E.C.

ILLUSTRATIONS.

Stockport Police Buildings.

WE illustrate herewith the first promulgated design, by Messrs. J. T. Halliday, A.R.I.B.A., & C. Paterson, A.R.I.B.A., for the Stockport Police Buildings. The unusual nature of the site largely dictated the planning of the scheme. The front portion adjoining the main street consists of a bank rising some 25 ft. above the rest of the site, as shown in the section. The opportunity thus presented was taken to arrange the courts, public rooms, offices, etc., on the street level, and to place the cells and police quarters on the lower level, approached from the drill-yard, which occupies the lower portion of the site. By this means the cells are quite distinct from the part of the buildings to which the public have access, and at the same time have easy approach to the docks in the courts.

The accommodation consists of two courts and children's court, magistrates' rooms, solicitors', barristers', and witnesses' rooms, police and licensing offices—all in the upper portion of the building—the police constables' department below containing a large parade-room, mess-room, recreation room, etc., caretaker's and jailer's houses (the latter containing two detention-rooms for juvenile offenders), and two tiers of cells for male and female prisoners respectively. The prisoners' exercising yards are enclosed between the parade-room and main block.

The children's court and its approaches from the detention-rooms and for interested parties is quite distinct from the general working of the police courts.

The facings are of red bricks with Portland stone dressings. The roofs are of concrete covered with asphalt. The estimate cost is 23,000.

Parliament Buildings, Winnipeg.

In the competition for this important building Mr. F. W. Simon, F.R.I.B.A., was declared to be successful, and his design was illustrated in the *Builder* of November 22. The competition

was open to any British subject practising in the British Empire, and among the architects who entered was Mr. G. A. Bligh Livesay, F.R.I.B.A., whose design we illustrate in this issue.

Baroque Architecture.

The illustrations of the two buildings in Salzburg are in connexion with our seventh article on "Baroque Architecture," which begins on p. 749.

MEETING.

FRIDAY, DECEMBER 20.

The Institution of Mechanical Engineers, Mr. J. Wenys Anderson on "Vapour Compression Refrigerating Machines," and Mr. John H. Grindley on "A Contribution to the Theory of Refrigerating Machines," 8 p.m.

COMPETITION NEWS.

A list of current competitions is printed on page 765.

Glasgow Municipal Buildings.

The preliminary sketch designs submitted to the Corporation of Glasgow for the proposed extension of the municipal buildings have been considered by the assessor, Dr. J. J. Burnet, A.R.S.A., whose report has been adopted. There were 103 competitors, and the following architects have been invited to submit completed drawings in the final competition at an honorarium of 100 guineas each: Messrs. P. H. Keys, A.R.I.B.A., and Dowdswell, Beaconsfield, Bucks; Messrs. E. Vincent Harris, A.R.I.B.A., and T. A. Moodie, A.R.I.B.A., London; Messrs. Watson & Salmon, Glasgow; Mr. J. B. Fulton, A.R.I.B.A., London; Messrs. James Wright, jun., and W. J. Blain, Glasgow.

School Buildings, Llanelli.

The competition for school buildings, Llanelli, has been decided as follows:—First promulgated design, by Messrs. Woodhouse & Dean, 100, King-street, Manchester; second, Mr. Harold Brakspear, High-street, Corsham, Wilts; third, Mr. A. J. Shaw and T. H. Vowles, 35, St. James street, Burnley.

Baths, Balham.

We are informed that Mr. H. W. Wills, A.R.I.B.A., has been appointed assessor for the competition for baths at Balham.

Workmen's Dwellings, Dursley, Glos.

Mr. A. W. Probyn, of Gloucester, has been named as the successful architect in this competition, and he has been engaged by the Dursley Parochial Committee to carry out the work of erecting thirty-eight new dwellings.

New Guildhall for Devonport.

The Devonport Town Council have adopted the report of the Municipal Buildings Committee recommending that plans and designs be invited for the erection of a new Guildhall and municipal offices, at a cost not exceeding 70,000, exclusive of furnishing.

Designs for a National Palace, Hayti.

The Acting Consul-General at Port-au-Prince reports the announcement in the *Mondieu* that a competition of designs for a National Palace at Port-au-Prince is announced. Plans will be received by the "Département des Travaux Publics," Port-au-Prince, up to February 4, 1913, and premiums of 500 dols. (about 103L.), 250 dols. (about 51L.), and 200 dols. (about 40L.) will be awarded for the best three designs, after which the Government will call for tenders for the execution of the work. The building and furnishing of the new palace is expected to cost about 80,000L. The *Mondieu* containing further particulars, may be seen by British architects at the Commercial Intelligence Branch.

FIFTY YEARS AGO.

From the *Builder* of December 20, 1862.

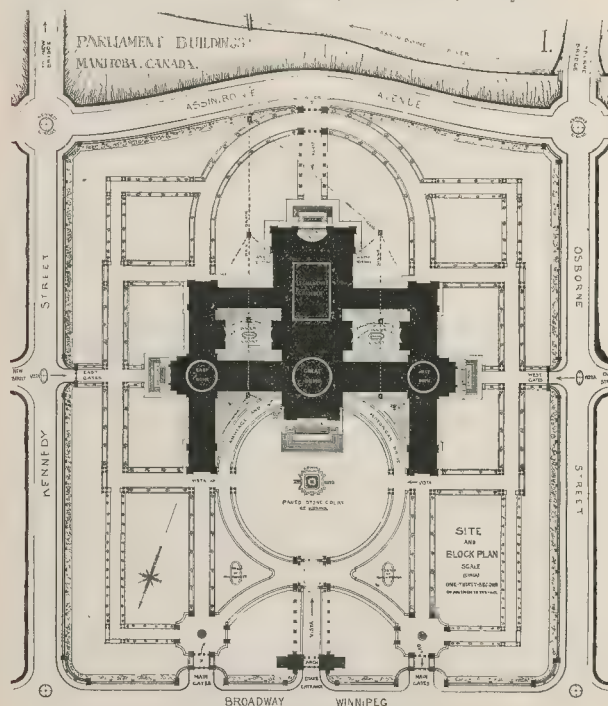
LIGHTING STREETS BY PHOSPHORUS.—I have alluded to the fact that houses freshly painted with lime-wash are frequently luminous at night, though slightly, after exposure to the sun's rays during the day. If by chemical and physical research means were discovered capable of rendering this phosphoric light more powerful, by employing sulphides of calcium, or barium, etc., and superadding, if necessary, the action of an electric current when the sun is hidden by clouds, a street might be effectively illuminated by phosphorescent light alone.—*Physon on Phosphorescence.*

* * This note prophetically anticipated developments that occurred some years later. Balmain's "Luminous Paint," the bases of which were phosphorescent compounds of barium and calcium, proclaimed great possibilities. It was employed for such confined spaces as the interiors of railway carriages and ships' cabins, while such small articles as match-boxes were attractively and usefully treated with it, that they might be recognisable in the dark. There used to be a room at the Crystal Palace, which one might visit for the sum of 2d., lighted by an arc lamp, and upon the light being switched off, one enjoyed the surprise of finding the room still illuminated by wall radiation. Self-luminous compounds, however, appear to decompose under the action of the atmosphere, and, losing their virtue, they have been robbed of their commercial value.

Experiments have also been made towards the construction of a lamp in which an electric discharge is directed upon a block of phosphorescent lime, but the high tension required proved an obstacle. Were radium so easily obtainable that it could replace the electric discharge, we might have lamps which would shine indefinitely, and a less divided attention could then be turned upon the problem of perpetual motion. An effective phosphorescent lamp is, however, no unlikely discovery.—*Ed.*

SEAMEN'S INSTITUTE, DUNSTON.

This new institute has been erected on a site given by Lord Ravensworth, and has been designed by Mr. J. H. Morton, F.R.I.B.A., architect, of Newcastle. The contractor was Mr. William Harbrow, of London.



Parliament Buildings, Winnipeg.

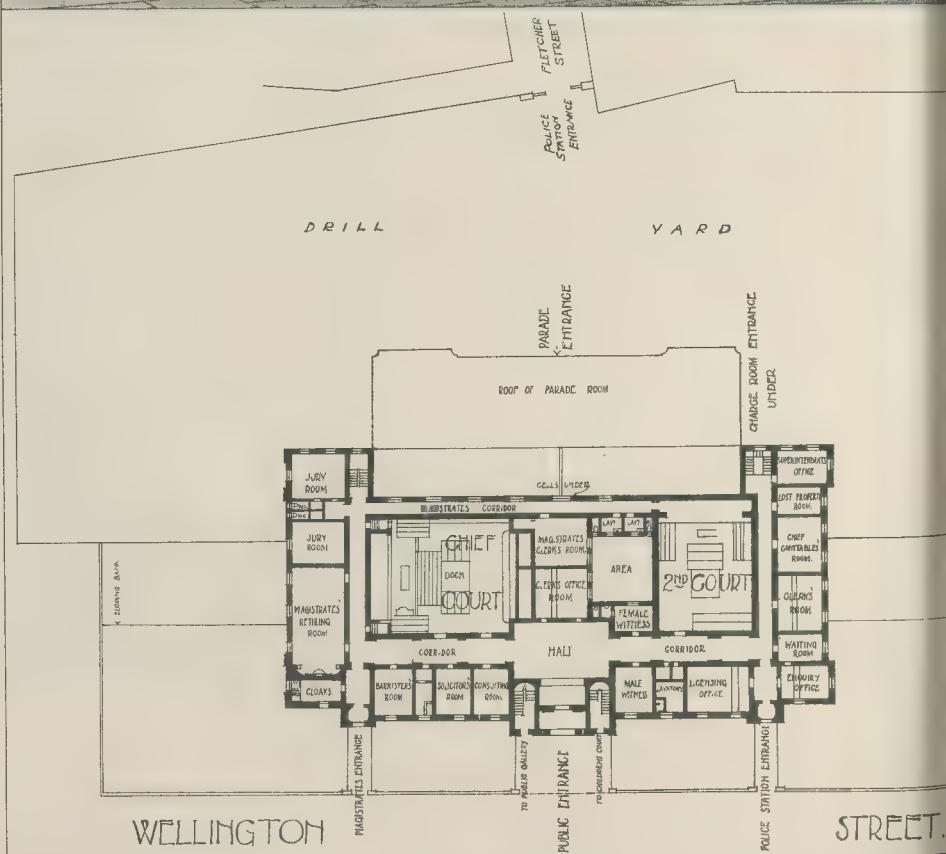
Design by Mr. G. A. Bligh Livesay, F.R.I.B.A.



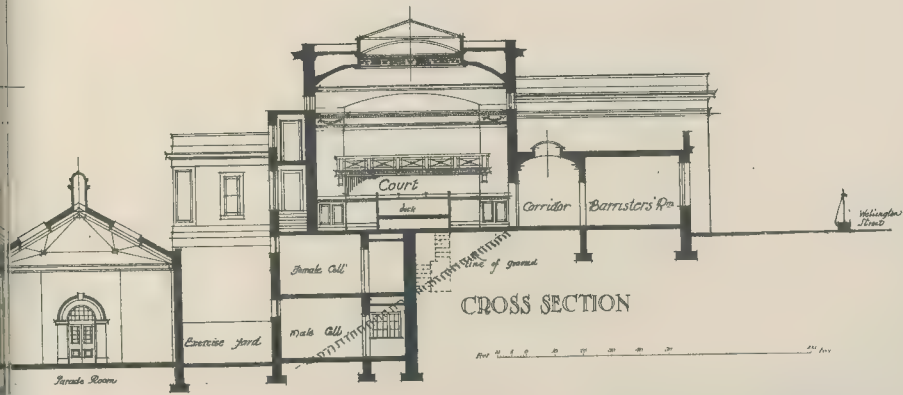
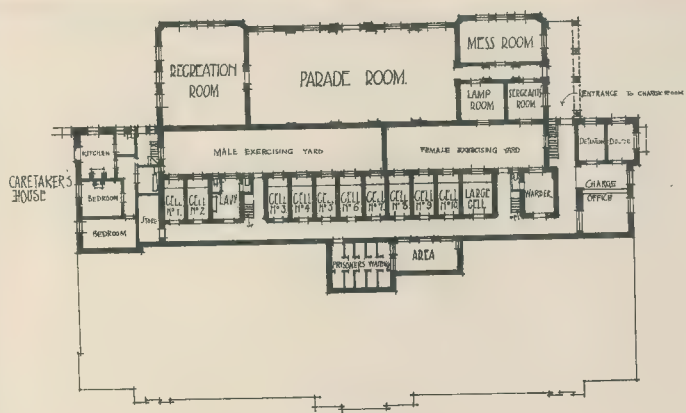
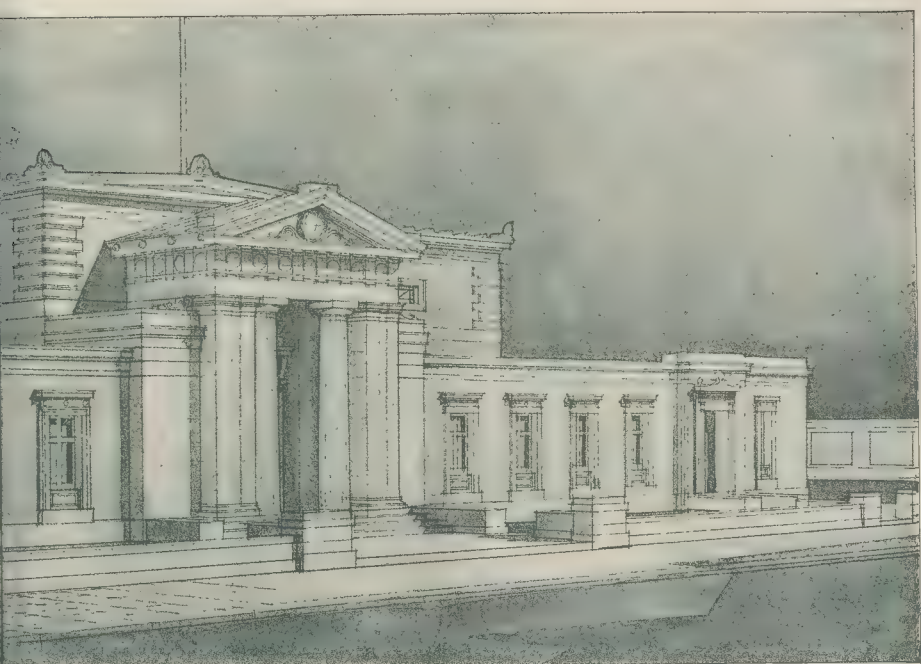
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SALZBURG COLLEGIENKIRCHE

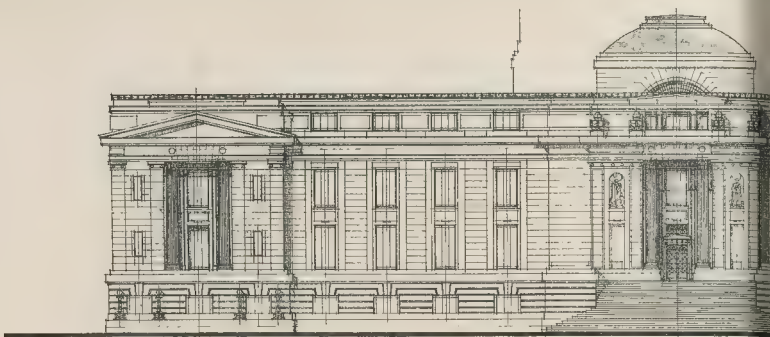
"BAROQUE ARCHITECTURE," VII



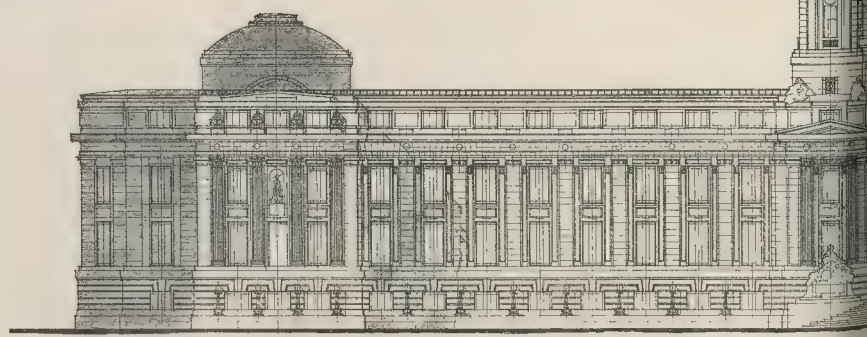
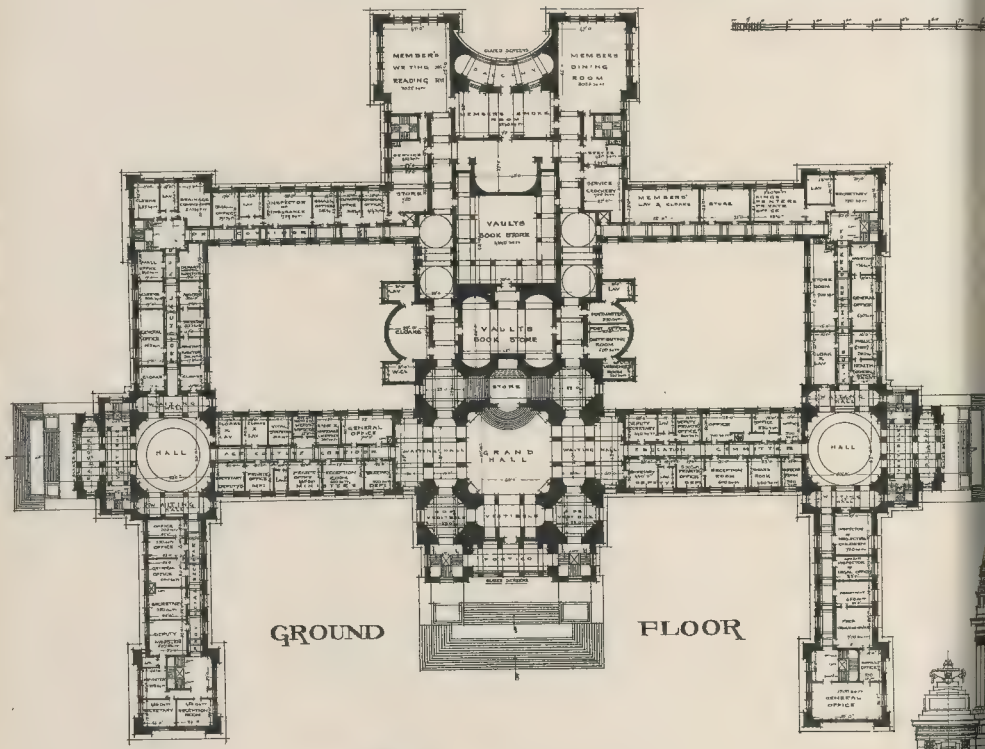
STOCKPORT POLICE BUILDING
MESSRS. J. T. HALLIDAY, A.R.C.



INK PHOTO SPRAGLE & CO. LTD 68 & 70, DEAN STREET, BOND W



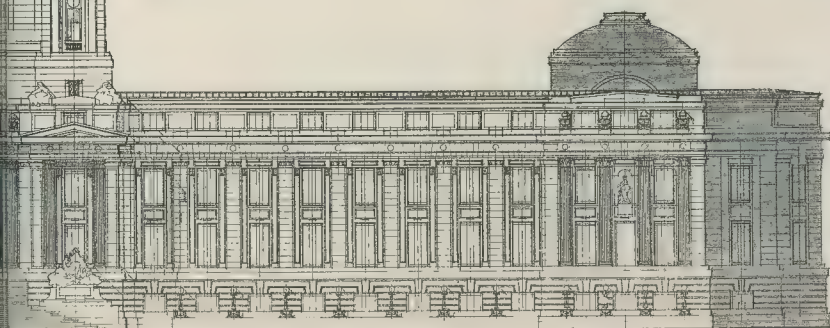
WEST FACADE :



MAIN FACADE

[illegible]

MAIN FLOOR PLAN



ING BROADWAY.

PHOTO: THE SPRAGUE & CO., LTD. 69 & 70, DEAN STREET SOHO W.



Sprague & Co. Ltd., Printers, 69 & 70, Dean St., Soho, W

SALZBURG · ST. PETERSKIRCHE

"BAROQUE ARCHITECTURE," VII

MONTHLY HISTORICAL REVIEW.



The Pellerhaus, Nuremberg.

BAROQUE ARCHITECTURE:

VII. -BAROQUE ARCHITECTURE IN GERMANY AND AUSTRIA.

(Continued from page 581.)

It is so generally recognised that geography may influence architecture that one would naturally expect to find a striking difference between the buildings of Italy and those of the Teutonic lands. That is less easily realised perhaps is the overwhelming importance of the Alps in history. This vast and threatening wall through the past, right up to the days of XIXth-century engineering, made intercourse between north and south so precarious, so slow, and so expensive that the difference between Italy and Germany—neighbours as they are—a wide and distinct divergence. In no way is this more apparent than in their art; in no branch of art more than in their architecture. The Italian the German was in ancient days simply a barbarian.

It is perhaps the very fact of his barbarianism which has made his architecture difficult to understand, for he has borrowed it from France, then from Italy, and has dom created a whole series of normal development for himself. There is, of course, the glorious exception of his earlier days, when the iron-crowned Lombard kings took them into the fertile plains of Northern

Italy those grand brick churches which they had thought out for themselves on the banks of the Rhine. But, save for this distant age, we must admit that German architecture has only at times been really national. And this brings us to another problem which faces every student of this country—what is Germany? Are we, in reading of the Middle Ages or the Thirty Years' War, in writing of the buildings produced in those great periods, to take up our atlas as it is to-day to see where the boundary of Germany lies? Rather is it necessary to forget our modern ideas and to remember that there was no such definite thing as Germany in the present-day sense 300 years ago, not even such a thing as Prussia; just a looser federation of petty kingdoms—some secular, some ecclesiastical—under the feeble and weakening rule of that ridiculous historical anomaly, the Holy Roman Empire. But even if we agree that it was not Holy nor Roman nor an Empire, we find that it included almost throughout its long existence the German-speaking peoples—that is to say, the Dutch, the Swiss of the northern cantons, the Austrians, and the Bohemians. Holland and Belgium will be

discussed in a future article, but Germany, as it will be treated here, will be held to comprise Austria, Bohemia, the Tyrol, and part of Switzerland, its natural geographical limits and its actual extent in the period of which we are treating. The centre of gravity in Germany to-day is Berlin; in the XVIIth century it was further south, and the wealth of the country lay rather in the Bavarian cities and along the Rhine. The hegemony of Prussia—a comparatively recent growth—has made it difficult for us to-day to realise the Germany of old.

Moreover, every traveller in Italy and student of her art finds on reaching France, or England, or Germany that what is meant by the Renaissance in these countries is very different from the Renaissance he left at Rome or Florence. Except for the originalities of the Baroque period, he had found but little of unconventional form to distract him, and indeed if he had been a really enthusiastic traveller, and had only looked up when his guide-book told him to do so, he might have escaped seeing Baroque buildings at all. Yet on arriving at any famous city of these more northerly lands he finds himself as much at sea as he would in a *plateresque*



Munich : St. Michaelskirche.

palace in Spain. He is surrounded by all the eccentricities of the Elizabethan manor-house, and all the freakishness of De l'Orme. This, he is told, is German Renaissance of the purest period. Then what on earth can it be in its Baroque forms, he silently wonders? It is a considerable mental struggle to dissociate one's mind from its groove in leaving Italy and to reconcile oneself to the environment of so-called barbarianism.

Perhaps the explanation lies in the fact that, whereas Italy had no really important Gothic period of her own, nothing of really epoch-making value, the Middle Ages were of paramount importance north of the Alps. Conversely, the Renaissance grew the more rapidly in Italy, not alone because her spirit was receptive, but because her slate was more or less clean. What Gothic ideas she retained were in a sense of alien growth; the classic tradition was not. In Germany, on the other hand, the churches and town halls of the mediæval builders had become very much a part of national life. Adopted somewhat late from France, German Gothic architecture had a great vogue just at the time when the new spirit was regenerating Italy. That the Renaissance was never introduced into Germany in a pure form cannot be denied. There are, for instance, the Residenz at Landshut, the Belvedere in the Schlossgarten at Prague, and the Fürstenthof at Wismar—all erected within some twenty years (1536-1555), and all of them in the dainty cinquecento style. Or one might mention the Zeughaus at Plassenburg (1607), a Palladian building recalling the hand of our own Inigo Jones. But these are, on the whole, exceptions, and the freedom of German Renaissance must be attributed not to Baroque influence from Italy, but, as in other northern countries, to the strength of the Gothic tradition

which hampered the growth of the new fashion and prevented it ever becoming as much of an upheaval as it had done south of the Alps. There could be no real native Baroque style in Germany, for there was no need for a revolt against pedantry where no pedantry existed. That the Baroque spirit was introduced is unquestionable, else why devote two articles to it? That the origin of it was German is quite a different matter. Our first object is to define to some extent the German Renaissance in architecture so as to show the point at which Baroque influence may be detected, and later the point at which that influence became supreme.

Three buildings have been mentioned as exceptional, displaying the influence of Italy with little admixture of mediæval elements. The majority of examples, however, are of a heavier and more whimsical type, and may be placed between the Elizabethan style in England and that of Henry IV. in France. Few churches were erected, but a great number of large and important houses, grouped for the most part in towns, often round a market-place. That these market-places were laid out on any scientific principle one rather doubts; yet they have been copiously illustrated in modern books on town planning as though such was the case. It seems more probable that intentional and systematic town planning as we know it dates from no earlier than the XVIIth century, when the craze for vistas and for a lay-out first became fashionable. A walk through the quaint streets of Rothenburg—one of the most typical and picturesque of all German cities—does not leave in the mind any impression of studied effort of this sort, rather a very delightful haphazard result, for which the various styles of its architecture seem particularly well adapted. The corporate spirit of these towns, on the

other hand, was as strong as in any other country at any period of history. Their principal monuments in most cases are the Rathaus (or town hall), the Zeughaus (or arsenal), and the residences of the merchant princes rather than of great nobles. The castles on the Rhine are mainly mediæval; the great country mansions and palaces are in the French Rococo style of the XVIIIth century.

The change from Gothic to Renaissance was a very gentle transition, perceptible in detail rather than in general principles. The great roof remained, with its ranges of dormers to air the space within where the family linen was dried after the famous monthly wash. Sometimes the ridge ran parallel with the line of the street, sometimes at right angles to it, in which case a great gable resulted. In Cologne and other cities these gables were stepped, and almost everywhere the exterior was richly decorated. But generalising is easy, and the reader may still demand a reason for denying that these picturesque Renaissance buildings are to be regarded as of the Baroque class.

The answer may be found by a careful study of their detail and carving, as well as of their construction and leading lines. The Renaissance spirit predominates, but the freedom of its manifestations is due to the slowly-dying influence of the Middle Ages rather than to the revolution south of the Alps. Here we have a justification for contending that Baroque architecture is not simply eccentric or simply florid. In its most florid forms it is not more florid than that of the *plateresque* period in Spain, the period of Louis XIV. in France, the Elizabethan age in England, nor is it more eccentric than any of these. It has indeed an entity of its own, and the preceding articles will have shown how its character may be recognised in Italy, without retracing our steps through lengthy definitions. Suffice it to say that any departure from the purity of conventional Renaissance models which can be attributed to lingering Gothic tradition shows conclusively that a building is of an imperfectly-developed rather than of an over-ripe Renaissance type, whereas the Baroque influence followed the Renaissance.

The position is greatly complicated in Germany by the fact that few buildings remain which show the same purity as Palladio's in Italy or Wren's in England—the mediæval tradition affecting architecture even up to the time when the standards of revolt were brought over the Alps by the Jesuits.

A few examples may be cited from places familiar to most English travellers. The Castle at Heidelberg possesses two wings, adjoining one another at right angles, which are typical of their period. The Heinrichsbau (1556-9) is in the Italian cinquecento manner, but with decoration and rusticated pilasters of less familiar form, more akin indeed to English Elizabethan. The Friedrichsbau is fifty years later (1601-7), and is almost Baroque in many of its details, yet tinged with mediævalism, as in the tracery of the ground-floor windows. The ornament is rich and florid, the gables boldly and strongly designed.

The Rathaus at Cologne possesses a loggia or porch which is frequently cited as a remarkably pure example of Renaissance architecture, but can only be so regarded outside Italy, for it transgresses classic rules in sundry details, and the arches of its upper story are slightly pointed. Built in 1569-1573, it was won in competition by Wilhelm Vernyken.

Other good examples of this "Elizabethan" period are the gymnasiums at Ansbach (1563) and Coburg (1605), the town halls of Görlitz and Rothenburg-o.-d.-Tauber (1572-90), the Bishop's palace at Bamberg (1563), and many of the houses at Hildesheim; while further north the town hall at Bremen (1612), the arsenal at Danzig (1605), and various houses in Lubeck are characteristic of the style in Prussia, where brick is the usual material.

The next class includes those buildings which Baroque elements are found, though they do not preponderate—a sort of transitional period. Some we may merely mention, as, for instance, the palaces at Jaffenburg (1605-13) and Mainz (1627-8), plus early XVIIth-century houses in Jelen and Nuremberg, the Baumeister's house at Rothenburg (1596), and the University Church at Würzburg (1580). All these show a normal progress towards Baroque, but it may be noticed that theirs are only slightly later than those in the last category, and an isolated example of Baroque architecture near Torgau (Schloss Hartenfels) may be mentioned as being apparently more advanced than most of these, though built only as late as 1532! Two churches of note—Marienkirche at Wittenbuttel (1608-11) and the Franciscan Church at Jaffenburg (1553-63)—are worthy of comment at this juncture, because they seem to defy classification, having as much in them of the ethereal as of Rococo, of Gothic as of Baroque, yet not enough of any one of these styles to be easily recognisable as belonging to it. Thus is a student of Baroque architecture handicapped by its very variety! A good example of this class is to be found in the famous Pellerhaus at Jaffenburg, the façade of which dates from 1579 (p. 749). The interior is also interesting, typical of the period, but what we can get of the front applies to most of the rest of the building. From a heavy and severe Gothic basement story the eye finds at each successive stage an increasing freedom and lightness, a loosening of restraint and an increase of treatment which in the plastic outlines of the gable—notably picturesque even in these quaint streets—leads into the flowing scrolls and the jocose sculpture of the Baroque period. And at this point we will abandon further study of transition, crossing the faintly-marked border-line to meet the Jesuit church-builders. To understand adequately the extraordinary influence on architecture wielded by the Jesuits the reader should recall what has been said of XVIIth-century Christianity in an earlier chapter. But in Germany these battles of the Counter-Reformation had a harder struggle than in Italy or Spain. Many had, during the Reformation, become largely and genuinely Protestant, and she did not become wholly so was due much to dissensions within her ranks as to attacks from without. Quarrels among keen theologians disposed the people at length to consider the plausible teachings of these new apostles, who at first had been met with fierce opposition and bitter animosity. It was in 1550 that a pious Catholic prelate, attending the Diet of Jaffenburg, first heard of the Jesuit Colleges, and advised the Emperor Ferdinand to found an institution on these lines in Vienna. Within a few years of their coming in the following year, their success was remarkable. No longer was made of their mission. It was, as we are told, "to restore the declining tenets of Catholicism by learned and pious Catholic teaching." Some of them were Spaniards, some Italians, few of them really understood the country or its language. Yet by their energy and their devotion, their great intellectual knowledge, and their courteous and their urbane manners and their perfect civility, they captured German education, day by day, in its southern provinces. From Jaffenburg they moved to Prague, to Ingolstadt, to Moravia, from Cologne to Trier, Mainz, Jaffenburg, Würzburg, and even to Protestant Frankfurt.

But, as in other countries, the architectural labours of the Jesuits are to be seen a generation later, when those whom they had educated were old enough to help them in their work. Then we find a long series of churches erected after church building had been a standstill for a century. Nor was the movement confined to churches alone. Still more significant are the new Universities and seminaries, the real key to their power.

It is in these buildings that we first see genuine Baroque architecture as we have learned to know it in Italy. The true source of the style being in Rome, it was only natural that the Jesuits who had been trained there should come to Germany imbued with its principles and longing to carry them into execution. All that their movement implied, its confidence, its militant spirit, its brilliance, its exaggerated appeal to the plain man through his intellect rather than through his heart—all these things, as well as the motives of pride and self-sufficiency—could be expressed in Baroque architecture as in no mediæval style.

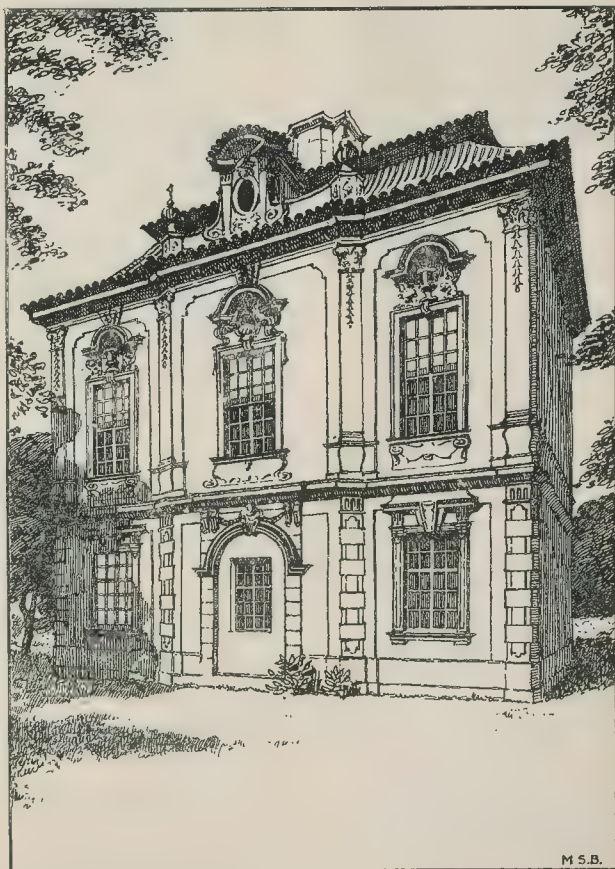
Moreover, there was an actual need for building. Education was making rapid strides, and the accommodation for students was inadequate. The active Catholicism which came into collision with Protestantism in the terrible Thirty Years' War required new palaces for its great territorial prelates, new statues of the Virgin for their cities.

German architecture had already proceeded so far on the way towards the new fashion brought from Rome that her builders eagerly adopted from the rapidly rising churches and schools ideas which transformed their town houses and town halls into Baroque buildings. The greatest change, however, is to be seen in a comparatively small part of the great German and Austrian empires of to-day, in the parts which are most accessible from Italy, and which in the XVIIth century were the most wealthy and prosperous. In many places palaces continued to be erected in a more classical

manner, something, in fact, very nearly akin to the work of our own Wren in England, but on a smaller scale and in isolated cases. The Zeughaus at Plassenburg (1607) has been cited. To this one might add much later examples, the Schloss at Ansbach (1713), and that at Biebrich, the royal palace at Berlin, the Schlosskapelle at Eisenberg (1680-92), the Landhaus at Innsbruck (1728), and the Rathaus at Nuremberg (1613-19). A parallel instance in Italy is the Palazzo del Gran Guardia Vecchia at Verona, dating from 1609, when Baroque architecture had become usual in that country. But in Bavaria and in the provinces of Austria and Bohemia adjoining, where the people never have been wholly Teuton, the new movement emanating from Italy found the readiest response and made great strides. Perhaps the two cities in which it may best be studied are Salzburg and Prague, the former lying almost on the boundary-line between Germany and Austria, the latter being the capital of the ancient kingdom of Bohemia.

Salzburg.

Salzburg is in many ways unique, both in its situation and in its history. It stands at a bend in the Salzach River where the last foothills of the Austrian Alps melt into the great valley of the Danube and its sister streams. It is commanded by two of these hills, one crowned by a convent, the other by that wonderful fortress which has so often saved the town below. In classic days capital of the Roman province of Noricum, in modern times of an Austrian



VILLA AMERIKA : PRAGUE

province, Salzburg was in the XVIIth century the head of an independent and important ecclesiastical State, acknowledging only the suzerainty of the Emperor and the Pope.

An old chronicler of 1555, however, writes:—"The archbishops of Salzburg had been unable to maintain their territories in obedience to the Catholic rule. They did not as yet endure the presence of Lutheran preachers, but the disposition of the people was none the less explicitly declared. Mass was no longer attended in the capital, nor were fasts solemnised or festivals observed; those whose dwellings were too far removed from the preachers of the Austrian localities bordering on their country remained at home, reading for their edification from the homilies and critical commentaries of Spangenberg."

Some thirty years later there appeared on the scene a new Archbishop, who was responsible not only for a complete change in administrative methods, but for commencing what eventually became a complete rebuilding of the city. Wolf Dietrich von Raittenau was only twenty-nine years of age when he left the German College at Rome for his new archiepiscopal throne in 1587. His uncle had just become Pope, but the pontiff whom he made his model was Sixtus V., the founder of papal magnificence. Arrived in Salzburg, he proceeded at once to call upon all the citizens to make immediate profession of the Catholic faith, allowing them only a few weeks for reflection. No alternative was allowed but exile, and a compulsory sale of the recusant's property by the Archbishop's agents to approved customers! A few deserted their faith, a great number, including many wealthy burghers, preferred to leave their homes. Nor was this all. The young prelate next introduced an elaborate system of taxation on incomes, legacies, and commodities of every sort, quite foreign to German finance, also quite regardless of immunities and privileges already in existence. Having reduced Salzburg to the level of the tame and tribute-paying Papal States in Italy, he then proceeded to devote the vast income to the glorification of his power.

Historians vary as to whether he really burned down the VIIIth-century cathedral or not; they agree that he took no pains to dissemble his joy on that occasion. He appears to us as a second Nero, but his ambition was frustrated, for he died before it could be rebuilt. Indeed, though this great Jesuit was perhaps more ambitious than any of Salzburg's archbishops, he lived to see few of his schemes completed.

The Schloss Mirabell, with its beautiful gardens, is ascribed to him, and it is said that he erected it for Salome Alt, the daughter of a wealthy citizen, with whom he seems to have been on cordial terms. Yet this fine palace has been altered many times by his successors, damaged by fire, and largely rebuilt, so that one hesitates to date it so early, especially as its style bears one out in supposing it to be largely due to later prelates. Its rich staircase, with carved figures on the fine pierced balustrade, is particularly worthy of notice. The external details are for the most part restrained, the window-heads being of a light Baroque character.

Another important group of buildings is due to this very worldly Archbishop's love for horses. The Stables (Hofstallgebäude) have actually marble fittings, and, although the exterior generally is very plain, there is an ambitious portal on a curious concave plan, the twin pilasters on either side being diminished downwards and terminating awkwardly in male caryatid figures. Even a casual observer cannot fail to notice that in this work there is more than mere copyism from Italian models, for it has many fresh features, which can only be due to native talent. Adjoining this building on one side is a magnificent horse-pond, surrounded by a charming pierced parapet of Elizabethan style. Behind it is an arcaded stone screen, the panels filled with frescoes of equine

subjects, and above rises the great precipice of the Mönchsberg, in the side of which an excavation is made for this pond. A fine sculptured group of a horse-tamer rises from the water. On the other side of the stables lie the summer and winter riding-schools. The latter is no more than its name implies, but the former is unique, the more so as it consists of galleries several tiers high above the arena cut in the solid rock of the Mönchsberg. The completeness of these stable buildings, with all their facilities for displaying fine horseflesh and fine horsemanship, enable one to realise the better how close Wolf Dietrich was following in the footsteps of his models, the splendour-loving princes of Rome and the Alban Hills.

The new Cathedral at Salzburg was actually commenced in 1614, under Archbishop Paris von Lodron (1619-1653). The architect was Santino Solari, an Italian, but before his plans were finally adopted several schemes had been submitted, including one by Scamozzi. As built, the church is by no means as large as was first intended, probably owing to lack of funds during the Thirty Years' War. This penury may account

of the Cathedral may be seen in the illustration of the exterior given on the Plate, but the interior, though less bizarre, is more masterly and more noteworthy. The scale is colossal, the plan cruciform, filled out to form an oblong shape with four similar oval chapels in the angles. The decoration is florid and all-pervading—the late Jesuit church from floor to ceiling.

There are other Baroque churches of varying dimensions and of varying importance, St. Peter's, with a characteristic tower and an interesting interior (see Plate); St. Sebastian's and the Trinity Church (1699), the latter a very large but not very florid building. In the Franciscan Church, a delicate masterpiece of later Gothic, a range of chapels has been added which are Rococo rather than Baroque, and which do not produce quite so hideous an effect in combination with medieval tracery as might be expected, though we can hardly go the length of a poetical guide-book, which says that these "rich, elegant stucco decorations" help to form an "original, charming, aesthetic effect."

The principal remaining buildings of Salzburg which date from this period are the Residenz (or Archbishop's palace) and the Neugebäude, formerly administrative buildings, and now the post-office. Both were commenced by Wolf Dietrich, yet neither are extravagantly Baroque externally, rich as is their decoration within. Their importance, however, is enhanced by the fine piece of town planning of which they form a part, with the Cathedral as centre-piece. Its western façade forms the east side of the Dom Platz, a square completely enclosed by fine buildings and arcades, with a statue of the Virgin as centre-piece. Out of this square opens a street under an arch, opposite to the main portal of the Cathedral. South of the Cathedral lies the Residenz Platz, so called from the palace on its western side, and here a magnificent fountain, the Hof Brunnen (by Antonio Dario, 1664-80), is the principal feature; while north of the Cathedral is the Kapitel Platz, and here is situated another fountain, the largest of all erected in 1732, and said to be a copy (*sic*) of the Trevi fountain in Rome, which it in no way resembles, and which is slightly later in date. We have already claimed that XVIIIth-century architects were pioneers of town planning; here surely is strong evidence in support of it!

Space forbids detailed reference to the many dwelling-houses in Salzburg of Baroque type, so closely resembling those at Lecce, for Italian architects were employed as often as not; nor can we pause to describe the many charms of Leopoldskron (1736), the beautiful Schloss lying just outside the city.

But no account of this period would be complete which ignored one of the most amusing and charming of all country-houses, Schloss Hellbrunn, a short distance from Salzburg. This extraordinary example of villa architecture was the work of Archbishop Marcus Sitticus, who succeeded Wolf Dietrich. Built in 1613, it rivals the papal pleasure-houses at Frascati or the absurdities at Tivoli and Isola Bella. Its situation is consummately beautiful, and on the whole the lay-out of the garden justifies the application of the quaint Baroque motto, "Nature adorned by Art." The vistas are adjusted to connect the villa with Alpine peaks. The formal garden immediately adjoining the entrance courtyard gives place in one direction to the equivalent of the Italian *bosco*, in the other to an avenue leading directly to Salzburg, three miles away. The villa itself is of no importance architecturally, though of some size if the symmetrically grouped outbuildings be included. But in it, and near it, lies a fantastic system of waterworks, arranged to drench the archiepiscopal guest at various points, to set models working, to set birds singing, and, lastly (though this was an XVIIIth-century addition), to put in motion



Photo. by Würthle & Son.

Salzburg: Stiftskirche, St. Peter.

for the unfinished state of the flank walls, which look on to important squares and, indeed, form part of a great lay-out, while the west end alone has been faced with the fine stone from the neighbouring Untersberg mountain. This façade is of no great interest, though it is a correct composition, carried out in a refined style, and, with its two flanking towers and triple doorway, admirable in its way. But the interior of the church is planned on monumental lines. The nave is barrel-vaulted in four bays, and entered by a vaulted porch or loggia. On either side lies a range of chapels. The choir and transepts are equal in depth, and terminate in apses, the crossing being domed. The detail internally is thoroughly Italian in feeling, and the vaulting is richly modelled and painted.

Second only to the Cathedral among Salzburg churches is the Collegienkirche (1696-1707), an enormous building by Fischer von Erlach, the famous Viennese architect, who led Baroque architecture into the direction of Rococo, and whose work will form the subject of further attention in the next article. How different is this later work from the more Italian variety

elaborate mechanical theatre, containing
the hundred figures, while a sweet-toned
band of drones through the mellow harmonies
of an old German chorale. High on an
ancient hill, within the wooded park, rises
the little castle built by Marcus Sitticus per
petimento, in one month, near it is the
theatre, where he listened to pastoral
songs, and all around is the gay and whimsical
atmosphere created by the pretty fancy and
inventive genius of the Baroque architect.
M. S. B.

MEDIAEVAL WINDOW GLASS
AND GLAZIERS.

WHITE GLASS.—The window glass used in
medieval England was of several kinds—
Norman, Norman, Flemish, Dutch, and
English. In an account-book, little later than
the year 1500, now in the Public Record Office
(Exch. Acc. 474-3), we find very different prices
paid for white glass. Thirteen feet of
Flemish glass cost 4d. and 6d. a foot; Dutch
glass cost 4d. and 6d. a foot; three panes of
Norman glass cost 54d. a foot; Flemish glass
cost 6d. a foot; and English quarries cost 1d.
a foot.

In MS. 504-2 we read of the setting of old
glass in lead, the mending of eight panes of
glass at 4d. a pane, and the payment to a
glazier at the rate of 4d. a case "for mending
of cases," case probably meaning a casement
pane, for a little farther on we read of "a pane
and a casement of new glass." A somewhat
noteworthy feature in this MS. is the frequent
recurrence of two items referring respectively to
white glass and glass newly set in lead. We give
the following example of each:—

"ii fottes of newe glas, pryce the fotte
iiii ob. q^r (44d.)
"iiii fottes and a halfe newe sett in lede, pryce
the fote iiii."

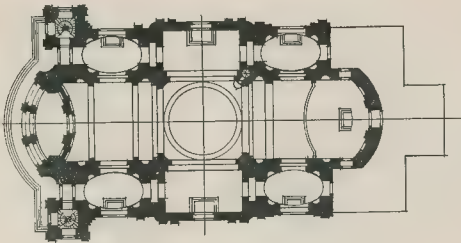
In another part of the ledger we read of
the glass new set in lede conteynynge v fote
xii. and, and a pane mendinge iiii.," from which
we may believe the glass new set in lead to
have been old glass costing merely so much for
setting, which would account for the low
price.

PAINTED GLASS.—Of painted glass very few
particulars are given in ordinary builders'
account-books. In MS. 474-3 we read of
"painted glass" with my lady's arms," costing
1s. and of two new panes of glass, each pane
containing 4½ ft., with coats-of-arms in them,
costing 3s. 9d. In MS. 465-20 we read of
"windows containing glass in which the King's
arms, posies, badges and bendis" were set.

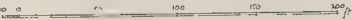
MS. 504-2 the King's arms in glass were
used in two rooms of the Royal manor-house
at Dartford at a cost of 6s. The sum of 4s.
is also paid for four "sceptuours of the Kinges
ordres" on glass in the same rooms.

Dugdale, in his "Antiquities of Warwick-
shire" (Vol. I, p. 446), prints a covenant in
which a John Prudde, of Westminster, glazier,
consents to glaze a number of windows with
patterns, images and stories that shall be
delivered and appointed by the said Executors
of the said John Prudde, afterwards to be newly
set and pictured by another painting in rich
gilt.

In J. T. Smith's "Antiquities of West-
minster" (published 1807), p. 191 et seq., will



SALZBURG : COLLEGIENKIRCHE



be found a number of entries collected from
medieval documents relating to building.
Amongst these items many record the wages
paid to glaziers engaged in making painted
windows, and they tell a good deal of the way
in which painted glass was made. We read of
a man being paid for "washing the table for
drawing on the glass," of several "master
glaziers" painting drawings of windows on
white tables, of others drawing images for glass
windows, of a labourer being hired to grind
colours, of draughtsmen being paid 1s. a day,
of men laying glass on the tables, of painting
on the glass, of those by whom the glass was
cut and joined on the painted table, of others
joining and cooling the glass, and that the
term "glazier" was applied to almost all
working on the glass.

A good deal of ancient domestic glass is still
remaining in this country. Ockwells Manor
House, in Berkshire, contains a fine series of
windows, filled with painted glass; illustrations
of some of the lights will be found in Garner &
Stratton's "Tudor Domestic Architecture." In
the old city of Salisbury, an ancient house, now
a china shop, contains an exceptionally fine
window of ancient glass.

Of churches retaining mediæval painted glass
the number is even now considerable, some, in
spite of pillage and vandalism, containing one
or more whole windows in very fair condition.
In more than one case this is due to the fact
that in troubled times the glass was taken out
and buried or concealed in safety. At Nettle-
stead, in Kent, Fairford and Tewkesbury, in
Gloucestershire, Malvern, in Worcestershire, and
in many other churches much fine painted glass
still remains *in situ*.

In the Middle Ages, as now, painted windows
were sometimes given by a parishioner or by
two parishioners jointly. Sometimes they were
given by a number of the young men or the
women of a parish. Mr. Grylls, in his "History
of the Windows of the Church of St. Neot, in
Cornwall" (1854), gives particulars which tell a
good deal of the manner of acquisition of
painted glass for a mediæval church. From
this little volume we learn that one of the
ancient windows of this church bears the in-
scription in Latin:—"At the cost of the young
women of the parish of St. Neot, who erected
this window A.D. 1529." Another window is
inscribed:—"At the cost of the wives of the
vest side of this parish of St. Neot, who erected
this glass window A.D. 1530." Another:—"At
the cost of the young men of this parish of St.

Neot, who erected this window A.D. 1528."
Another window in this church bears the in-
scription:—"At the gift and cost of Ralph
Harris and by his workmanship this window
was made," from which the donor appears to
have been either a glazier or someone connected
with that craft.

The windows of Morley Church, in Derbyshire,
have been excellently described by one of the
rectors in a little volume, with two coloured
plates, published in 1879, from which we learn
that the windows originally belonged to the
refectory of Dale Abbey.

The ordinary glazier is by no means so fre-
quently referred to in the accounts of mediæval
builders as would be expected. He was
commonly paid by the piece, but instances of
payment by the day are to be met with. In a
builder's account-book of the time of Henry VIII.
(Exch. Acc. 464-23) we find a payment recorded
of 16d. to a glazier for four days' work, the cost
of his "bord" for that time having been 8d.
in addition. In MS. 484-3 glaziers are paid 6d.
and 8d. a day.

In MS. 504-2 we meet with a copy of a glazier's
bill, which is interesting reading:—

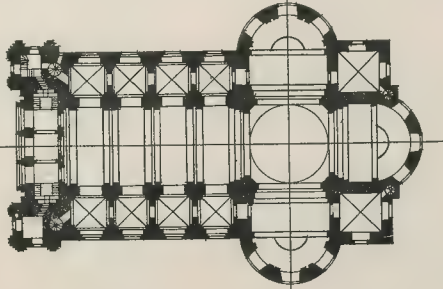
"Glasinge. To Galyon Hane, glasyer,
for xxxiiii fottes of newe glasse set,
whereof—xii fote within the
tower in Grenewiche park; iiii
fotte in the bade chamber next
the newe armery; vii fotte in the
chamber of presentes, and xi fotte
in the greste chamber; at
iiiiid. ob. q^r (44d.) the fotte ... xliis. vd.
To hym more for iii paynes mendede
in the saide lodgings, at iiiiid.
the payne mendede, ... xnd.
To hym more for x fotte of newe
glasse sett, whereof iiii fote sett
in the Keechyn and vi fotte in the
parlour at iiiiid. ob. q^r (44d.) the
fotte ... ius. xid ob.
To hym more for v paynes in cas-
ements mended, whereof iiii in
the wardrope, iii in the chamber
ouer the seller, one in the Keechyn
and one in the parlour, at iiiiid.
the payne or casements mendede
To hym more for xi newe querrill
employed in the stoppynge of holes
in the windows, at ob. (a half-
penny) the pece ... xxxi."

A halfpenny was the common price of a
quarry, though a penny was the cost of a
quarry of English glass. To some extent glass
appears to have been delivered in cradles or
crates. In MS. 484-3 four "cradylles of Nor-
mandye glasse" cost 18s. a cradle. In MS.
464-23 a "cradill of glasse" cost 20s. "A
chest of wyspe glasse" cost 17s. 6d. and "x
wyspes glasse" cost 9d. a wyspe (484-3). We
are unable to explain the term "wyspe."

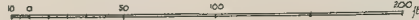
THE CARRIAGE OF MATERIALS
IN THE TIME OF HENRY VIII.

THE cost of the carriage of the various
materials needed by builders in the Middle Ages
added then, as to-day, very largely to the cost
of the goods purchased. Materials were con-
veyed in "bote lodes" by water and by the
draught of horses and oxen over land.

In the accounts of mediæval builders the
entry of the cost of carriage is frequently set
down immediately after the cost of the article
itself. In some cases, as in a set of accounts
of building costs in the Public Record Office
(Exch. Acc. 489-4), such a system of entry is
seen, each purchase being placed under its
proper heading, and under the heading of
"Carriage" the cost of the conveyance of each
purchase to its destination is set down. The
entries recording the cost of carriage are very
numerous indeed in mediæval accounts, many



SALZBURG CATHEDRAL



of them, however, being of little service for our purpose from the fact of the cost of the carriage of the materials alone being given. To be of service in estimating the expense we want to know the size or weight of the material, the distance traversed, and whether the transit was made by land or water.

Carriage by land is often mentioned. In 1530 five trees were purchased by a master carpenter for the work in hand. The trees cost 8d. each, and "the carriage of the said five trees by lode, the space of half a myle, taking for every tree is carriage vid." Such an account gives us not only the cost per tree, but the cost of its carriage over a stated distance. The proportion between the cost of tree and its carriage is therefore shown, and is exactly what would be expected, the value of the tree in a thinly-populated land being naturally very little (MS. 489-5).

In MS. 488-15 a sum was paid for the drawing of timber by oxen, but such is a rare instance of the use of oxen for draught purposes, in nearly all cases horses being used. Even in this same set of accounts we find mention of the employment of horses to bring clay from the clay-pits.

An interesting entry in account 488-16 records the payment of 8d. to a man for his permission to "draw the said tymbor over his medowe," such a route being "the next and playnest way from the vodde."

In MS. 489-17 we see that 7 tons of boards were carried 27 miles for 11s. by water. The carriage of fourteen great trees a mile over land cost 7s. At another time 6d. a mile per tree was paid. Bringing seven great trees a mile over land cost 2s. 4d. In MS. 489-16 we read of three trees being carried 3 miles for 3s. In MS. 489-15 we see that 25 pecks of lime were carried 2½ miles for 16d., and to bring 17 pecks the same distance cost 12d. To bring 21 pecks 3 miles cost 17d.

In MS. 489-7 three planks 9 ft. long and 1 ft. broad cost each 4d. The cost of carriage by water from Beaumaris to Carnarvon, a distance of 10 miles, amounted to 1d. The thickness of these planks is not given, but, as they were for use on a bridge, we can form some idea of their substance.

The sum of 30s. 4d. was paid to a "boteman" for the "caryage" of "one rode and xxii fote plankes and bordes" "by water the space of xx myles" (489-5).

Carters were generally paid by the amount of material carried, but such was by no means always the case. In MS. 499-22 we find that "for caryage" of some turf a number of "carteres" were hired, "enery cartye berye the dave xiiid."

In MS. 479-9 we find the record of a carter who was permanently engaged, "his yerely styppende xxviii. viiid., as for his bourde wages xii. the weke." Carters commonly received 12d. or 14d. a day, such payment including the hire of the man's horse and cart.

A labourer carrying materials with his own horse was paid 2d. extra in addition to the usual labourer's wage of 4d. In MS. 489-3 the distinction between the cost of the man's labour and the hire of his horse is set down:—

"Item payed to Jernar ap Richard for his wages carying of sande, a day . . . iiii d.
Item for the hyre of his horse, a day . . . iiii d."

In MS. 489-4 we find that the cost of the carriage of half a hundred of iron from Chester to Chirke Castle, near Oswestry, in Shropshire, a distance about 20 miles, was 8d.

At times carts were not used, the load being placed upon the horses' backs. Such a method of carriage is to be noted in MS. 489-16, where we read of the purchase of material and the engagement of men "to lode the same vpon horses." Sometimes ale was given in place of money, this evidently as a slight acknowledgment of assistance casually rendered. In the MS. just mentioned we read of such a form of honorarium being given to some tenants who assisted to carry timber. Some builders kept a sledge or a cart to convey material from one part of the scene of operations to another. In MS. 489-10 we see that 4d. was paid for the mending of a "sleed for the cariage of diuerse necessaries for the workemen." Another entry in the same set of accounts records the outlay of 5d. "for a new carr to carry diuerse necessaries for the workemen."

In MS. 499-19 we read of a John Slyman being paid 9s. a day to bring water in his own cart. In another MS. we find the payment of a certain sum to a man set down regularly for bringing water to slake the lime. The cost of

the carriage of sand and clay for the "mold" and the pan for the purpose of casting lead is entered in MS. 488-27. The carriage of the great "gynne" or engine for lifting weights is referred to in MS. 474-7.

Sometimes an agreement called a covenant was entered into for the carriage of material. We may instance that of Thomas Brad, who agreed to take 6d. for the conveying of a number of slates from one place to another with his own horse.

Though not dealing specifically with materials, we have appended a few notices of the cost of transferring workmen, such being sufficiently germane to our subject to warrant inclusion. In one case a ferryman is paid for taking a workman every day over his ferry for several months. In another set we read of a "watryman" being paid "for bryngyng the said carpenters and their tulles and instruments" (488-26).

The cost of conveying such workmen as were pressed or forced to labour on a certain work is defrayed by those for whom the work was done. An instance of such payment is to be found in the accounts of the building of the great college founded by Cardinal Wolsey at Oxford (479-3-11). The payment is as follows:—

"Condyte Money.—Also deleredyd to sondery artificers aboue rehersed, aresteded and takyn by commysion from sondery places vnto the werkes of the aboue namyd collage. That is to say for their costes and expences comynge from the places where they were aresteded and takyn vnto the said werkes at Oxforde."

HISTORICAL NOTES.

Southwark Cathedral.

THE completed series of statues in the altar screen, erected in the old Church of St. Saviour's by Richard Fox, Bishop of Winchester, in 1520, has just been dedicated. The figures now present a continuous line of famous persons connected with the history of the church since its original foundation in the XIth century as the Augustinian Priory of St. Mary Overie. Mr. William Stirling Lee sculptured the statue of Bishop Talbot; the eleven others, comprising John Gower, the poet, Cardinal Beaufort, St. Thomas à Becket, Bishop Peter de Rupibus, and Prior Aldgoud, are the work of Messrs. T. & E. Nicholls, of Kensington. The recently unveiled memorial to Shakespeare is by Mr. Henry McCarthy, whose design incorporates a semi-recumbent effigy of the poet, executed in alabaster beneath a Gothic canopy, and having a panel at the back representing Southwark as in the XVIth century.

Highgate Archway, 1812-1900.

ON October 31, 1812, was laid the corner-stone of the (old) Archway which was built to carry Hornsey-lane across the present Archway-road. That road was made in order to relieve the steep ascent of the Great North-road up Highgate-hill, in pursuance of Robert Vaize's scheme, 1809, to construct a tunnel, 24 ft. wide by 18 ft. high and about 1,130 ft. long, through the hill of ferruginous clay. The Highgate Archway Company obtained an Act in the following year and adopted Rennie's plans for a tunnel 765 ft. long (to be reduced to 633 ft. if the funds permitted) joining two open cuttings of 135 ft. and 174 ft. On April 15, 1812, after 390 ft. had been bored, the work fell in; it was then resolved to make an open cutting throughout. John Nash's archway, constructed of brick and stone, had some dignity and character of design, and people would make considerable journeys to see it. It was inscribed "Geo. Aug. Fred. Walline Fr. Regis Sceptre Gerenti," and was opened on August 21, 1813 (though not actually finished until several years afterwards, by reason of the watery and treacherous soil, having cost nearly 104,000l., the approaches included). The fabric rose to 65 ft. from the road to the vault of its upper arch, that height being divided, as it were, into two stories, the lower arch 36 ft. high by 28 ft. deep and of 18 ft. span; the main and three minor arches were, it is said, turned underground just as they were turned above. The Hope Insurance Company purchased the undertaking in April, 1819, and in 1876 took on the Archway-road were compounded for 9,000l. in terms of the Holyhead-road Relief Act, 24 and 25 Vict., c. 28. The present structure was built in 1897-1900 as a "county bridge," after designs

by Sir Alexander R. Binnie, the then Engineer to the London County Council, by Mr. C. Wall, who contracted for 25,127l. It is of steel and cast-iron, with abutments of Portland stone, concrete, and brick; it is 40 ft. wide between the parapets, with a span of 120 ft., which admitted of a widening to 50 ft. of the road beneath.

WE learn that it is contemplated to carry out the restoration of Kirby Hall, Northants, which Sir Humphrey Stafford, of Blatherwycke, built for himself and his representatives sold, in 1575, to Sir Christopher Hatton. John Thorpe's plan in the Soane Museum records that he laid the first stone in 1570—on the parapets are the dates "1572" and "1575"; on the gable above the entrance is the Stafford motto: "*Je seray loyal*," and on the parapet is "*Hum Fre Sta Fard*." Sir Christopher's son employed Inigo Jones in 1638 to modernise the house by inserting pedimented windows in the inner court, adding a staircase (for which Nicholas Stone furnished the model) at the south, and altering the entrance front of the outer court. Stone was paid 50l. for a chimney-piece, 1638. The place has been practically unoccupied for one hundred years past. There are drawings in the *Builder* of January 10, 1886, and August 18 and 25, 1906.

At Glasgow, Kentucky, there is a residence built by George Washington in 1790, for General Spotswood, then Governor of Virginia, in which State Glasgow was included at the time. There is nothing remarkable in the architecture of the building, but in respect of construction it is very unlike modern houses. The walls are of solid brickwork, 36 in. thick. The floors are of chestnut, 2 in. thick, and laid with dowels. The original roof covering, part of which still remains, consisted of chestnut shingles, 4 in. thick, secured with wood pegs. The building was constructed entirely without nails, which were not manufactured in the United States when the house was built. The original windows were of glass imported from France; as this material was not produced in America at the time. The windows illustrate the wear and tear of structural materials, for it is stated that the glass remaining intact has worn so that it is no thicker than paper, and is readily broken by rainstorms. The house has not been remodelled in any way, and presents substantially the same appearance as when built 122 years ago.



[From a sketch by Mr. Leslie Barfoot.]

Urn to Gate-pier at Hampton Court Palace.

This well-known example is one of the most beautiful of the many types of Wren's urns. It is found at the east end of the south or river front—at the entrance to the path leading to the Great Vine—and also on the north side of the Palace, there being four urns in all of this type, all carved out in Portland stone.

THE BUILDING TRADE.

THE STATE OF THE BUILDING TRADE.

ALTHOUGH it cannot be stated that there is a "boom" in the building trade, there is every indication of increased prosperity as compared with recent years, and it is obvious that a great trade "boom" must affect that section of the community who are dependent on building for their livelihood, as increased trade has increased enterprise and a necessity for better accommodation. It is not possible to compare one month with another in the same way as a true indication of the prosperity is to be given, as the trade is a seasonal one, and, with few exceptions, it will be found to decline in the winter months and rise during the summer. Any period of the year must be compared with the corresponding period of the preceding years to ascertain whether or not an improvement is present. There have been many changes at work during the present year, and among these the most important of all are the labour troubles, which had a serious and reaching effect on the building trade over the whole country, and allowance must be made for this fact, because it was not possible to proceed with building work in many cases even when work was plentiful, as the necessary materials could not be obtained and works had to be closed down.

The strike of the transport workers prevented proper delivery of materials, and even necessitated the using of more or less unsuitable materials, if they were available, in order to prevent a complete stoppage. One large building which was in progress during the strike was at that stage when certain large steel girders were necessary before the work could proceed, and certain of the steel plates were ordered from the Continent, for the building of these girders, they were duly shipped and arrived in London. They could not be loaded, however, and the vessel, after a period of waiting, made the return journey to the port of shipment, where the steel plates were unloaded and left until such time as the strike was over. In the meantime the whole of the work on the building was stopped and the workmen discharged. The coal strike seriously affected many trades, and the greatest trouble was experienced for weeks after in obtaining a supply of steel for building work, as this material forms now such an important part of every large structure, many building schemes were completely at a standstill on this account. These facts will account for the large amount of unemployment in the building trades long after the strikes were settled, and rather spoil the record of what promised to be the most prosperous year since 1903. Although there is still some evidence of the effects of the strikes, trade is now more settled and bids fair to improve. It is curious to note that there was recently a great disinclination on the part of many workmen to work overtime, apart from the influence of the trade unions, and the explanation of this point lies in the fact that such a good year had been experienced that a sense of independence prevailed.

The Insurance Act has had the effect of increasing the cost of building work in a double sense. The contractor is called upon to contribute for his own workmen, and, in addition, to pay more for materials on account of the manufacturer having to contribute for those workers engaged in the production of the materials. It is extremely difficult to estimate the amount of this increase in cost, but it probably amounts to about 1 per cent. on the value of the contract. As an example, it is interesting to record one case which actually occurred. A contractor gave an estimate for certain work during the month of March, and this was not accepted until the end of July, when he refused to execute the work for the original amount, and stated that the price must be increased on account of the Insurance Act. When he came into operation by '67 per cent., which was the estimated value of his contribution for the men during the time allowed for execution of the contract. At the same time, an increase of 13 per cent. was asked

owing to prices of materials having advanced, and a portion of this advance was undoubtedly due to the Insurance Act.

Many large employers report big increases in business, and one contractor even went so far as to say that he did not feel capable of undertaking any more contracts at present on account of the pressure at which the whole staff was working. Another large employer gave returns which showed an increase of 200 per cent. in the number of employees, but at the same time a note was added to the effect that his profits were less, due to over-competition which exists among the building trades. Nearly all branches of the trade give excellent reports, and many of the manufacturers are finding it difficult to cope with the demand for building materials, particularly so in the case of iron and steel.

The state of employment naturally varies in the different districts and with the various trades, but the general reports are good, with the exception of plasterers, who seem more or less slack all over the country.

The development of garden cities has led to a great deal of building work in certain localities, and has been a great spur to the erection of domestic buildings of an improved type. These buildings are generally superior to the average suburban type of dwelling, and provide more labour and employment on account of the varied design which prevents the reproduction of stock patterns, and they have the effect of drawing residents from the more populous quarters of the city to spots where previously little building had been in progress.

The statistics available will be seen to indicate an improvement in the number of workers employed in the building trade as compared with last year, and this is very important, as the figures for 1911 showed a marked improvement on every year since 1903. As an example of this, it is interesting to note the following figures, which represent the percentage of unemployed amongst those carpenters and plumbers making returns over a period of several whole years:

1903	..	4.9	1908	..	11.5
1904	..	7.7	1909	..	11.7
1905	..	8.3	1910	..	8.6
1906	..	7.2	1911	..	5.0
1907	..	7.3			

It will be noticed that the years 1908 and 1909 were particularly bad, and, in fact, they are the worst that have been known during the period in which records have been kept. The returns for October show a decided increase over the returns for October, 1911, and, although the reports are not quite equal to those for September, this is due to seasonal decline, and ever since records have been kept this fact has been noticeable. The returns do not cover the whole of the employers in this country, but the figures are based upon reports received from over 900 firms, and this should be sufficient to give a correct idea of the state of affairs. The reports cover the whole of the United Kingdom, and it is interesting to note that there was an increase in the number of skilled workmen employed equal to 1.9 per cent. compared with a year ago, while in the case of labourers there was an increase of 13.2 per cent. compared with a year ago. The great increase in the number of labourers as compared with the number of skilled workmen is probably due in part to the more extensive use of reinforced concrete as a building material. This can be executed by unskilled labour, provided efficient supervision is exercised, and consequently more labourers are employed. There have been many large schemes carried out during the present year, and there are very few indeed where this material has not been wholly or partly used for the constructional members.

The figures for November show that, out of a total number of 57,467 workmen, there was a decrease in the case of skilled workers as compared with October of 1.9 per cent., but an increase of 2.2 per cent. compared with the corresponding period of 1911.

In the case of labourers there was a decrease of 1.9 per cent. compared with October, but an increase of 13.5 per cent. as compared with November, 1911. It will be seen by these figures that the increase in the number employed

during the present year is well maintained, particularly so in the case of the labourers.

There has been very little alteration in the rates of wages during the present year, although certain sections of the trade have endeavoured to obtain higher rates; and during the early part of the summer months there were indications of a strike occurring among these sections, and this would have spread in all probability to other branches, and apparently culminated in a universal stoppage.

The carpenters and joiners in London obtained an increase of 1d. per hour, bringing the rate up to 11d., and they hold a promise from the employers that there shall be a further increase of 1d. per hour in March next.

There is certainly a general tendency on the part of the workmen to press for an increase in the rate of pay, and in many cases this is being obtained, as, for example, in Cardiff, where practically all classes were successful in obtaining an increase of 1d. per hour on October 24 last, and in Hull, where an increase of 1d. per hour was given on October 30. There are many instances of this kind on record during the last few weeks in various parts of the country.

During the period from January to November reports show that 86,477 workmen in the building trades received increases which amounted in all to 8,049s. per week, and this fact is evidence of the upward tendency in wages.

There has been a large increase in the prices of nearly all building materials, and, although this is due partly to the increases in wages and the Insurance Act, there is no doubt that the great demand has enabled the manufacturers to obtain firm prices and keep up the cost to the buyers. A comparison with the current prices of materials issued during the first week in January last shows that steel joists, for example, have advanced about 15 per cent. in price, sheet lead has advanced about 14 per cent., timber 10 to 12 per cent., and glazed bricks about 13 per cent. These are merely given as some indication of the very large increases that have occurred with some of the materials, and there are very few that have not risen in price through some cause or other.

There is undoubtedly a very fair increase in the prosperity of the industry generally in which the employers and workmen alike are participating, although some of the former are suffering from the effects of reducing their prices to a minimum devoid of a fair profit when entering into competitive tendering.

WORKMEN'S COMPENSATION STATISTICS.

THE Home Office has recently issued the fourth volume of statistics relating to Workmen's Compensation since the Act of 1906 came into force. Under sect. 12 the Secretary of State has power to order compulsory returns to be made as regards any industries, and this power has been exercised in connexion with seven great industries, viz.—(1) Mines; (2) quarries; (3) railways; (4) harbours, docks, wharves, and quays; (5) factories; (6) constructional work; and (7) shipping; and in respect of such undertakings, therefore, the statistics published are more or less complete.

The number of persons engaged in these seven groups of industries is estimated as 7,305,997, and during the year compensation was paid in respect of 4,021 cases of death and 419,031 cases of disablement, the total amount so paid representing a sum of 3,056,404s., an increase of 356,079s. on the previous year.

In these seven groups the charge per person employed works out—Shipping, 14s. 3d.; factories, 4s. 6d.; docks, etc., 11s. 9d.; mines, 11s. 3s. 8d.; quarries, 10s. 9d.; railways, 7s. 11d.; constructional work, 13s. 5d. But the Report states that even in these grouped industries, the expenses of management, etc., represent at least another 1,000,000s., so it is apparent that the above estimated charge per person must be increased by about one-quarter. In the absence of compulsory returns in other than these grouped industries it is impossible to arrive at any estimate as to the total cost of compensation in the country. That a very

considerable sum must be added to the above total is apparent; only a very small proportion of cases come into Court, but we find in lump sums alone shop assistants received 2,442l.; domestic servants, 4,218l.; agricultural labour, 5,246l.; transport workers, 10,800l.; whilst memoranda were registered in respect of the above classes for lump sums totalling over 98,000l.; and the weekly payments total a large sum.

We may note here that "constructional work" includes construction of railways, tramways, canals, harbours, etc., bridges, tunnels, sewers, roads, and works of engineering, but not the construction of buildings.

In the building trade we find that lump sums were awarded amounting to 12,635l., and memoranda were registered as to 46,177l. in lump sums. The weekly payments respectively being 100l. 15s. and 321l. 0s. 6d.

As regards industrial diseases it should be noted that for lead poisoning returns are not obtained for the house-painting industry, but 130 certificates of disablement were given by certifying surgeons in that industry.

The more certain remedy provided by the Workmen's Compensation Act is superseding the more speculative action provided by the Employers' Liability Act, 1880. Since 1906 the cases have declined from 476 to 170, but the old form of action is chiefly resorted to in the industries of factories and building. The difference of the two remedies may be said to lie in the fact that under the Employers' Liability Act a lump sum can be obtained in respect of personal injuries, but under this Act the burden of proof laid upon the plaintiff is much more onerous. In this connexion it may be noted that under this Act the solicitor's costs average 27l. 5s. 7d., whereas under the Workmen's Compensation Act they average 11l. 12s.

SCAFFOLDS FOR PAINTING NEW YORK BRIDGES.

The maintenance of the four bridges across the East River, New York, with an aggregate length of 12,900 ft., provides work for some 650 engineers and workmen, and involves an annual expenditure of 200,000l. A considerable proportion of this amount is devoted to painting, on which 177 men are regularly engaged. In order to facilitate the work of painting the steelwork of the Manhattan and Queensborough bridges, and to obviate the risks incidental to working in difficult positions at a great height above the river, travelling suspended scaffolds have been provided for these bridges. Each scaffold consists essentially of two riveted steel girders extending across the full width of the bridge and carrying a platform about 5 ft. below the underside of the bridge. The platform is protected by steel railings, and the scaffolds are moved as required along the entire length of each span.

Under each of the three spans of the Manhattan Bridge there is a scaffold of the kind having a platform 60 ft. long by 7 ft. wide. The scaffolds are fitted with trolley wheels travelling on runways attached to the bottom of the bridge, and are driven by chains, operated by hand or by electric motors installed on the platform.

The five spans of the Queensborough Bridge are equipped with similar scaffolds, about 95 ft. long, suspended from runways attached to the ends of the cantilever brackets supporting the roadways outside the main trusses of the bridge. These platforms are provided at each end with ladders giving access to the bridge floor, and are moved from point to point by hand.

The scaffolds cost about 6,660l. and 3,660l. each for the Manhattan and Queensborough bridges, respectively, and were designed by the City Bridge Department.

EXHIBITION OF SAFETY APPLIANCES FOR WORKMEN.

A PERMANENT exhibition in Copenhagen, promoted by the Danish Association for the Protection of Workmen, contains exhibits devised for the prevention of accidents by machinery and in industrial operations generally. It includes an exhibition of water gauges, illustrating measures to be taken in attending steam boilers, and an instructive collection for the enlightenment of the worker on dangers incidental to steam generation. The exhibition also covers exhibits relating to the improvement of hygienic working conditions, insurance against accident and illness, and it is the intention to change the exhibits from time to time, so that they will illustrate advances made toward the end in view by the promoters.

TYNE AND BLYTH DISTRICT BUILDING TRADES FEDERATION.

THE annual dinner of the Tyne and Blyth District Building Trades Federation was held at the County Hotel, Newcastle, on the 3rd inst. The Chair was taken by Councillor John T. Armstrong (South Shields), President of the Federation. In proposing the toast of "The National Federation of Building Trade Employers," Mr. W. T. Weir, Vice-President of the Northern Counties Federation, gave a short account of the career of the National Federation since its formation. He said the national body was composed of the leaders of the building trade of the country. In the old days there were builders who held aloof, but now those early waverers were the most fervent supporters of the Federation.

Mr. James Wright, President of the National Federation, replying to the toast, congratulated the Northern Federation on its officials. He said they possessed a most capable and energetic Secretary, who had often forwarded to the National Federation most useful and practical suggestions. Then, again, one of the best delegates sent to the National Conference was Mr. A. G. White, of Sunderland. Turning to the work of the National Federation, Mr. Wright said that he agreed with a remark made last year by Mr. White, who stated that if the National Federation had done nothing else but establish a Conciliation Board, it had fully justified its existence. There could be no doubt that the scheme had done a great deal to prevent disputes in the trade, and employers and employees would only abide loyally by the decisions arrived at, then nothing but good could come from the scheme. Another scheme fixed up by the National Federation was an agreed form of contract. This had proved to be a very valuable document indeed, and had removed a great deal of friction which previously existed between the builders and architects. During the past few years a good deal of legislation had been passed which affected very seriously the position of the building trade. It had the effect of keeping the National Federation busy working on behalf of the builders. The first item of this legislation was the Budget of 1909, by which undeveloped land was to be taxed; valuations had to be made, and then there was the increment duty to be paid. Whilst the undeveloped land tax had not greatly affected them, there could be no doubt that the valuation of property had a most serious effect. The way in which the Government valuers had done their work was lamentable. Mr. Lloyd George had promised that no part of the profit of the builders' industry in developing an estate should be taxed, but that promise had not been carried out in practice.

Mr. W. H. Hope proposed the toast of "Our Municipal Authorities," and Alderman J. F. Weidner replied.

Councillor Stephen Easton, proposing the toast, "The Architects, Engineers, and Surveyors," said there were a good many people who were never content with things as they were, but, personally, he thought the relations which existed between the builders and the architects, engineers, and surveyors were such as gave general satisfaction.

Messrs. W. Milburn, W. J. Steele, and E. J. Connell responded.

The toast of "The Tyne and Blyth District Building Trades Federation" was proposed by Mr. A. G. White, Secretary of the National Federation, and was responded to by Councillor J. T. Armstrong and Messrs. George Douglass, A. V. Jary, George A. Lock, and J. Simpson.

THE INTERNATIONAL BUILDING EXHIBITION, LEIPZIG, 1913.

ONE of the principal features of this exposition will undoubtedly be town building and town planning, and the interest taken in this matter is shown in the applications from municipalities of both German and foreign cities. Amongst notable German towns the following have already announced their intention to be represented as exhibitors—Leipzig, Dresden, Mannheim, Posen, Bremerhaven, Darmstadt, Halberstadt, Aachen, Krefeld, Stuttgart, and Frankfurt-on-Main.

The last mentioned will exhibit interesting photographs, pictures, models, plans, and statistics showing the development of the town from the year 1636 up to the present day; and important subjects, such as water supply, canalisation, erection of smaller dwellings, houses, regulation of traffic, hygienic and benevolent institutions, hospitals, the laying out of playgrounds and parks, etc., will receive special attention.

Amongst the many other nationalities participating in this exposition, the United

States of America will be represented. A special Committee has been formed, under the Presidency of Mr. Glen Brown, Secretary-General of the Association of American Architects, to take up the preliminary steps, and also to give facilities to intending exhibitors, as well as to the general American public desirous of visiting the exhibition.

A feature of the American section will be the exhibition of pictures, models, and plans of "skyscrapers," amongst which will be a model of the "Woolworth House," the architect of which is Mr. C. Gilbert. The municipality of San Francisco will have a prominent place.

A NEW ASPHALT FACTORY.

A NEW asphalt factory and bitumen refinery has been erected for Messrs. Engert & Rolfe, Ltd., Poplar, London, E. The firm, who were established in 1854, originally at Millwall, installed the latest asphalt-making and bitumen refining plant in the new works, which are of substantial construction, and in which economy of labour has been studied in the general arrangement of the plant, while arrangements have been made so that extensions can be added at comparatively slight cost. The plant consists of a specially constructed and powerful asphalt rock crusher with its accompanying disintegrator or mill. Both of these machines are provided with elevators, so that the asphalt rock, when reduced to powder, is automatically conveyed to the battery of mastic cookers, from which the asphalt in due course is run off for moulding into cakes or delivery to the "locos" for transport to the jobs. Only Trinidad Lake bitumen refined on the premises is employed as a flux. The asphalt rock is water-borne from Sicily, France, and Limmer, and is removed from the craft by a steam loco. crane, which places the material in any position desired. Care has been exercised in the selection of responsible workmen, who have had lengthy experience in the trade. The firm invite any architect or engineer interested to visit the factory at any time to see the operation of asphalt-making in its various stages.

WIGAN MASTER BUILDERS' ASSOCIATION.

THE annual dinner in connexion with the Wigan and District Building Trades Employers' Association was held at the Clarence Hotel. This year the President of the Association is Mr. Frank Eyre, and there were among those supporting him the Mayor of Wigan (Alderman E. Dickinson), Mr. A. Lyman, J.P. (Chairman of the Ince District Council), Mr. William Johnson, J.P., Mr. J. A. Johnson, J.P., Councillor A. E. Baucher, Councillor James Walkden (Deputy Mayor and Vice-President of the Association), Messrs. G. S. Corlett, R. G. Dawson (Hon. Treasurer), J. H. Rigby (Hon. Secretary), W. Webster, A. Wood, J. Livesley, O. Filling, James Howard, etc.

The loyal toasts having been honoured, Mr. Pilling submitted the toast of the President, who suitably replied.

Mr. James Howard submitted the toast of the Vice-President, Councillor Walkden responded.

BANKRUPTCY OF BUILDERS.

MR. WATT, in the Parliamentary Paper asked the President of the Board of Trade what was the number of bankruptcies of builders during the three years preceding January, 1906, and during the three years following that date; and, if further statistics were available, would he give the number for the years 1909, 1910, and 1911.

Mr. S. Buxton said that the following statement gave the information asked for so far as related to England and Wales. The jurisdiction of the Board of Trade in bankruptcy did not extend to Scotland and Ireland, and they were not in possession of corresponding particulars for those countries.

Number of Receiving Orders, including administration orders under sect. 125 of the Bankruptcy Act, 1883, made against builders in each year from 1903 to 1911, inclusive:—

Year.	Number of Receiving Orders.	Year.	Number of Receiving Orders.	Year.	Number of Receiving Orders.
1903	330	1906	309	1909	298
1904	313	1907	309	1910	298
1905	288	1908	291	1911	240
Total	941	Total	908	Total	647

GENERAL BUILDING NEWS.

CHURCH, LIVERPOOL.

A new Church of St. Barnabas, Smith-road, Liverpool, is being erected from design of Mr. T. F. Doyle, of Liverpool, was exhibited at the Royal Academy exhibition this year. Its principal feature is a ver, standing at the corner where five meet at the outward end of Smithdown. The style is Perpendicular treated

NEW SCHOOL, ATTERcliffe.

Mrs. Chapman & Jenkinson are the architects for the new school which has been erected at High-street at a cost of 1,325l. The scheme dealt the building of a new school section for the conversion of the old into modern ones. The large hall on the ground floor accommodates for 500 persons.

NEW POST-OFFICE, BISHOP'S STORTFORD.

A new head post office has been erected at Bishop's Stortford, and was opened for the public on the 9th inst. The building comprises, amongst other accommodation, a office, sorting offices, telegraph and telephone rooms, and battery house. Master's offices, postmen's, linesmen's, and telegraph boys' rooms, rest-rooms for the mail staff, lavatories, cycle house, truck engineers' stores house, and numerous storerooms, etc. Provision has been made for future extension and enlargement. Buildings have been erected by Messrs. J. & Son, of Bishop's Stortford, from the plans and under the supervision of Mr. M. Atkin-Berry, F.R.I.B.A., of the firm of Messrs. Kidner & Berry, London.

NEWSPAPER OFFICES, LIVERPOOL.

A new *Daily Post* building facing Whitehall, Liverpool, has been constructed on the same site as the old building, with extension to other offices. The building is a story high, with a basement. The building is a frame, all loads being transmitted by the beams to the columns, and thus to the foundation. The walls are carried from floor to floor by the ferro-concrete frame. The basement of the new building extends for 25 ft. below the street pavement. The ground floor, 1 ft. high, was a ground floor. Access to the various floors through openings guarded by automatic roof doors in the wall of the old building and by an electric lift in Preston-street. The lift will be used both for goods and passenger traffic. The outside of the building is covered with Burnham's stone-coloured-cotta, supplied by the Leeds Fireclay Company, Ltd., Leeds. The details of the ferro-concrete work were designed by Messrs. T. Mouchel & Partners, of London, in consultation with the architect, Mr. W. Aubrey Jones, the contractor being Messrs. Edmund Atkin & Co., of Manchester. Mr. John Atkin, of Liverpool, was the builder.

NEW BRIDGE AT HALSTED.

An improvement has been effected to one of the principal streets in Halstead by the widening of the bridge crossing the Colne at the end of High-street. The work has been carried out under the direction of Mr. P. J. Jones, the County Surveyor, and the estimated cost is 1,200l. The new work has been carried in Portland cement concrete, faced with red Ruabon bricks, and the parapets have been constructed of Portland stone and Ruabon bricks, with solid stone pilasters. The contractor for the work was Mr. A. T. Ryan.

CINEMATOGRAH THEATRE, SUNDERLAND.

A new picture hall has been erected in High-street, West, Sunderland, from the designs of G. T. Brown, architect. The building includes seating accommodation for 1,500 people, and a special feature is a balcony at the back of the hall, which has been fitted as a lounge and a tea-room. The contractor for the work was Mr. J. Huntley.

NEW HIPPODROME, BRISTOL.

Messrs. Frank Matcham & Co. are the architects for this new music-hall, which was opened on Monday last, and has been erected at St. Augustine's Bridge, Bristol. An interesting feature of this hall is the stage mechanism. Sixty feet in depth alone, it is made to rise and fall by the touch of a lever, and the rear part of the stage can be made like a drawbridge and the fore part can be back.

NEW GOVERNMENT OFFICES, WESTMINSTER.

The offices of the Crown Agents for the Colonies, at present situated in Whitehall, will be removed in course of time to a new building to be erected from the designs

of Messrs. J. W. Simpson, F.R.I.B.A., and Maxwell Ayrton, A.R.I.B.A., on a site near the Houses of Parliament and the new Embankment-gardens. The work is in progress.

THE FLEETWAY HOUSE, E.C.

With reference to our paragraph on this subject in our last issue (p. 722) we are informed that in the first part of the constructive work the contractors for the asphalt were the Seyssel and Metallic Lava Asphalte Company, of 42, Poultry, E.C.

TRADE NEWS.

Under the direction of Mr. J. A. Marsden, architect, and surveyor, Doncaster, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air-inlets, has been applied to the picture palace, Doncaster.

The extensions to the Bucknall Isolation Hospital are being supplied with Shorland's warm-air ventilating patent Manchester grates, patented exhaust roof, and special inlet ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsforth, Manchester. The Welton Church School is being supplied with the firm's warm-air ventilating patent Manchester grates.

We are informed that the title of the firm of John Tann, safe and strong room engineers, 117, Newgate-street, E.C., has been altered to John Tann, Ltd., having been registered as a limited company on the 2nd inst.

In reference to the article in our last issue on St. Andrew's Hospital, Dollis-hill, N.W., we are informed that Messrs. J. E. Lucas & Son, Tanner's-hill, New Cross, S.E., erected the folding partitions in the building.

We are informed that the patent powder Pullo, for rendering cement waterproof, the makers of which are Messrs. Kerner-Greenwood & Co., King's Lynn, is being used on a flat roof at Hardwick Hall on the Duke of Devonshire's estate.

The Express Dairy Company, Ltd., are opening a fresh depot at Bovey Market. The necessary alterations, etc., are being executed by Messrs. E. A. Rooms & Co., of 36, Basinghall-street, E.C., under the supervision of Mr. Frank Rudkin, 25, John-street, Bedford-row, W.C.

In our description last week of St. Andrew's Hospital, Dollis-hill, we mentioned that the private wards and other apartments are warmed by open wall fireplaces, though we stated in another part of the article that the stoves were supplied by the Tesle Fireplace Company, of Berners-street, W., and Leeds. We are asked to mention that the wall stoves throughout are "Teale's" latest patent Diver fireplaces, and that the whole of the fireplaces were supplied by the firm.

The Civilian Urban District Council have accepted the tender of Messrs. Faulkner & Son, Ltd., of Walton-on-Thames, at the sum of 377l. 7s. 11d., for the supply only of iron fencing and gates for Stamford Brook Common.

Messrs. William Potts & Sons, Ltd., Guildford-street, Leeds, are now making a large Cambridge quarter clock, with three dials, for Halifax Northwam Church, and a Cambridge quarter chime clock, with four illustrated dials, for Mill-hill Congregational Church, Blackburn. Plans and an illustrated clock for the South Shields Corporation.

PAINTING BY SPRAYING AND DIPPING.

In a paper read before the Paint and Varnish Society Mr. A. S. Jennings showed the immense saving which might be effected by spraying and dipping methods as compared with painting by means of brushes, and gave as an example the carriage department at Woolwich Arsenal, where forty-one men are now employed in painting, as against two hundred some years ago, when the work was done by hand. Painting by both dipping and spraying is used largely in the manufacture of agricultural implements, wagons and carts, furniture and enamel ware. In some cases the first and second coats are applied by dipping the article to be treated in a tank, while final coats of varnish or paint are sprayed on. The smallest articles can be dipped in the same way by enclosing them in wire baskets. Special quick-drying paints have to be used, and in most cases the tank is provided with agitators to keep the paint of uniform consistency.

BUILDING ACCIDENT IN NORTH LONDON.

A serious accident occurred last week at a building which is being erected in Dalston-lane. While several men were hoisting a piece of stone to a height of about 14 ft. from the ground, it fell from the planks supporting it, and dashed on to the scaffold, which collapsed, carrying the men to the ground. Seven men were found to be so injured that they had to be removed to the German Hospital close by.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At Tuesday's meeting of the London County Council the following applications under the London Building Act were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Camberwell, North.—Erection of a projecting balcony at Verney House and Verney flats, Verney-road, Camberwell. (Messrs. Cross, Curtis, & Largent for Messrs. B. Young & Co., Ltd.).—Consent.

Clapham.—Oriel-windows and bargeboards at the rear of buildings on the western side of Park-hill, Clapham, and to a deviation from the plans approved on March 5, 1912, for the erection of buildings next to the western side of Park-hill, the southern side of Abbeville-road, and the eastern side of Briarwood-road, Clapham. (Messrs. H. F. Buchan & Co.).—Consent.

Hackney, North.—Bay-windows, oriel-windows, porches and eum half-timber work to ten houses on the south-western side of Lingwood-road, Hackney. (Mr. R. A. Reader for Mr. D. S. Barclay).—Consent.

Hamstead.—Erection of bay windows in front of three houses on the north-eastern side of Bracknell-gardens, Hamstead. (Mr. C. H. Saunders for Mr. J. Tomblin).—Consent.

Hamstead.—Retention of glass screens to a porch and wooden balustrading over the bay-windows and porch at No. 22, Belgrave-avenue, Hamstead. (Messrs. F. Troy & Co. for Mr. J. C. Biggs).—Consent.

Holborn.—Retention of an illuminated iron and glass sign in front of No. 11, High Holborn. (Cabins, Ltd.).—Consent.

Islington, East.—Erection of a projecting illuminated sign at No. 12, Seven Sisters-road, Islington. (Mr. P. D. Morris).—Consent.

Limhouse.—Erection of a building on the western side of Burdett-road, Limhouse, to abut upon the northern side of Clemence-street. (Mr. D. P. Hayworth for the Bow Common Estate Company, Ltd.).—Consent.

Marylebone, East.—Iron and glass covered way in front of No. 29, Portland-place, St. Marylebone. (Mr. R. W. Schultz for Sir Edward Stacey, Baronet).—Consent.

Marylebone, East.—Two bay-windows in front of the Heart Hospital, Westmoreland-street, St. Marylebone. (Mr. H. Goslett).—Consent.

Marylebone, East.—Erection of an illuminated sign at No. 34, Oxford-street, St. Marylebone. (Messrs. Stanley Jones & Co., Ltd.).—Consent.

Paddington, North.—Iron and glass hood at the entrance to No. 188, Sutherland-avenue, Paddington. (Mr. D. B. Hedderwick for Mr. I. Abraham).—Consent.

Peckham.—Building upon a site on the northern side of Peckham-road, Peckham, to abut upon the western side of Camden-grove. (Messrs. Adshad & Ramsey for the Trustees of the Hanover Congregational Church).—Consent.

St. George, Hanover-square.—Projecting iron and glass shelter, and an illuminated sign in front of such shelter, at the entrance to No. 152, Victoria-street, Westminster. (Mr. G. Odono).—Consent.

Strand.—Erection of a projecting illuminated clock in front of No. 225, Oxford-street. (Messrs. O. C. Hawkes, Ltd., for Electric Theatres, Ltd.).—Consent.

Strand.—Retention of a projecting shop front at No. 15, York-street, Covent-garden. (Mr. W. Nightingale for Mr. A. Atkins).—Consent.

Wandsworth.—Three buildings on the southern side of Mitcham-road, Wandsworth, abutting also upon the eastern side of Bickneth-road. (Mr. H. B. Michell for the British Land Company, Ltd.).—Consent.

Wandsworth.—Wooden cycle shed in the garden of "Lingwell," Putney Heath, Wandsworth. (Mr. J. Henry).—Consent.

Lines of Frontage and Construction.

Clapham.—Retention of a showcase upon a part of the forecourt of No. 81, Clapham Park-road, Clapham. (Mr. A. Brown).—Consent.

Dulwich.—Erection of a showcase at No. 24, Half Moon-lane, Dulwich. (Mr. E. C. P. Monson).—Consent.

Kensington, North.—Building of a temporary character at No. 49, Bassett-road, Kensington. (Mr. G. M. Lindner).—Consent.

Lewisham.—One-story shop of a temporary character between Nos. 296 and 300, High-street, Lewisham. (Mr. G. Court).—Consent.

Lewisham.—Retention of a wood and glass showcase in front of No. 213, High-street, Lewisham. (Mr. J. M. Major).—Consent.

Lewisham.—Showcase in front of No. 66, High-street, Lewisham. (Messrs. J. Sears & Co. (True Form) Boot Company).—Consent.

Norwood.—Iron and glass shelter in front of No. 232, Knight's hill, Norwood (Messrs. Carl Henschel, Ltd.).—Consent.

Paddington, South.—Retention of a temporary lean-to building in front of No. 134, Queen's-road, Bayswater (Mr. W. J. Arkcoll).—Consent.

St. George, Hanover-square.—Temporary wooden kiosk on the forecourt of Victoria Station, abutting upon Wilton-road, Pimlico (Mr. L. H. Livesey).—Consent.

St. Pancras, South.—Temporary wooden bookstall at Gower-street Station, abutting upon Euston-road and George-street, St. Pancras (Messrs. W. H. Smith & Son).—Consent.

Space at Rear.

Marylebone, East. Erection of a building to be known as the Heart Hospital, Westmoreland-street, St. Marylebone (Mr. H. Goslett).—Consent.

Space at Rear and Alteration of Buildings.

Chelsea.—Studio addition on a flat roof at St. Leo-mansions, St. Leo-avenue, Chelsea (Mr. A. Roberts).—Consent.

Finsbury, East.—Alterations at No. 24, New Charles-street, City-road, Finsbury (Messrs. Moore & Hunter for Mr. W. Jupp).—Consent.

Paddington, South.—Addition at the rear of No. 7, Leicester-gate, Paddington (Mr. A. Gillett for Mr. F. P. Longman).—Refused.

Strand.—Addition at the rear of the Monto Carlo Hotel, Leicester-street, Leicester-square (Messrs. Dennis Adams & Co. for Messrs. D. Rocca & C. Riva).—Refused.

Alteration of Buildings.

Hamptonstead.—Erection of an additional story at No. 9, Rosemont-road, Hamptonstead (Mr. G. E. Ellis for Mr. W. T. Pearce).—Consent.

Kennington.—Alterations at No. 72, South Lambeth-road, Kennington (Messrs. Searle & Searle for Messrs. Brand & Co., Ltd.).—Consent.

Kennington, South.—Alterations at No. 5, Holland-park, Kennington (Messrs. Kemp & How for Mr. O. Gerdes-Hansen).—Consent.

Paddington, South.—Erection of an addition at the rear of No. 49, Westbourne-gardens, Paddington (Mr. M. Reincke).—Consent.

St. Pancras, North.—Addition at the rear of No. 52, Mansfield-road, St. Pancras (Mr. W. E. Sanders for Mr. W. King).—Consent.

Southwark, West.—Re-erection of a building upon the site of Nos. 145 and 147, Borough High-street, and certain alterations at No. 149, Borough High-street (Messrs. S. Haskins & Brothers, Ltd.).—Consent.

Cubical Extent.

City of London.—Additional cubical extent at a building upon the site of Nos. 22 to 25, Farringdon-street, City (Mr. H. O. Ellis).—Consent.

City of London.—Additional cubical extent in connection with the erection of a printing office and factory building abutting upon Shoe-lane and Plum Tree-court, City (Messrs. J. W. Beaumont & Son).—Consent.

Poplar.—Alterations and additions at building "K" at the premises of Messrs. C. & E. Morton, Ltd., Cube-street, Poplar (Messrs. C. & E. Morton, Ltd.).—Refused.

Width of Way, Lines of Frontage, and Projections.

City of London.—Iron gangway to connect two blocks on the premises of Messrs. W. & D. Harvey over the public way of Brewer's-lane, City (Messrs. Hall, Biddall, & Co. for Messrs. W. & D. Harvey).—Consent.

Hackney, South.—Temporary wood and iron building and iron screen at No. 122, Lea Bridge-road, Hackney (Messrs. J. Livermore & Son).—Consent.

Woolwich.—Retention of wood and canvas structures in front of Nos. 124, 123, and 130, Plumstead Common-road, Woolwich (Mr. W. Pearman for Messrs. Buckley Brothers and C. E. Soder).—Refused.

Lines of Frontage and Cubical Extent.

Poplar.—Building at St. David's Wharf, West Ferry-road, Poplar, to exceed 250,000 cubic ft. in extent, without a layer of concrete over the site (Mr. T. A. Watson).—Consent.

Uniting of Buildings.

City of London.—Uniting of Nos. 71 and 73, Fore-street, City, so far as relates to the formation of further openings in the party wall at the first, second, and third floor levels (Messrs. Moeller & Condrup, Ltd.).—Consent.

Finsbury, East.—Uniting of Nos. 54 and 55, Bunhill-row to No. 53, Bunhill-row, Finsbury (Messrs. W. Woodward & Son).—Consent.

Holborn.—Uniting of premises abutting upon Great Earl-street and Castle-street, Holborn (Mr. Lewen Shary for Messrs. Lepard & Smiths, Ltd.).—Consent.

Holborn.—Reduction of openings in the party walls at the basement, ground, first, second, third, and fourth floor levels between Nos.

13, 14, and 15, Robin Hood-yard, Holborn (Mr. J. Sawyer for Messrs. A. W. Gamage, Ltd.).—Consent.

Kennington, South.—Double rolling steel shutters in lieu of double iron doors to an opening in a division wall at the second-floor level of the premises of Messrs. Pontings, Ltd., Kennington High-street (Messrs. J. Barker & Co., Ltd., for Messrs. Pontings, Ltd.).—Consent.

Cubical Extent and Uniting of Buildings.

Wandsworth.—Additional cubical extent at a proposed garage at Gothic Wharf, Brewthorpe-lane, Putney, and to openings exceeding the statutory size in the division wall (Mr. G. A. Lansdown for the National Steam Car Company, Ltd.).—Consent.

Westminster.—Alterations at the premises of the Army and Navy Co-operative Society, Ltd., No. 107, Victoria-street (Mr. W. J. Falkner for the Army and Navy Co-operative Society, Ltd.).—Consent.

The recommendations marked + are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABRAM.—Proposed church; Mr. F. Freeman, architect, 15, Bowdler-street, Bolton.

ACKNOWLEDGMENT.—Picture theatre for the Alhambra Picture House Company, Ltd.

AIRDRIE.—Police-station, Clarkston (8501); Mr. H. Inglis, Surveyor, Town Hall.

ASHTON-IN-MAKERFIELD.—Alterations to premises, Bolton-road (2,500); Secretary, Y.M.C.A., Bolton-road, Ashton.

BARNSELY.—New Town Hall and municipal offices (15,000); Mr. J. Henry Taylor, Surveyor, Town Hall.

BELFAST.—Various building works (60,773); Clerk, Guardians' Office.

BIRKENHEAD.—Restoration and improvements of St. Paul's Church; Rev. J. E. Woodward, St. Paul's Vicarage, Birkenhead.

BIRMINGHAM.—Theatre, Soho-hill; Mr. T. Silver, architect, 120, Soho-hill, Birmingham.

SCHOOL, WILLOW-VEENUE.—Mr. H. T. Buckland, architect, Norwich-chambers, Congreve-street, Birmingham. Bottling stores, Cope-hill; Mr. W. H. Gibbs, builder, King's Heath, Birmingham.

BLACKBURN.—Bank, Church-street; Mr. E. J. Morris, Secretary, London City and Midland Bank, Ltd., head office, Threadneedle-street, E.C. Weaving shed, Didsbury-street, for the Britannia Mill Company, cotton goods manufacturers, Great Harwood, Blackburn.

BLACKHALL COLLIERY.—Thirty-six houses for the Horden Colliers, Ltd., Milburn House, Newcastle-on-Tyne.

BRIGHTON.—Four houses (1,000); Mr. Harry Tiltone, Surveyor, Town Hall, Brighton.

BRISTOL.—Alterations and additions at Dover House, Henbury-court, near Bristol (8471); Messrs. Bridgman & Bridgman, architects, Devon chambers, Fleet-street, Torquay; Messrs. R. Wilkins & Sons, builders, 20, Bishop-street, St. Paul's, Bristol.

BUILTH WELLS.—Pavilion (1,000); Mr. T. Smith, Surveyor, Town Hall, Builth Wells.

BURTON LATIMER.—Premises for the Co-operative Society, Burton Latimer.

BUXTON.—Rebuilding St. Mary's Church for the Vicar.

CANTERBURY.—Alterations to premises, Mercury-lane, for Messrs. Hunt & Sons, drapers, etc.

CARNOUTIE.—Extensions to pavilion, etc.; Mr. P. Sinclair, Surveyor, Town Hall, Carnoustie.

CHAPELTOWN.—Weaving shed for the Turton and Edgworth Mill Building Company, Ltd.

CHERTON.—Drill hall, etc., Park-road, for the Veterans' Corps.

CHESHAM.—Conversion of houses into college for women for the Ruskin Educational Association.

CHESTERFIELD.—Proposed enlargement of Christ Church; the Vicar. Extensions to Holy Trinity Church, Stonegravel; the Vicar.

COLCHESTER.—Proposed baths (2,000); Mr. H. Goodyear, Surveyor, Town Hall, Colchester.

COLWYN BAY.—Winter gardens, etc.; Mr. W. Jones, Surveyor, Urban District Council Offices, Colwyn Bay.

DEWSBURY.—Warehouse, Albion-street, for Mr. J. Blackburn; extension at Badley Carr Mills, Bradford, for Messrs. J. Ellis & Co., woollen manufacturers.

DONCASTER.—Rebuilding Horse and Jockey Hotel, St. Stephen's-burgate, for Messrs. Mappons' Malsborough Old Brewery Company, Ltd.

GREASBOUROUGH.—Masborough, Rotherham; Mr. F. N. D. Masters, architect, Bank-chambers, Scot-lane, Doncaster.

DUNDEE.—Addition to Stotwell School (540), for the Dundee School Board.

DUNMOW (ESSEX).—Court-room and addition at police-station; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

DURHAM.—Picture hall, North-road, for Mr. T. Shadforth, 76, North-road, Durham.

ERDINGTON.—Theatre; Mr. A. Ham, architect, 115, Colmore-row, Birmingham.

FARNHAM.—Fourteen houses, Weydon Hill road (3,120); Mr. R. W. Cass, Surveyor, Urban District Council Offices, Farnham.

RECIT BROW.—Mission church for the Trustees, Evangelical Protestant Church, Blackburn.

FOLKESTONE.—Plans have been passed to additions to Holy Trinity Church, Sandgate road; Mr. G. H. Fellows Prynn, architect, Mr. C. Jenner, builder; and for twelve houses, St. George's road, and three in Geraldine road; Mr. W. Davis, builder.

GATESHEAD.—Isolation hospital; Mr. N. P. Pattinson, Surveyor, Town Hall, Gateshead.

GIFFNOCK.—Proposed church for the Paisley Presbytery.

GLOUCESTER.—Municipal offices; Mr. J. J. Fitch, architect, London.

GREENOCK.—Alterations to bakery for the East End Co-operative Society.

HALIFAX.—Club-house for the West End Golf Club (2,000); Mr. C. Fox, 7, Rawson-street, Halifax.

HANDSWORTH (BIRMINGHAM).—Tram sheds, Messrs. Harrison & Cox, architects, 109, Colmore-row, Birmingham.

HARLOW MOOR.—Convenience, etc. (1,000); Mr. T. Bagshaw, Engineer, Town Hall, Harrogate.

HASLINGDEN.—Extension to Britannia Mill for the Industrial Manufacturing Company, cotton goods manufacturers.

HINDLEY.—Handicraft centre, Argyle-street (500); Mr. T. Robey, Education Officer, Hindley.

HORNSHA.—Pavilion; Mr. W. E. Warburton, Surveyor, Urban District Council Offices, Hornsa.

HULL.—Alterations and additions to power station, Osborne-street (5,085); Mr. Keady, well builder, care of the Clerk, Town Hall, Hull.

KETERING.—Pavilion at Broughton for the Kettering Golf Club.

KINSHUR (HUNGERFORD).—Extensions to "Wilmington" (8,000); Mr. H. Frey, architect, 24, Cromwell-place, Kensington, S.W.

LARGE (N.B.).—Children's home; Mr. F. Caldwell, architect, Large.

LEADS.—Enlarging St. Richard's Roman Catholic School, Manor-road (by 300 places); Rev. Canon M. McAuliffe, The Presbytery, Manor-row, Holbeck, Leeds.

LEEK.—Thirty houses; Messrs. Bayley & Morris, builders, Mill-street, Leek. Addition to baths; Mr. W. E. Beauchamp, Surveyor, Council Offices, Leek.

LEIGH (LANCS).—Cinematograph theatre, Railway-road (3,890); Messrs. J. C. Prestwich & Sons, architects, Bradshawgate-chambers, Leigh; Messrs. Massey Brothers, builders, Einfeld-street Saw Mills, Pemberton, Wigan.

LIVERPOOL.—Building, Beaumont-street; Mr. J. T. Alexander, Building Surveyor, Town Hall, Liverpool.

LONGFLEET.—Alterations to 'electric theatre' Highest-street, for the Popular Bioscope Syndicate, Ltd.

LOSTWITHIEL.—Proposed workmen's dwellings; Mr. J. Knight, Surveyor, Town Hall.

LOWER BRAMPTON.—Church; Vicar, St. Thomas Church, Chesterfield.

LOWESTOFT.—Plans have been passed for additions to school, Herring Fishery Score, for the Churchwardens of Christ Church; and for eight houses, Beccles-road, for Mr. C. Ansell.

LUDDENHAM.—Factory, Upleas Marshes, for the Explosives Loading Company.

MALBOROUGH.—Housing scheme (2,600); Mr. J. W. Brooke, Surveyor, Town Hall.

MEASGAS (near Newport).—Engine shed offices, etc. (45,000), for the Great Western Railway Company; Messrs. E. C. Jordan & Sons, Harrow-road, Newport, Mon.

MIDDLESBROUGH.—Picture theatre, near Newport-road, for the Middlesbrough Pavilion Company, Ltd.; Mr. J. Forbes, architect, 45, Albert-road, Middlesbrough.

NEW BRANCOPETH.—Institute, New Brancopeth Colliery, for Messrs. Colclough & Co., colliery owners, New Brancopeth Colliery.

NEWCASTLE-ON-TYNE.—Alterations at Central Primitive Methodist Church; Messrs. T. Davidson & Son, architects, 1, Eldon-square, Newcastle-on-Tyne.

NEW HUNSTANTON.—Shelters at foot of the Gress (720); Messrs. F. Southgate & Son, builders, Hunstanton.

NEWLYN.—School; Mr. H. Madder, architect, Marrabe-road, Penzance.

NEWTON HEATH.—Proposed rectory (1,800); Vicar, St. Anne's Church, Newton Heath.

* See also our list of Competitions, Contracts etc., in another page.

Tredgar (Mon).—Police-court and
ons to station (1,445); Mr. C. H.
builder, Malpas-road, Newport.
m.—Proposed extensions to Hayside
Church for the Vicar.
n.—Additions to nurses' home (360).
eders (500); Mr. P. Peckitt, Clerk,
id and Lotheringland Guardians' Offices,
oft.
y.—Rebuilding works for the Seedhill
Company, cloth finishers.
Tree.—Enlargement of school (9,400);
Liggins, builder, 44, Forester-street,
norton.—Alterations at St. Mark's Day
Newtown (600), for the Trustees.
ance.—School; Mr. T. H. Cornish,
ion Officers, Penzance.
n.—Alterations and additions to Baptist
Hill-street, for the Trustees.
ssie.—Hall for the Managers of the
Church, Rathven.
hoo (Ovingham).—Adaptation of
e House into Council Offices (490);
R. Smithson & Son, builders, Beau-
rick Works, Prudhoe.
bottom.—Tram-car shed and dépôt;
Thomas H. Bell, Surveyor, Town Hall,
ntom.
n.—Enstall.—Houses, Carr Hall Estate;
y. Ashworth, builder, Burnley-road,
oat, Manchester.
ish.—Extensions to works for Messrs.
Brothers, Ltd., crane manufacturers.
ill.—Police and fire stations, London.
Mr. F. T. Clayton, Engineer, Town
Leigate.
erham.—Theatre, High-street (20,000).
ssrs. Haffey & Stepples.
y.—Bank; Messrs. T. Lowe & Sons,
s, Curzon-street, Burton-on-Trent.
n.—Infirmary and cottage home;
Guardians' Offices, Ruthin.
ustell.—Vicarage, Charlestown (1,000).
C. Andrews, architect, Biddicks-court,
stetl.
urn.—Alterations to brine baths; Mr.
nton, builder, 39 and 40, New Elvet,
n.
wich.—Extensions to Guildhall (1,126);
Turner & Watts, builders, Cattle
Sandwich.
.—Enlarging club; Secretary, Con-
re Club, Selby.
ish.—Underwood.—Proposed school; Mr.
ggs. Architect, Shire Hall, Nottingham.
ampton.—Premises, Western Shore, for
Pirelli, Ltd., manufacturers of electric
etc., 45, Basinghall-street, London, E.C.
have been passed for nine houses,
s-road, for Messrs. Jukes & Son; also
ditions to laundry, Warren-avenue, for
Cawte. Plans for additions to Angle-
even have been lodged by Mr. W.
w.
Pelaw.—Proposed twenty houses for
th-Eastern Railway Company, York.
ord.—Extensions to St. Mary's Church;
B. Jackson, architect, 3, New square,
s Inn, W.C.

Stonehouse.—Alterations to school (408);
Mr. H. W. Household, County Education
Offices, Gloucester.
Studley.—School; Mr. J. Willmott, architect,
6, Waterloo-street, Birmingham.
Sunderland.—Steel wire mill and warehouse,
corner of Roker-avenue and Portobello-lane,
for Messrs. Craven & Speeding Brothers, rope
manufacturers, Fulwell-road, Monkwearmouth.
Swansea.—Central stores (15,000); Mr.
George Bell, Engineer, Town Hall, Swansea.
Thornton.—Mission hall; Vicar, Parish
Church, Thornton.
Urmston.—Alterations at Lord Nelson Hotel
for Mr. John Duggan.
Wadhurst.—Drill hall; Messrs. E. Punnett
& Sons, builders, Springwell-road, Tonbridge.
Wakefield.—Alterations to British Oak
Hotel, Kirkgate, for Messrs. Beverley Brothers,
Ltd., brewers, Eagle Brewery, Harrison-street.
Wakefield.—Messrs. Simpson & Firth, archi-
tects, 8, Southgate, Wakefield.
Waterloo.—New schools and alterations at
Lowton School (4,000); Trustees, Parish
Church, Pudsey.
Watford.—Mortuary (545); Mr. H. M.
Turner, Clerk, Guardians' Offices, Watford.
West Bridgford (Notts).—School, Exchange-
road (4,960); Mr. J. Greenwood, builder, 2,
Wood-street, Mansfield.
West Hartlepool.—Swimming-baths on site
south of Carr House; Mr. Nelson F. Dennis,
Engineer, Town Hall, West Hartlepool.
Westoning.—School (1,495); Messrs. Smith
& Son, builders, Thorpe-street, Raunds,
Northants.
Weymouth.—Improvements at Harbour
(12,000); Mr. W. Barlow Morgan, Engineer,
Town Hall, Weymouth.
Willenball.—Church, Temple-road; Vicar,
St. Anne's Church, Willenball.
Woodford-cum-Membris.—School (2,700);
Mr. George H. Lewin, Architect, County Edu-
cation Offices, Northampton.
Yeovil.—Adaptation of premises, rear of
Town Hall, as fire-station; Mr. Warren, archi-
tect, care of the Town Clerk, Town Hall,
Yeovil Buildings, site of Recklesford School,
for Messrs. Petters, Ltd., oil-engine manufac-
turers, Nautilus Works, Yeovil.
York.—Thirty houses, Alma-terrace, Fulford-
road (6,395); Messrs. G. Lough & Co.,
builders, 11, Waterloo-road, Blythe.

fire. Among the many forms of barless fires
now on the market, the "Hue" fire claims
the distinctive advantage of being designed
and manufactured to suit the base area of
existing grates, so that the economy of fuel
and increased heating power which result
from the adoption of a barless fire may be
obtained without the added cost and labour
of removing existing chimney-pieces and
scrapping existing stoves. The fire is clean
in use, the ashes finding their way into a
specially constructed closed pan under the
bottom grate, which can be removed and
emptied without inconvenience. For hotels,
offices, waiting-rooms, and dwelling-houses, and
indeed in every case where a bright and
cheerful fire is required at the minimum of ex-
pense, its introduction should usher in a period
of heat, utility, and economy unknown before.
Where existing grates possess very shallow
fires, under 8 in. from back to front, the firm
recommend the use of their special heavy
brick backs for deflecting the heat. The iron
backs can in most instances be readily re-
moved and the new bricks inserted without
taking out the existing stove or touching the
mantelpiece and surroundings. In cases where
it may be undesirable to remove the back and
sides, a "Hue" fire can be specially cast to
fit. In addition to the adaptable "Hue" fire,
complete "Hue" interiors are supplied in
many styles. Among other important con-
tracts, Messrs. Young & Marten have recently
supplied the Three Counties Asylum with over
150 of their fires.

FOREIGN AND COLONIAL.

Agricultural College, South Africa.

H.M. Trade Commissioner reports that,
according to information received from the
Commissioner of Customs and Excise at
Pretoria, it has been officially announced that
the Government intend to proceed with a
scheme for establishing an Agricultural
College at Pretoria, 700,000, having been set
aside for the construction thereof.

Wharves, etc., Mexico.

H.M. Consul-General reports, on the
authority of the local Press, that the Mexican
Department of Communications has signed a
contract with Messrs. S. Pearson & Son, Ltd.,
for the construction of two wharves and several
warehouses at the port of Coatzacoalcas. The
work will be begun as soon as the Chamber
of Deputies approves the contract.

Building Materials and Plant for Arsenal, Switzerland.

The *Feuille Fédérale Suisse* (Berne) of
December 4 contains a decree earmarking a
credit of 766,000 francs (30,640*l.*) for the con-
struction at Lyes of an arsenal, together with
magazines and other departments.

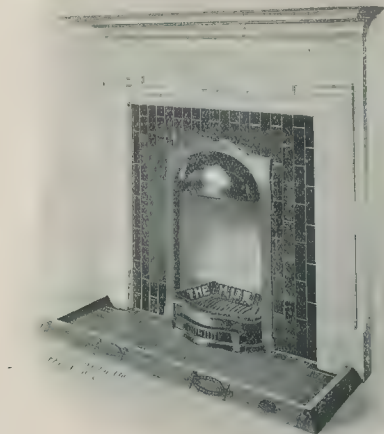
TRADE CATALOGUES.

We have received a supplementary list of
electric-light fittings from Messrs. A. Emanuel
& Sons, Ltd., of George-street, Manchester-
square, W. The illustrations in this list have
been arranged so as to show each particular
fitting as accurately as possible, and very many
of the fittings illustrated have been specially
designed by the firm.

Messrs. Young & Marten, Ltd., Caledonian
Works, Stratford, E., send us a descriptive
booklet dealing with the "Hue" adaptable



The "Hue" Fire adapted to an existing stove.



The "Hue" Barless Hearth Fire.

THE LONDON ALMANACK.

Mr. Monk's *Calendarium Londinense*, 1913, hand-printed and published at 72, New Bond-street, has for headpiece an etching of the Guildhall, with a portion of the Church of St. Laurence Jewry in the foreground. It will be seen from the small illustration on this page how this classic building dominates Deane's elevation to the Guildhall. The etching includes also a view of the eastern wing and the entrance to the Art Gallery, the proposed rebuilding of which, from the design of Mr. Perks, is being discussed so exhaustively by the Corporation.



The London Almanack, 1913.

By Mr. W. Monk, R.E.

Mr. Monk's etching, therefore, is not only of topical interest, but, assuming that alterations will be made shortly, is of value as a record of the existing building and its surroundings. This, indeed, is one of the objects the artist has in mind in issuing the broadsheet every year, namely, to perpetuate the appearance of contemporary London. Since the calendar is worthy of preservation, the series forms an historical record. It has now been published for eleven years, and should be known to all Londoners. The size is 15 in. by 11 in.

QUESTIONS IN PARLIAMENT.

Victoria and Albert Museum.

In Tuesday's Parliamentary papers Mr. Grant asked the President of the Board of Education whether he would say what use had been made of Rooms 101-106, formerly Jones Collection, in the Victoria and Albert Museum since the date when the new fireproof roofs were completed in 1911; and how long such valuable exhibiting space was to remain closed to the public, seeing that the need for more room was referred to in the Report on the Victoria and Albert Museum for 1911.

Mr. Pease said, in answer to the first part of the question, the rooms referred to had been used for temporary purposes such as the preliminary display of objects offered on loan or for purchase. With reference to the last part of the question, he hoped to make a statement early next year.

Mr. Grant also asked if the President would state when the repairs to the ceiling of the gallery leading to the lecture theatre of the Victoria and Albert Museum and the replacing of the flooring in that gallery, recommended by the Committee in their Report lately presented to Parliament, would be taken in hand; and whether the original colouring of the walls of that gallery, to match the colouring of the twelve ornamental columns of the gallery, could now be proceeded with.

Mr. Pease said, in regard to the ceiling and the flooring of the gallery in question, steps were being taken to carry out the recommendations of the Committee referred to. The question of the colouring of the walls was reserved for the present.

Regent's Park.

Answering a question from Mr. Cassel, Mr. Runciman said the attention of the Commissioner of Woods, who had charge of the

Crown estates in London, had been called to a resolution of the Marylebone Borough Council. It was intended to retain, but not to increase, the number of residences at present in the Park, and before the surrender or falling in of the lease of such a residence careful consideration was given by the Commissioner, in communication with the Office of Works, as to whether any, and, if any, what, land held with the house could with advantage be added to the area open to the public without unduly affecting the letting value of the residence, and wherever that could be done land was added to the open area before granting a renewed lease.

In the Parliamentary papers Mr. Cassel asked the representative of the First Commissioner of Works whether his attention had been called to a resolution passed by the Marylebone Borough Council protesting against the erection of any additional buildings in Regent's Park, and desiring that its value as an open space might be preserved for the use of the public; and whether the Government were prepared to give effect to this resolution by refusing to allow any buildings to be erected on any lands to be enclosed in the Park, and throwing open to the public any lands now enclosed whenever leases fall in and a suitable opportunity arose. Mr. Wedgwood Benn replied that the resolution referred to had been seen by the First Commissioners. The control of buildings in the private enclosures were not, however, within his control but that of the Commissioners of His Majesty's Woods. It was the policy of the First Commissioner to acquire, as opportunity offered, parts of the enclosures and to add the land so acquired to the area of the Park.

New Delhi.

Mr. King asked the Under-Secretary of State for India whether the estimate of 4,000,000, which had been made of the amount to be expended by the Government of India on the new Delhi was adhered to; and, if so, whether a statement of such estimated expense could be given, distinguishing the sums for purchase of ground, for laying-out, draining, and clearing the site, for building Government House, for building other Government buildings, and for fittings and furniture.

Mr. H. D. Baker: "In the course of the Budget discussion in the Legislative Council the Viceroy, on March 25 last, stated that he had good reason to believe that with proper care and supervision the sum of four millions sterling would be in the end but little, if at all, exceeded by the time the city is built. The Secretary of State is not aware of any fresh circumstance suggesting a modification of this figure, but no detailed estimates of expenditure under different heads are as yet available."

Town Planning.

Mr. J. Taylor asked the President of the Local Government Board if he would state how many cases of the compulsory purchase of land for the purpose of housing and town planning had been sanctioned since the passing of the Housing, Town Planning, etc., Act; the price paid for the land so acquired; and the relation such price bore to the annual value as shown by the rate-books or by Government valuation.

Mr. J. Burns said that only one order for the compulsory purchase of land for housing purposes had been confirmed by the Board under the First Schedule to the Housing, Town Planning, etc., Act, 1909, viz., the Erpingham Order, parish of Edgefield. In that case the arbitrator had awarded 382l. The sum was thirty and a half times the gross estimated rental of the property bought. He was not, of course, aware how the sum awarded was arrived at, and whether any sum was included in it for severance or injurious affection.

Edinburgh Buildings.

Mr. Hogge asked the representative of the First Commissioner of Works whether he could state the precise nature of the offer made by the First Commissioner of Works to the Edinburgh City Council in adjusting the building line in connexion with the laboratory at the Royal Botanic Gardens; and whether he could state why it was now proposed to make additions at the rear of the laboratory, seeing that when the building was erected originally it was stated that such space could not be taken from the gardens. Mr. Wedgwood Benn, in reply, said the whole matter of the building line in Inverleith-row was now the subject of negotiation between the First Commissioner and the Edinburgh Town Council, and a satisfactory outcome was anticipated.

Government Buildings, Scotland.

Mr. Hogge, on Tuesday, asked the Hon. Member for St. George's-in-the-East, as representing the First Commissioner of Works, whether the designs for any new Government buildings in Scotland would be thrown open to competition among Scottish architects; whether, in the case of the proposed Scottish offices to be erected in Edinburgh on the site of the existing Calton Gaol, it was proposed to invite outside competition; whether, seeing the existing buildings were at present in use as a prison, for which no new site had been acquired, there was ample time for competitive designs to be invited; and whether, if the designs were not to be thrown open for competition, the First Commissioner of Works would at an early date place the model of the proposed buildings in the Tea Room, so that all Scottish Members might see what was contemplated.

Mr. Benn said the First Commissioner invited the assistance of a small Committee of Members of Parliament, who decided against an open competition. The Calton Hill Buildings would therefore, be designed in the Office of Works. An independent Scotch architect of high standing would be asked to advise on the matter. The First Commissioner would be happy to give all the Scottish Members an opportunity of inspecting the plans and model before the building was put in hand.

Lord Balcarras asked if this meant that the independent Scottish architect of high standing was going to be allowed to reverse the plans which had been prepared.

Mr. Benn said he would be consulted as to the merits of the plan which had been prepared. Lord Balcarras asked if it would not be better if he were to prepare the plans himself.

Mr. Benn: That is a matter of opinion.

ROYAL COMMISSION ON SEWAGE DISPOSAL: EIGHTH REPORT.

It was in August, 1893, that the *Builder* first referred to the bacterial purification of sewage in connexion with the evidence given by Professor Sims-Woodhead before the Royal Commission on the London Water Supply, and five years afterwards, in the sixty-first year of the reign of Queen Victoria, the Royal Commission was appointed that has now issued the eighth Report.

By far the greater part of their labours has been devoted to the investigation of the application of bacterial processes to a solution of the sewage problem, and it was this aspect of the subject that first led to its appointment.

Fourteen years seems a long time for the work of any Commission, and only three out of the eight original members have survived to sign the latest Report.

What they have done and the methods they have adopted have been the subject of some severe criticism, and, in the light of their latest production, a good deal of this has been well deserved.

Many persons who were in a position to form a sound judgment soon came to the conclusion that the Commission were not well equipped for the work they had undertaken, but this opinion was greatly qualified by the fact that it was really pioneer work they were called upon to deal with, and that only men of altogether exceptional training and ability could have mastered the situation. The result of this inadequacy has been only what might have been expected. The Commission, having taken a vast amount of conflicting or inconclusive evidence, set themselves simply to observe what was being done all over the country under the pressure of statutes which there were no means of complying with, and without raising a word of protest against prodigious sums of money spent upon schemes that might well have been held back until the Commission were in a better position to form a definite and approximately final opinion.

This attitude of observation entailed an amount of scientific research that would have been quite proper subject-matter for a national laboratory, but it has had the effect of retarding the practical objects the Commission were called upon to deal with. If there were any doubt about the justice of these observations before the production of the latest Report they have been quite set aside by its appearance, and embodies an absolutely common-sense view

whole subject which might have had effect to it within a few months of their appointment. This would, at any rate, have secured modification of the law that has led to these disputes, and which, after fourteen years of laborious investigation, they at last seem should be altered.

There is now good reason to believe that their Report will be heartily welcomed, and that one more than the ratemayer.

The first paragraph of their summary of discussions runs as follows:—"The law should be altered so that a person discharging sewage into a stream should not be deemed to have committed an offence under the Rivers Pollution Prevention Act (1876) if the sewage is discharged in a form which satisfies the requirements of the prescribed standard." The prescribed standard, both as regards undissolved matter and dissolved oxygen, taken over five days, should be regarded as satisfactory, and the more so as it includes the effect of dilution which, although obvious to the first hand, is not given to it.

The Royal Commission on Sewage Disposal started on the lines of the classical investigations of Pettenkofer, carried out long before their appointment, they might have reached at their present conclusions many years ago.

The recommendation in a previous Report of a Central Authority should determine the law to be applied was positively alarming, but a very different matter now that reasonable means are to be determined before its appointment.

Experts will still await the issue of the Report to the eighth Report with some interest, seeing that the technical details involved in carrying out the proposed tests are what difficult, and an apparatus previously recommended by the Commission has been the cause of unfavourable criticism. No doubt proposed arrangements have now been suggested, so that there is good reason to expect the very expensive anomaly of the law of pollution, being impossible to comply with, will no longer exist.

It is well that ends well, and there should be general sense of satisfaction that the Royal Commission on Sewage Disposal has at last reached at such common-sense conclusions.

METROPOLITAN ASYLUMS BOARD.

At the fortnightly sitting of the Metropolitan Asylums Board on Saturday evening matters were dealt with:—*Green Hospital*.—A letter was received from the Local Government Board, assenting to the structural alterations involved in proposals regarding the Joyce Green site of six iron bridges of two tiers each, and asking for a complete estimate of cost.

Levensden Asylum.—It was decided, subject to the sanction of the Local Government Board, to accept the tender of Messrs. H. G. & Co., amounting to £5,335, for the erection of four of the double cottage blocks above hospital, and, at the same time, to be furnished with a complete estimate based upon a tender. Tenders had been obtained, and the lowest was that of Messrs. Summers, Brothers, Normanhurst, amounting to £1,247. To this had been added 50l. for incidental expenses.

Report was also presented regarding the plan for isolation accommodation, recreation hall, and schoolrooms at the same hospital. It was recommended that no further action be taken for the present in regard to the isolation accommodation, but that the revised plans for erection of a recreation hall and schoolrooms, at an estimated cost of 7,045l., be referred to the Local Government Board for approval.

METROPOLITAN WATER BOARD.

At the monthly meeting of the Metropolitan Water Board on December 13 the following matters were dealt with:—*Prices*.—It was agreed that the following be added to the schedules of prices in relation to the reinstatement of the broken up by the Board within the Metropolitan district:—Lambeth Borough-sprayed macadam, 3s. 6d. per yard;

Tottenham Urban—Relaxing wood on 12-in. granite, 15s. 6d. per yard; Buckhurst Hill Urban—Tar-sprayed gravel, 6d. per yard; Bromley Rural—Tar-painted granite, 1s. 8d. per yard, and tar-painted flint, 1s. 2d. per yard.

Reinforced Fencing.—It was decided to accept the tender of the Reinforced Concrete Fence Posts Company for the erection of a concrete post and wire fence, 3,890 yds. in length, at the Chingford Reservoir, at a cost of 2s. 1d. per yard.

LEGAL COLUMN.

Workmen's Compensation.

In the case of *Garnant v. Anthracite Collieries, Ltd.* (current "Law Reports") the Court of Appeal had to consider a point under the Workmen's Compensation Act in connexion with industrial disease. A workman employed as a collier suffered from nystagmus, and for a time was paid compensation by consent. The employers then applied for a review, and at the hearing evidence was given that, although the man was no longer actually suffering from the disease, the previous attack rendered him liable to a recurrence. The Court on this evidence held that as there was evidence that the effects of the disease still continued, the County Court Judge was justified in holding that the applicant was entitled to compensation.

This decision must be compared with that in *Jones v. New Brynally Colliery Company, Ltd.* (5 Butt. W.C.C. 375), by which a workman in similar circumstances, but where no medical evidence was offered as to the predisposing effects of the disease, was held not to have satisfied the burden of proof laid upon him, since the tendency to nystagmus alleged in that case might have been due to a personal susceptibility not common to all colliers. In the argument in *Garnant's* case some point was endeavoured to be made as to some diseases being scheduled in the Third Schedule to the Act with their sequelae, whilst others, of which nystagmus is one, are scheduled without sequelae. We may point out that in this case there could be no question of sequelae, because the incapacity was held to be caused by the original disease, which left the patient susceptible to a recurrence of the same disease. The term sequelae is added in connexion with certain diseases in the Act because it is well recognised that certain industrial diseases set up diseases of a different nature. For instance, lead poisoning may set up kidney disease, and some diseases may cause paralysis.

The Insurance Act.

A Divisional Court has recently considered three cases under the Insurance Act—*Hurlock v. Shinn*; *Rex v. Hedderick, ex parte Slate*; and *Morris v. Ashton*. The appellants in each case had been convicted of failure to pay contributions under Part I. of the Insurance Act, in respect of Health Insurance, and in the three cases almost every possible technical objection was raised to the convictions. The Court, constituted of three judges, including the Lord Chief Justice, unanimously decided the cases in favour of the Crown.

It may be well, as shortly as possible, to set out the points decided, for it may prevent employers embarking on useless litigation. It appears first to have been contended that a conviction for an offence and an order to pay a contribution could not be contained in one order. Sect. 68, subsect. 2, certainly gives the Court of Summary Jurisdiction power both to inflict a fine and to order payment of contributions withheld, and the Court held that under the Summary Jurisdiction Act, 1879, the order was rightly made. The second point was one which has been freely aired in the Press, that there could be no obligation to pay contributions until the benefits under the Act were arranged. The Court complimented Counsel on his courage in putting forward the contention, but declined to give effect to it. It was also contended that, as Provisional Regulations, the rules were not authorised by the Act, and that certain regulations, including Rule 6, as to the time of payment, were *ultra vires*, and that the body making them were not a "Government Department" within sect. 4 of the Rules Publication Act, 1893. All these objections were overruled, and it is unnecessary for us to enter into the legal arguments. The general public is hardly likely to impugn the Act on technical grounds such as the above, but one point was decided which is of general interest, and which should be especially noted by those liable to pay contributions. In the case of *Morris v. Ashton*, twenty-eight summonses were issued against one employer, who for seven weeks had neglected to pay contributions in respect of four

workmen. It was contended that this constituted one offence, and ought to have been included in one summons. The Court, without not deciding whether offences committed on different days could be included in one summons, held that each offence could certainly be dealt with separately. Thus it will be seen, if default is made in respect of payments due in different weeks, the person in default is liable to be put to the cost of separate summonses.

District Surveyor's Fees.

In the *Lambeth Police Court* on the 9th inst. a test case was tried to ascertain the meaning of sect. 26 of the London County Council (General Powers) Act, 1909, which prescribes the fees to be paid to District Surveyors in respect of skeleton-frame buildings. The section prescribes that the fees shall be equal to two and a half times the fees specified in regard to new buildings by the Act of 1894. As reported in the *Times*, the contention put forward on behalf of the District Surveyor was that this fee was to be in addition to the fee prescribed by the Act of 1894, not in substitution for it. The magistrate declined to accept this view, and it is hard to see how he could have come to any other conclusion. If a unit is mentioned as a basis of computation, how is it possible, in attaining the result, to reckon in the unit itself?

Land Valuation.

In the case of *Hornby v. Commissioners of Inland Revenue*, recently tried in the High Court, a decision of a Referee under the Finance Act was upheld.

A property, "The Rest," at Aisleburgh, was purchased by Mr. Money in 1856 for 2,150l., and it was asserted 402l. had been expended in improvements. He died in 1885, leaving the premises in trust, his widow being tenant for life. In 1902 the trustees expended 50l. on drainage. A neighbouring landowner was very anxious to acquire the property, and after repeated offers the property was sold to her in August, 1910, for 3,500l.

On September 21, 1911, the provisional valuation was served on the trustees, showing original gross value 2,000l. and assessable site value 600l. On appeal, the Referee fixed the gross value at 2,140l. and the assessable site value 740l. Ever since May, 1908, the adjoining proprietor had been offering 3,500l. for "The Rest" and 500l. for an adjoining cottage and stabling, and it was contended on behalf of the trustees that the original gross value as determined by the Referee was not equal to the price which a willing seller could have obtained in the open market on April 30, 1909. No question was raised as to the deductions made to arrive at the assessable site value 740l., and the Court affirmed the Referee on the ground that the offer in question had not been made to a willing seller in the open market. The tenant for life was extremely unwilling to sell, and the purchaser was anxious to purchase, and had in a letter expressed the opinion that she was offering for the whole property, including the cottage and stabling, which were admitted to be 500l., at least 1,000l. more than it was worth. It is obvious that this was an instance of a "fancy price," but the case suggests some curious reflections on the working of the Act. Supposing this sale to have been completed when the sum was first offered in May, 1908, then it would appear that when the provisional valuation came to be made the purchaser could, under sect. 2, subsect. 3, have applied to have a site value calculated on this fancy price substituted for the original site value, and it is certain that no increment value would then be likely to accrue in respect of the property.

Another point in the case deserves attention as illustrating the difficulties attending an accurate valuation of properties. Two experts gave evidence before the judge on behalf of the Commissioners of Inland Revenue as to the value they considered the value of the property in the open market by a willing seller. One of them placed the value at 2,000l., the other at 1,250l. Assuming these experts to be agreed as to the deductions, and that the value remained unchanged, it is obvious, if the lower valuation of one be taken as the original value, and the valuation of the other on the occasion, there would be an increment value duty charged of 150l. The Referee accepted the value of neither, but placed it 140l. higher. These figures well illustrate the uncertainties of valuation and the "happy-go-lucky" nature of taxation based on pure estimate.

Waterworks Breaking-up Streets.

The Court of Appeal, in the case of the *Mayor, etc., of Swansea v. Harpur* (current "Law Reports"), had to consider a point under the Waterworks Clauses Act, 1847. The Corporation, as the water undertakers, had broken up a certain road and laid down a

water-pipe. The work was properly carried out, and the road was made good under the superintendence of the respondent, the Surveyor to the County Council: but eight months after the completion of the work a portion of the road, and the river bank supporting it, slipped into the river. It was alleged by the County Council that this damage resulted from the pipe having been laid in the road, and they claimed compensation under sect. 28 of the Waterworks Clauses Act. The justices were of opinion that the damage was so caused, and ordered the Corporation to pay 87l. 10s., and taxed costs.

The Corporation contended that sect. 28 had no application, and therefore that the justices had no jurisdiction. The Divisional Court held that the justices were right; but the Court of Appeal have now reversed the judgment of the Divisional Court. The point involved was of some complexity, involving the interpretation of several statutes, but, as simply as we can state it, the decision amounts to this. Sect. 28 of the Waterworks Clauses Act, 1847, gives the undertakers powers to break up the streets for the purpose of laying pipes or repairing the same, "doing so little damage as can be in the execution of the powers hereby or by the special Act granted, and making good before the damage that may be done in the execution of such powers." The Court of Appeal held that the damage here complained of was not "damage done in the execution of such powers," as the authorised work had been properly carried out and made good before the damage occurred. But then it was argued that sect. 85 applied, which provides that, "with respect to the recovery of damages not specially provided for," the Railway Clauses Consolidation Act, 1847, is to be incorporated, and by sect. 140 of that Act, damages are to be ascertained by justices. The Court held that the damages not specially provided for mentioned in this section are not damages by way of compensation under sect. 28, but damages for wrongful acts. This case was practically decided when it was held that the damage occurring long after the work under the statutory powers were completed was not damage under sect. 28. If the damage had been done in the execution of the statutory powers it is not decided whether in such cases the justices would have had jurisdiction; but the Court intimated that unless express statutory jurisdiction was conferred then the remedy would be by common law action.

LAW REPORTS.

Action by the Royal Institute of British Architects to Restrain Use of Letters R.I.B.A.

The case of the Royal Institute of British Architects against Mr. Harry Horatio Reynolds recently came before Mr. Justice Warrington in the Chancery Division upon a motion for judgment.

Mr. Whitney, Counsel appearing for the Institute, stated that the action was brought by the Institute of British Architects for the purpose of obtaining an injunction to restrain the defendant, who practised as an architect and surveyor in Birmingham, from using, in connexion with his business as an architect, the letters R.I.B.A. in such a manner as to lead the public to believe that he was a member of the Institute.

It was agreed that the motion should be treated as the trial of the action, and that an order should be made that the defendant should be perpetually restrained from using, in connexion with his business as an architect or surveyor, or otherwise, from using the letters R.I.B.A. after his name, and from carrying on business in such a manner as to tend to the belief that he was a member of, or that his business was in any way connected with, the plaintiff Institute.

His Lordship made an order for an injunction in the terms asked, and directed that the defendant should pay to the Institute the costs of the action, such costs to be taxed in the event of the parties not agreeing them.

KING'S BENCH DIVISION, DIVISIONAL COURT.
(Before Justices RIDLEY and SCRUTTON.)

Action by Builders:

John Thompson & Co. v. Thompson.

The plaintiffs in this case appealed to vary an order made by Mr. Verey, an Official Referee, in a building dispute. The plaintiffs were builders and contractors of Wood-street, Peterborough, and the defendant was Mr. George Thompson, of Sutton Marsh, Long Sutton, and the action before Mr. Verey was to recover the balance of an account for alterations and additions to

Wryde House, Thorney, Peterborough. This residence was acquired by the defendant as a present for his daughter on her approaching marriage, which took place in the spring of 1911, to Mr. H. S. Dixon-Spain, land agent to the Earl of Leicester. The house was built in 1862, and up to the time of the purchase by the defendant had been used as a farmhouse. It was stated on behalf of the plaintiffs that no architect had been employed in the undertaking, and, save for a rough plan, no plans were ever prepared but those by the plaintiffs, who, consequently, as well as being contractors, were their own architects. Prior to the case coming before Mr. Verey, architects and surveyors of repute—including Sir A. Brunwell Thomas, F.R.I.B.A.—went to Wryde House, and they gave evidence before the Official Referee as to the value of the work done. The claim on behalf of the plaintiffs was 1,741l., and the defendant at first paid them 1,000l. Subsequently, as his Counsel put it, for the sake of peace, he paid a further 400l. into Court, making 1,400l., in satisfaction of the claim. The Official Referee found this sum was sufficient to satisfy plaintiffs' claim, and therefore gave judgment for the defendant with costs, after deducting therefrom the plaintiffs' costs up to the time of the payment into Court.

Mr. Atkin, K.C., for the respondent, took a preliminary objection that there was no right of appeal on a question of costs only.

The Court overruled the objection, and decided to hear the appeal.

Mr. Compton, K.C., for the appellants, said, as his clients had succeeded on the 400l. paid into Court, they were entitled to the costs up to the time of the judgment. The appellants declined to accept the 400l. as a present, as they considered they were entitled to more, and would fight for it as a right. They had fought and won on the 400l., and were, therefore, entitled to the costs of a successful litigant. In pursuing a honest claim a litigant should not be deprived of his costs because he recovered a less sum than he considered he was entitled to.

Without calling on the other side, the Court held that the Official Referee had exercised the discretionary powers vested in him, and he was right in doing so. The Court could see no reason for interfering with his judgment, and the appeal would be dismissed with costs.

KING'S BENCH DIVISION: DIVISIONAL COURT.
(Before the LORD CHIEF JUSTICE and Justices PHILLIMORE and PICKFORD.)

Builder and the Insurance Act:

Important Appeal.

ON Wednesday and Thursday, December 11 and 12, the Court dealt with important appeals under the Insurance Act affecting all employers of labour. One of the appellants was Mr. Walter Slate, builder, of Brecknock-road, Edlington, who was fined 50s. and 5s. costs at the North London Police Court in respect of eight summonses, and 1s. and 2s. costs in respect of others for failing to pay the necessary contributions under the Insurance Act. Mr. Slate was ordered to pay up all arrears of contributions. The appeal came before the Court on a *rule nisi* for *certiorari* to the Stipendiary Magistrate, directing him to show cause why the convictions should not be brought into the High Court to be quashed.

The Solicitor-General (Sir John Simon, K.C., M.P.), Mr. Travers Humphreys, and Mr. Branson appeared to oppose the rule on behalf of the Insurance Commissioners; while Mr. Jellicoe, on behalf of the Insurance Act Amendment Society, represented the appellants.

The Solicitor-General said the appellant was fined for not paying the whole 7d. a week, part of which he could deduct from the employees' wages. The appellant had taken six points, viz.:—(1) That the making and promulgation of the regulations which formed the basis of the magistrate's decision had not been proved, and that they were invalid as not being statutory rules within the meaning of the Rules Publication Act, 1897; (2) that the regulations were *ultra vires* the powers conferred by the Act; (3) that no insurance card was ever issued to the employee within the meaning of the regulations; (4) that the charge did not amount in law to any offence for which the magistrate was entitled to convict; (5) that the combined effect of the conviction and order for payment of arrears was not within the magistrate's jurisdiction; and (6) that the conviction disclosed no offence under the Act. His friend, proceeded the Solicitor-General, seemed to raise the point that there was no power in the Commissioners to demand contributions, because no benefits had been arranged for, and that there had been a breach of Parliamentary trust, and it was also contended that the magistrate had no jurisdiction to order the payment of a fine as

well as arrears in one conviction. There was no doubt, however, that the Act stipulated for the payment of arrears as well as the penalty, and proceedings by summary jurisdiction was the proper thing. The second point seemed to be equally absurd.

The Lord Chief Justice: Can it be really contended that benefits must all be arranged before the 7d. a week can be demanded?

Mr. Justice Phillimore said it looked like an attack on the administration. It may be a breach of duty on the part of the Government in not providing the benefits, but that did not affect the liability of the subject to pay.

The Solicitor-General further stated that Mr. Jellicoe had raised the point that proper times had not been stipulated for the affixing of stamps on the cards, but the regulations, in his opinion, carefully gave these times. In the case of the appellant, they should be affixed weekly when the wages were paid. But the Court would remember that the appellant was not charged with refusing to stamp the cards, but for neglecting to pay the contributions.

For the appellant, Mr. Jellicoe contended that the regulations did not come within the Rules Publication Act, because that Act had not been complied with by the Commissioners. He also argued that the employer could not be sued for each single week's contribution. That was a serious point, as a great many people might be summoned because, and through ignorance, they had not stamped the cards of their employees. If the statute penalised them for not paying every single contribution, some might have hundreds of summonses issued against them. He would also argue that sect. 69 of the Act did not allow of proceedings being taken by summary jurisdiction, and that the non-paid contributions could only be recovered by civil proceedings. His last point was that the contributions were not payable until something had been done to bring about benefits the Act defined.

Mr. Justice Phillimore said this was a tax just as much as Income Tax was, which the Government had said should be collected.

Mr. Jellicoe agreed that it was a tax, but he did not think the Government should leave it until it could give a *quid pro quo*.

Mr. Sanderson, K.C., M.P., then argued a case in which Mr. Morris, a Hertfordshire farmer, was fined in each of twenty-eight summonses in respect of four employees. He said the contention in that case was that in failing to pay the seven weekly contributions for one employee the appellant had only been guilty of one offence, and he should not be summoned for each week's neglect.

Delivering his judgment the Lord Chief Justice dealt with the three points, viz., that the informations laid did not amount to an offence; that the magistrate had no jurisdiction to order the payment of arrears as well as the fine; and that no appeal had been disclosed by the conviction, his Lordship said a close consideration of the Act would give an ample answer to these questions. There was no doubt that the magistrate had the right to fine the employer and deal with it under the Summary Jurisdiction Act. The Lord Chief Justice complimented Mr. Jellicoe on raising points which would not have been raised except in such a case as this, when it was endeavoured to show that the whole thing was bad. He had been contended that the Insurance Commissioners could not levy contributions until they had completed the regulations dealing with benefits. Again, he complimented Mr. Jellicoe on the courage and ingenuity which prompted him to argue such a point; but it was one which he could not uphold, for if he did it would mean the stultifying of the whole operation of the Act. The contention that the Rules Publication Act had not been complied with, and that no times had been prescribed for the affixing of stamps, also could not prevail, for, with regard to the first point, the rules could not be bad simply because they were provisional, and, with regard to the second, the Act did prescribe times for the affixing of the stamps. Lastly, he would deal with the argument that the Commissioners could not issue summonses for each week's contribution. It might be embarrassing and unfair to summon a man for each week he did not pay; but the Act was plain, and it said that the defendant could be summoned for each offence and be liable to a penalty for each offence. Therefore the appeals would be dismissed, with costs.

Justices Phillimore and Pickford concurred.

A Builder's Appeal Dismissed.

THE Divisional Court, on Friday, December 13, also dealt with the appeal of Mr. Hollidge, builder, of Ruislip, as to a conviction against him by the Uxbridge magistrates for an offence under the building by-laws of the Ruislip-Northwood Urban District Council. Mr. Hollidge, who moved on a *rule nisi* for

vari to quash the conviction, alleged that conviction could not stand because the man of the prosecuting Council, who also a Justice of the Peace, sat on the bench during the hearing of the summons, took part in the proceedings, even though may not have adjudicated. The matter has a before the Court previously, and was turned that certain preliminaries might properly carried out. Mr. MacMorran, K.C., contended, on behalf of the respondent, that the appeal could not be pro- duced, because, before setting the appeal in for hearing, Mr. Hollidge had not given necessary notice according to law to the respective parties. After hearing Mr. Pollock, K.C. (for the appellant), the Court upheld that objection dismissed the appeal with costs.

DIVISIONAL COURT.

before the LORD CHIEF JUSTICE and Justices PHILLIMORE and PICKFORD.)

What is an Addition?

An interesting point was raised before the Court on Friday, December 13 as to what was an "addition" to a building. The question came before the Court on the appeal of the Sunderland Corporation against the decision of the Sunderland Justices, who de- cided to convict Mr. Charlton, of 13, Roper- row, Sunderland, for an alleged offence against the Public Health (Buildings in- crease) Act.

Mr. Simey, on behalf of the Corporation, claimed that Mr. Charlton built a porch in front of his house, and the addition extended 3 ft. He had not received the sanction of the Corporation to the building of porch, and he was summoned for a breach of the statute. The magistrates declined to convict, holding that the porch was not an "addition" within the meaning of the section. The Corporation was that it was an "addi- tion." If it was not that, he could not under- stand what it was, for it certainly was not a structure. The porch, as he had said, extended from the front of the house, and was not, but he agreed that it was built on the ground, so that it could be moved. The LORD CHIEF JUSTICE: Then the question is a movable porch an addition to a building?

Counsel said that was so. The respondent moved the porch 3 in. from the house, and showed, he supposed, that it could be moved. Therefore, it was not, attached to the house at all. At the same time, he contended that same within the statute as an "addition." The Court dismissed the appeal, the LORD CHIEF JUSTICE remarking that the justices had decided that the porch was not an "addition" within the meaning of sect. 3 of the statute, which said that a structure was an addition to a house when built on to the main wall. Therefore, he said to him that the respondent erected something which was connected with the main wall of the house, it could not be said to be an addition.

DIVISIONAL COURT.

before the LORD CHIEF JUSTICE and Justices COLLIERIDGE and ROWLATTE.)

What is a "New Building"?

SOMEWHAT amusing point was decided by the Court on Monday, December 16, when the question: "What is a new building?" was discussed. The matter came before the Court on the appeal of Mr. George James, of Coventry, who contended that the local magis- trates were wrong when they convicted him for erecting a "new building" without his being sanctioned by the Bridgford Sur- veyor, and for occupying the building without the certificate of the Council to the point as to whether it was fit for human habitation.

Mr. MacMorran, K.C., who appeared for appellant, explained that his client was occupier of two vans, one of which he used for sleeping and the other for living in. One day he built a dwarf wall, and placed the side of the vans on it while against the other side of a van he built a chimney-stack. He was at once summoned by the local authority for erecting a "new building" without approved plans, and for occupying the new building without a certificate that it was fit for habitation.

The magistrates fined him 40s. in each case. Counsel argued that the fact that a dwarf wall was erected under the vans and a chimney-stack added could not make a "new building" of vans which had been occupied three years, and it was rather late in the day to ask for a certificate to the effect that vans were habitable. The LORD CHIEF JUSTICE dismissed the appeal, thus affirm- ing the decision of the justices. The LORD CHIEF JUSTICE remarking that the magistrates decided question on the facts, and they did not see any way to interfere.

CHANCERY DIVISION.

(Before Mr. Justice PARKER.)

Heavy Claim by and against Contractors:

J. Aird & Co. v. the Tanjong Pagar Dock Board.

As already stated, the plaintiffs claim from the defendants 500,000*l.*, as damages for alleged breach of contract in connexion with the construction of a wet dock at Singapore. Plain- tiffs, who are the well-known contractors, allege that the defendants misrepresented the conditions under which the contract was to be carried out, and, therefore, that they were justified in repudiating the contract. De- fendants denied these allegations, and served a notice on the executors of the late Sir John Aird, who in his lifetime was a member of the plaintiff firm and a party to the contract, making a claim against his estate of about 1,000,000*l.*, as damages for breach of contract.

Mr. Upjohn, K.C., Mr. Macassey, K.C., and Mr. Schwartz appeared for the plaintiffs; and Sir R. Finlay, K.C., Mr. George Cave, K.C., Mr. Romer, K.C., Sir Hugh Fort, Mr. Mathews, and Mr. Hull for the defendants. When the hearing was resumed last week his Lordship said there were two charges of fraud—one, the fraudulent statement that the pits were sunk to a certain level; and the other, concealing facts which they knew re- garding those pits. With regard to the second point, his Lordship said he was inclined to agree there was not sufficient evidence to find there was any fraudulent concealment at all. He believed Mr. Wilson, Mr. Warren, and Mr. Nicholson all thought the angle of repose of the mud was one and a half to one, and they discovered nothing, the results of the sinking of the pits which would lead them to the conclusion that it was otherwise. It was a natural finding, for it was quite incon- ceivable that anyone concerned should forward plans which they knew to be false.

Mr. Cave asked if, in the event of the issue of fraud failing, it would be open to the plaintiffs to seek relief upon the footing of innocent misrepresentation.

His Lordship said he was not going to put the parties to the test of having another forty days' trial on the question of innocent misrepresentation. He intended dealing with the whole matter, and, if necessary, would allow amendments.

Mr. Cave: If the plaintiffs charge dishonesty the Court will not allow them to amend?

His Lordship said if it was necessary to make a precedent, he was going to do so. To tell the truth, having regard to all the circumstances of the case, it seemed to him that if there was a case where a person was *prima facie* justified in charging fraud this was one.

Mr. Cave: I ask that you will not lay it down as a rule that if you are suspicious you make a charge of fraud.

His Lordship: It is more than suspicion. They knew that the defendants must have known that the statement was untrue. Why should the plaintiffs, who must have lost thousands of pounds, be put to any extra cost?

Mr. Cave submitted that, as the pleadings stood, the plaintiffs could not succeed without proving dishonesty.

His Lordship said they had here what he understood to be a Government department, and these people had been misled by what they said were misrepresentations. That was his present opinion. He thought that that was undoubtedly clear from the moment Mr. Liddle had given his evidence, having regard to the line the cross-examination had taken. The serious question of law which arose was whether, under those circumstances, they could retain the bargain. Under the circumstances, it did not recommend itself to him (his Lordship). He would relieve Counsel on the point as to whether anybody intended to deceive. He had made up his mind that they did not.

Other technical evidence was then called, and Counsel for the respective parties then addressed the learned Judge, and the argu- ments were proceeding when we went to press.

District Surveyors' Fees.

FOUR summonses came before Mr. Cecil Chapman at Tower Bridge Police Court on the 11th inst. Mr. Robert John Angel, Borough Surveyor of Bermondsey, was sum- moned for "that he, being a person who ought to serve a building notice, did fail to do so, and did begin to execute work in respect to which he ought to serve a building notice before serving such notice."

Mr. Daldy appeared for the complainant, Mr. Charles Archibald Daubney, District Sur- veyor of Rotherhithe; Mr. MacMorran, K.C., appeared for the Bermondsey Borough Council.

The District Surveyor contended that where the Borough Surveyor, acting for the Borough Council, in laying or reconstructing a sewer,

passed under a structure or building, or within 3 ft. of it, notice must be served and fees paid.

For the defence, Mr. Angel said that in three of the four cases the sewers passed under buildings, but in no case was the fabric touched.

A question arose as to the interpretation which was placed on the word "foundation," and Mr. Daldy, cross-examining, quoted from the Building Act the words: "The footing shall rest on solid ground, or upon concrete, or upon other solid substructure." The witness replied that if the footings rested upon con- crete that would be called foundation, but solid ground was no part of the foundation.

Mr. Cecil Chapman: You say that if it rests upon something natural you don't call that foundation?—The Witness: Yes.

Mr. MacMorran, addressing the Court, said that in one case the work carried out was the relaying of a sewer which ran underneath a building, and then emptied itself into the Thames. In the second case the sewer ran underneath a building, and was then turned into a manhole; in the third case a new drain ran part of the way under a wall, but not through it, and was joined up with the old drain, which was thus connected with the sewer trench; in the fourth case they were dealing with a sewer in a passage.

The claim of the District Surveyor in this case (Council went on) was a novel one. It was not quite a new one, but it was novel, and the Bermondsey Borough Council—as he thought other Borough Councils must be—were in a state of very considerable alarm, because if a local authority carrying out sewerage work was required to give building notices, and to pay fees to the District Sur- veyor, it was a very serious matter. The learned magistrate had to construe one section and one section only—of the London Build- ing Act, 1894, which provided that where a building, or structure, or work was about to be begun, the person who was going to carry it out must give two clear days' notice.

For the District Surveyor, it had been con- tended that in all these four cases something had been done which came within the descrip- tion "building, or structure, or work." Sect. 138 referred to "all work in or upon any building or structure," and it was not, he thought, an unfair inference that the word "work" meant the same in sect. 145 as in sect. 138. The contention in this case as to the 3 ft. limit would apply to the electric cables and to gas-mains. He asked his Worship to say that a sewer was not a build- ing, structure, or work under the London Building Act. The persons here laying the sewers were persons acting under statutory powers, and they were doing this work under statutory powers.

Mr. Daldy argued that there was no exemp- tion in favour of the sewer authority from the provisions of the London Building Act.

Mr. Cecil Chapman said it seemed to him that it would not be necessary for notice to be given of something which was being done in connexion with a building by some person who was not the owner but a perfect stranger. The matter, however, was of sufficient im- portance for him to consider his judgment.—*Morning Advertiser.*

Case under the Building Act:

District Surveyors' Fees.

AT Lambeth Police Court on the 17th inst., Mr. Hopkins heard a summons taken out by Mr. Percy Hunter, District Surveyor for South Lambeth, against Messrs. F. & H. F. Higgs, builders, of Hinton-road, Loughborough Junction, Herne-hill, for the recovery of 22*l.* 16*s.* 3*d.*, being fees alleged to be due in respect of building works carried out by the defendants at the Bon Marché, Brixton. Messrs. Higgs have carried out certain works at the Bon Marché, Brixton, rendered necessary in order to comply with the requirements of the London County Council under the 1905 (Escape in Case of Fire) Act, and the contention of the District Surveyor was that certain of the work done entitled him to charge fees under the Act of 1894, in addition to the fees which will become charge- able under the 1905 Act.

On behalf of the defendants, Mr. Percy Robinson contended that the work was all work which was necessary in order to comply with the requirements of the Act of 1905, and that the District Surveyor was only entitled to the remuneration provided by that statute, and was not entitled to any fees under the Act of 1894.

Mr. H. Payne Wyatt, Consulting Architect to the Bon Marché, gave evidence for the defence.

In the result, Mr. Hopkins said he should make no order upon the summons.

Mr. Percy Robinson applied for costs against the District Surveyor, and Mr. Hopkins allowed 3*l.* 5*s.*

RECENT SALES—continued on page 767.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointment, xvii.; Auction Sales, xx. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

DECEMBER 20. — **R.I.B.A. Competitions.**—All work for the Studentships and Prizes, 1913, must be delivered before 4 p.m. at 9, Conduit-street, W.

JANUARY 1, 1913. — **Belfast.**—**DWELLING-HOUSES.**—Premiums of 25*l.*, 15*l.*, and 10*l.*. Particulars in the City Surveyor, Belfast (11. 1*a.*).

JANUARY 1, 1913. — **Dublin.**—**MUNICIPAL BUILDINGS.**—To cost 9,000*l.*. Premium 100*l.*. Particulars from the City Treasurer, Dublin. Deposit, 2*l.* 2*s.*

JANUARY 31, 1913. — **Jamaica.**—**MUNICIPAL BUILDINGS.**—To cost 9,000*l.*. Premium 100*l.*. Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2*a.*).

FEBRUARY 3, 1913. — **Harrogate.**—**SCHOOL.**—The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 4, 1913. — **Hayti.**—**DESIGNS FOR A MUNICIPAL PALACE AT PORT-AU-PRINCE.**—See "Competition News," page 745.

FEBRUARY 15, 1913. — **Winnipeg.**—**CITY HALL.**—Invited to British Architects in Canada. See advertisement in issue of November 1 for further particulars.

FEBRUARY 22, 1913. — **Jordanhill, Glasgow.**—**PROPOSED TRAINING COLLEGE.**—Limited to six designs. Premiums, 10*l.*, 5*l.*, and 3*l.*. See advertisement in issue of November 1 for further particulars.

MARCH 1, 1913. — **Bangoon.**—**MUNICIPAL BUILDINGS.**—The Committee of the Municipality of Bangoon invite designs for new Municipal buildings. Honorary of 800*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in issue of August 2 and 30 for further particulars.

MARCH 1, 1913. — **Sofia.**—**DESIGNS FOR A ROYAL LACE AND LAW COURTS.**—Particulars from the Commercial Intelligence Branch of the Board of Trade, Whitehall-street, E.C. (see page 173, August 9, and page 360, September 27).

NO DATE, 1913. — **Town Planning Scheme.**—Proposed by the Institution of Municipal and County Engineers. Premiums, 10*l.*, 5*l.*, and 3*l.*. See advertisement in issue of November 1 for further particulars.

NO DATE. — **Folkestone.**—**PROPOSED KURSAAL.**—Not to exceed 20,000*l.*. Premiums 100, 50, and 25*l.*. See "Competition News," page November 8.

NO DATE. — **Motherwell.**—**HIGH SCHOOL.**—Dr. Smart, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*.

NO DATE. — **Worthing.**—**NEW CHURCH.**—Such plans are invited for a church to be erected in South Lancing, to cost, when completed, from 4,000*l.* to 5,000*l.*. See advertisement in this issue for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 21. — **Bradford.**—**CONVENTS, ETC.**—For alterations to conveniences, Barkerend, Bradford Moor, and Horton Bank Top Schools. Particulars from the Technical College, Bradford. Plans and specifications of contract may be seen at the City Architect, Town Hall, Bradford.

DECEMBER 21. — **Brayby.**—**COTTAGES, ETC.**—For erection of two cottages and one set of farm buildings at Barrows House Farm, Brayby, near Malton. Particulars from the Land Steward, Small Holdings Department, County Hall, Northallerton.

DECEMBER 21. — **Shfield.**—**EXTENSION.**—For extension of the male sanatorium at the Lion Hospital, Firvale. Plans and specifications of contract may be seen at the City Architect, Town Hall, Bradford.

DECEMBER 23. — **Arnscliffe.**—**EXTENSION, ETC.**—For extension of the male sanatorium at the Lion Hospital, Firvale. Plans and specifications of contract may be seen at the City Architect, Town Hall, Bradford.

Quantities from Messrs. Wright & Son, surveyors, Lancaster.

DECEMBER 23. — **Forres.**—**PICTURE HALL.**—For picture house to be erected in Forres. Plans and specifications with Messrs. C. C. Doig & Son, architects, Forres.

DECEMBER 23. — **Lancaster.**—**ADDITIONS, ETC.**—For additions, etc., to the drill hall, Phoenix-street, Lancaster. Plans with Messrs. Austin & Faley, architects, Lancaster.

DECEMBER 23. — **Liverpool.**—**EXCHANGE.**—For the erection of Canada Dock, Liverpool, Labour Exchange. Drawings, specifications, and conditions of contract may be seen at the Central Clearing House, Harbour Master's House, George's Dock, Liverpool. Quantities and form of tender, on deposit of 1*l.*, from the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.

DECEMBER 23. — **Osselt.**—**HOUSE, ETC.**—Erection of fire-engine house, stovekeeper's house, and stores at the Corporation Depot, Illingworth-street Osselt. Plans and specifications seen, and quantities and form of tender from Mr. H. Holmes, M.Inst.C.E.I., Borough Engineer, Town Hall, Osselt.

DECEMBER 23. — **Prescot.**—**REPAIRS.**—For repairs, decorating, etc., at 40, Market-place, Prescot. Specification at 5, Derby-street, Prescot.

DECEMBER 23. — **Glanmorgan.**—**SCHOOL.**—For twelve contracts. Plans, specification, or quantities of all the works at the County Hall, Cardiff.

DECEMBER 30. — **Pontardawe.**—**OFFICES.**—For the erection of new offices at the Pontardawe Steel and Iron Works, Ltd., Pontardawe. Plans and specifications with Mr. J. Cook Rees, M.S.A., Parade-chambers, North. See advertisement in issue of November 1 for further particulars.

JANUARY 1, 1913. — **Swimming-bath.**—The Southgate U.D.C. invite tenders for erection of an open-air swimming-bath. See advertisement in this issue for further particulars.

JANUARY 1, 1913. — **London.**—**ROOMS.**—For erection of additional bedrooms for officers over the east wing of the front central block at the Infantry Barracks, Whitehall. Plans and specifications seen, and quantities and form of tender from Mr. J. E. P. Hall, Clerk, Town Hall, Pancras-road, London, N. (see advertisement in issue of November 1 for further particulars).

* JANUARY 2. — **Mill End.**—**REBUILDING PARAPET, ETC.**—The Mill End Guardians invite tenders for taking down and rebuilding parapet and other works. See advertisement in this issue for further particulars.

* JANUARY 2. — **Tring.**—**POLICE-STATION.**—The Standing Joint Committee of Hert's C.C. invite tenders for erection of a police-station. See advertisement in this issue for further particulars.

JANUARY 3. — **Bottle.**—**ADDITIONS, ETC.**—For alterations and additions to the Territorial quarters of the 7th Battalion The King's (Liverpool Regiment), in Park-street, Bottle. Plans with the architect, Mr. H. L. Beckwith, Bank-chambers, 3, Cook-street, Liverpool. Specifications and quantities on deposit of 1*l.* 1*s.*

JANUARY 3. — **Llwydcead.**—**BUILDINGS.**—For the erection of an administrative block receiving home, boys' home, stable, etc., at Llwydcead. Plans and specifications with the architect, Mr. Thomas Roderick, Clifton-street, Aberdare.

JANUARY 3. — **Newry.**—**ADDITION.**—For an extension to the existing bridge over the tidal river, Newry. Plans and specifications, and quantities, with Mr. Charles Blaney, Town Surveyor, and Mr. W. A. Scott, A.R.I.B.A., Consulting Architect, Dublin. Quantities by Mr. S. C. Hunter, Building Surveyor, 2, Wellington-place, Belfast. Deposit of 1*l.* 2*s.*

JANUARY 4. — **Ashford.**—**SCHOOL.**—For the enlargement of the boys' Council school at Ashford. Plans and specifications with the Committee's Architect (Mr. W. H. Robinson, M.S.A.) and form of contract may be inspected at Caxton House, Westminster, S.W. Deposit of 1*l.* 2*s.*

JANUARY 4. — **Chatham.**—**SCHOOL.**—For the erection of an elementary school at Ordance-street, Chatham. Drawings, specification, and conditions of contract seen, and quantities and form of tender, at the office of the architect, Mr. George W. Bond, High-street, Rochester. Deposit of 2*l.* 2*s.*

JANUARY 8. — **Tunstead.**—**SCHOOL.**—For the erection of the new school at Tunstead. Architects, Messrs. Olley & Howard, 5, Queen-street, Great Yarmouth. Quantities on deposit of 1*l.* 1*s.*

JANUARY 10. — **South Kirkby.**—**ENLARGEMENT.**—For the enlargement of South Kirkby Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

JANUARY 10. — **Worsborough Dale.**—**ALTERATIONS, ETC.**—For alterations, etc., at the Worsborough Dale Council School. Plans seen, and specifications, with quantities, from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

* JANUARY 11. — **Fordingbridge.**—**ALTERATIONS AND ADDITION.**—The Southampton C.C. invite tenders for alterations and additions to cells and police-station. See advertisement in this issue for further particulars.

* JANUARY 11. — **Iwade, Kent.**—**SCHOOL.**—The Kent Education Committee invite tenders for new Council school of special construction in steel and concrete. See advertisement in this issue for further particulars.

* JANUARY 11. — **Lymington.**—**ALTERATIONS AND ADDITIONS.**—The Southampton C.C. invite tenders for alterations and additions to the cells and police-station at Lymington. See advertisement in this issue for further particulars.

* JANUARY 11. — **Totton.**—**ALTERATIONS AND ADDITIONS.**—The Southampton C.C. invite tenders for alterations and additions to the cells and police-station at Totton. See advertisement in this issue for further particulars.

JANUARY 13. — **Markethill.**—**HOUSES.**—The Great Northern Railway Company (Ireland) invite tenders for the erection of two houses at Markethill Station. Drawing and specification at the Engineer's Office at Dublin and Belfast, and form of tender on deposit of 1*l.* 1*s.*, from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin.

JANUARY 15. — **Balling.**—**COTTAGES.**—For the building of three labourers' cottages at Workhouse-road, Ballina. Plans and specification with the architect, Mr. J. S. Cairns, C.E., Ballina. Tender forms on payment of 5*s.*

JANUARY 15. — **Manchester.**—**LIBRARY.**—Erection of a Carnegie Library at Chorlton-cum-Medley. Drawings seen, and quantities from the City Architect, Town Hall, on deposit of 2*l.* 2*s.*

JANUARY 17. — **Childswickham.**—**ALTERATIONS.**—For altering and extending Childswickham Council School, near Broadway. Particulars from Mr. R. S. Phillips, architect, Shire Hall, Gloucester, on deposit of 2*l.* 2*s.*

JANUARY 18. — **Taunton.**—**BUILDINGS.**—The Somerset County Agricultural Association invite tenders for the erection of the showyard buildings, enclosures, etc., for their forthcoming show, to be held at Taunton. Drawings and specification, with schedules and quantities, with Mr. H. O. Samson, Lic.R.I.B.A., Hammet-street, Taunton, Surveyor to the Association.

* JANUARY 21. — **East Ham.**—**SCHOOL.**—The East Ham Education Committee invite tenders for erection of Brampton-road School, to accommodate 1,491 scholars. See advertisement in this issue for further particulars.

NO DATE. — **Blackburn.**—**WORKS.**—For works to be carried out at Flockton-street, Batis. Specification and form of tender on deposit of 10*s.* from Mr. William Stubbs, A.M.Inst.C.E., Borough Engineer, Municipal Offices, Blackburn.

NO DATE. — **Dundee.**—**COLLEGE, ETC.**—For erection of new training college and college school, Dundee. Quantities from Mr. J. M. Cappon, architect, 32, Bank-street, Dundee.

NO DATE. — **Dundee.**—**RAILS, ETC.**—For levelling and forming playing fields, including cricket pitch and tennis courts, mason work of boundary walls, iron gates and railings, etc. Quantities from Mr. T. M. Cappon, architect, 32, Bank-street, Dundee.

NO DATE. — **Houghton-le-Spring.**—**HALL.**—For proposed new drill hall premises and miniature range at Houghton-le-Spring. Deposit of 2*l.* 2*s.* for quantities to Messrs. Wright & Chapman, Architects, 32, Grainger-street West, Newcastle-on-Tyne.

NO DATE. — **Leeds.**—**FACTORY.**—Erection of clothing factory, Grace-street and Prince-street, Leeds. Quantities from Mr. G. Fredk. Bowman, architect, Greek-street, Leeds.

BUILDING—continued.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

No DATE.—**Leeds.**—FACTORY.—Erection of a small one-story factory, and alteration to existing premises in Camp-road, Leeds. Names to Messrs, Estate Agents, 6, Wormald-row, Leeds.

No DATE.—**Llanidloes.**—ALTERATIONS.—For carrying out alterations to the Public Rooms at Llanidloes. Plans, specification, and particulars from Messrs, Jenkin & Howard Jones, M.S.A., Plas Ynys, Borth, R.S.O.

* No DATE.—**London.**—BUSINESS AND RESIDENTIAL PREMISES.—Tenders are invited for erection of business and residential premises in West-end. See advertisement in this issue for further particulars.

No DATE.—**Mansfield.**—PREMISES.—For erection of new business premises, Leeming-street, Mansfield. Plans and specifications seen, and quantities from Mr. W. C. Jackson, M.S.A., architect and surveyor, 6, Stephenson place, Chesterfield.

No DATE.—**Nelson.**—RESTORATION.—For the restoration of Hendon Mill, Nelson, for the Hendon Room and Power Company. Quantities from Mr. J. Percy Barnshaw, Q.S.A., architect and surveyor, 56, Railway-street, Nelson.

No DATE.—**Penbroke.**—HALL.—For erection of a territorial drill hall and quarters. Drawings and specification with the architect, Mr. H. J. P. Thomas, 9 and 17, Victoria-place, Haverfordwest.

No DATE.—**Penygraig.**—FURNITURE.—For the erection of new premises at Penygraig for the Penygraig Co-operative Society, Ltd. Names to the Architect's Department, Co-operative Wholesale Society, Ltd., 1, Saloon-street, Manchester. Deposit of 11 1s.

No DATE.—**Port Talbot.**—FOUNDATIONS.—For the levelling of the site and the foundations for the Aberavon, Port Talbot, and District Hospital. Plans and specifications with Mr. Frank B. Smith, M.S.A., St. Oswald's-chambers, Port Talbot.

No DATE.—**Weston Favell.**—ADDITIONS, ETC.—For making alterations and additions to the Convalescent Home, Weston Favell. Mr. Walter Shaw, architect, 29, Abingdon-street.

ENGINEERING, IRON, AND STEEL.

DECEMBER 23. **Manchester.**—BATTERY.—Erection at Polygon Works of a testing battery. Specifications and forms of tender from Mr. S. L. Fearce, Chief Electrical Engineer, Dickinson street, Manchester.

DECEMBER 27. **Holbeck.**—LIGHTING.—For the installation of the electric light at the Holbeck Union Workhouse. Particulars from Mr. George Diment, Clerk to the Guardians, Poor Law Offices, Lane End-place, Holbeck, Leeds.

DECEMBER 30.—**Brookenhurst.**—BRIDGE.—For the reconstruction of the superstructure of Brookenhurst Bridge, consisting of two 20-ft. spans of steel decking. Plan and specification, general conditions, and information from Mr. W. J. Taylor, County Surveyor, The Castle, Winchester. Deposit of 21 2s.

DECEMBER 30. **Luton.**—BOILERS.—For supply of steam boilers and steam, hot and cold water services required for the new public baths, in Waller-street. Plans at the Borough Engineer's Office, Town Hall, and specification and form of tender on deposit of 10s. 6d.

* JANUARY 7, 1913.—**London.**—FIREPROOFING.—The Commissioner of H.M. Works and Public Buildings invites tenders for fireproofing the central octagon and wings at the National Gallery. See advertisement in this issue for further particulars.

JANUARY 7.—**South Wales.**—RAILWAY.—The Great Western Railway invites tenders for the construction of a railway in South Wales, between Gwaun-cau-Gurwen and Cwmgorse, about 11 miles in length. Plans and specification seen, and forms of tender and quantities at the office of the New Works Engineer, Paddington Station, London.

JANUARY 8.—**Cottered.**—WELL.—For the repair of the public draw well on the green at Cottered, near Buntingford. Specification from Mr. E. G. Thody, Surveyor, Buntingford.

JANUARY 8.—**Manchester.**—CONCRETE WORK.—For reinforced concrete work at the Carnegie Library, Chorlton-cum-Hardy. City Architect, Town Hall. Deposit of 11 1s.

JANUARY 8.—**Rye.**—BORINGS.—For the sinking of a pair 18-in. borings, 60 ft. deep, at Cadborough Waterworks. Specification and form of tender from Mr. Walter Duwes, Town Clerk, Bank-chambers, Rye, Sussex.

JANUARY 8.—**Rye.**—RESERVOIR.—For the enlargement of service reservoir at Playden. Specifications, quantities, and form of tender from the Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

JANUARY 9. **London.**—DYNAMO, ETC.—For erection of a steam dynamo, switchboard, and connections at the Workhouse, Fulham Palace-road, W. Specification and form of tender from Mr. E. J. Mott, Clerk, 129, Fulham Palace-road, Hammersmith, W. Deposit of 21 2s.

FEBRUARY 8. **Bridport.**—BRIDGE.—For the erection of a bridge at Bridport. Plans, specifications, and particulars from the Engineer, Mr. Fredk. Cooper, East-street, Bridport. Deposit of 21 2s.

FURNITURE, PAINTING, MATERIALS etc.

DECEMBER 21.—**Ebbw Vale.**—PAINTING.—For colouring the Roman Catholic school and Ponty-got girls' school, Ebbw Vale. Specifications and particulars from the architect, Mr. H. Waters, M.S.A., Market-chambers, Ebbw Vale.

DECEMBER 21.—**Poole.**—FENCING.—For fixing wood-framed fencing, covered with galvanised-iron sheeting, at the ballet quay, Hantside. Plans and specifications with Mr. J. Elford, F.S.I., Surveyor, Municipal Offices, Poole.

DECEMBER 27.—**Hartlepool.**—BATHS, ETC.—For fitting of baths, slop sinks, etc., at the Workhouse. Mr. Geo. Kilvington, Clerk to the Guardians, Union Offices, Hart-road, West Hartlepool.

JANUARY 1, 1913.—**Hove.**—WOOD-PAVING.—For providing and laying wood-paving in Hove-villas. Plans, specification, and form of contract from the Borough Surveyor, Mr. H. H. Woking.

* JANUARY 7.—**Brentford.**—BROKEN GRANITE.—The Brentford U.D.C. invite tenders for supply of 300 yds. of broken granite. See advertisement in this issue for further particulars.

JANUARY 7.—**Woking.**—PAINTING.—For painting, etc., at the Pumping Station, South-road, Hove. Specification from Mr. G. J. Woodridge, Surveyor, Council Offices, Woking.

JANUARY 8.—**Rye.**—PIPES, ETC.—For about 117 tons of 8-in. cast-iron socket pipes and 3 tons of irregulars. Specification and form of tender from Mr. Walter Duwes, Town Clerk, Bank-chambers, Rye, Sussex.

* JANUARY 9.—**Hampstead.**—SUPPLY OF MATERIALS, SERVICES, ETC.—The Hampstead B.C. invite tenders for supply of certain materials and execution of certain works and services. See advertisement in this issue for further particulars.

JANUARY 10.—**Warrington.**—BATH.—For the douche bath installation for the Bolton Council Extension, Latchford, Warrington. Specifications and forms of tender from the Director of Education, Education Office, Sunkey-street, Warrington, on deposit of 10s. 6d.

No DATE.—**Bradford.**—SEATING.—Erection of raised seating with reinforced concrete supports at Lister Park, Bradford. Messrs. B. D. Fairbank & Son, architects, 1, Bank-street, Bradford.

No DATE.—**Deerpdale.**—PAINTING.—The Tramways Committee of the Preston Corporation invite tenders for painting and decorating the interior of the power station, car-sheds, and offices, Deerpdale. Specifications and forms of tender from the Engineer and Manager, Holmrook-road.

ROADS, SANITARY AND WATER WORKS.

DECEMBER 21.—**Dunfermline.**—PIPE.—For the laying of about 1,020 yds. of 4-in. water-pipe from Highholm to Kingsgate. Plans seen, and schedules from Mr. W. R. Maxwell, C.E., Borough Engineer, City Chambers, Dunfermline.

DECEMBER 21.—**Greenock.**—SEWAGE.—For the construction of a 15-in. fireclay pipe sewer in Border-street from end of existing sewer westwards to Gall-street. Plans and specifications seen, and schedule, at the Master of Works Office, Municipal Buildings.

DECEMBER 23.—**Dunfermline.**—DRAINAGE.—For digging and restoring of about 624 lin. yds. of track to admit of the extension of the 8-in. water-main at Kirkford. Plans seen, and schedules from Mr. David Macenzie, C.E., District Master of Works, County Buildings, Dunfermline. Deposit of 10s. 6d.

DECEMBER 23.—**Limerick.**—SEWAGE.—For sewer extension at Dungeniv. Plan and specification at the offices of the Clerk of the Council.

DECEMBER 25.—**Manchester.**—SEWAGE.—For 260 lin. yds. 9-in. pipe sewer on side of main road near Elcheton. And 135 lin. yds. 9-in. pipe sewer, with 124 lin. yds. of 4-in. branch drains for house connections at Templar-terrace, Madamsley. Quantities from Mr. G. W. Westgarth, Surveyor, Lancaster.

DECEMBER 28.—**Chesterfield.**—STREETS.—For the making-up of Kent-street, York-street, and Eyre-street, Hugland, South Ward. Particulars at the office of the Borough Surveyor, Salts Gable.

DECEMBER 28.—**Walmers.**—FLINTS.—For supply of 350 cubic yds. of clean flints, Mr. H. Barker, Surveyor, Council Offices, Walmers.

DECEMBER 30.—**Derby.**—GRANITE, ETC.—For granite, basalt, slag, limestone, tarred macadam and tarred chippings. Form of tender and conditions of contract from Mr. G. W. Horton, A.M.Inst.C.E., County Surveyor, County Offices, St. Mary's Gate, Derby.

JANUARY 1, 1913.—**Chester-le-Street.**—ROADS.—For making-up three private streets at Eighton Banks, in the parish of Lameley, and four private streets at Fatfield, in the parish of Haxton. Plans and specification seen, and quantities, forms of tender, from Mr. G. W. Arlton, Highway Surveyor, Chester-le-Street, on deposit of 11 1s.

JANUARY 1.—**Harwich.**—GRANITE.—For the supply of about 700 tons of 13 by 4 in. broken granite and 1-in. granite chippings. Mr. F. Harold French, Borough Surveyor.

JANUARY 1.—**Harwich.**—SEWAGE.—For the construction of new drains and incident works at station of new sewage works at Harwich, Victoria-street, Dovercourt. Specification, quantities, and form of tender, on deposit of 11 1s. from Mr. F. Harold French, Borough Surveyor, Harwich.

JANUARY 1.—**Huddersfield.**—MATERIALS.—For supply of granite, dress, etc. Forms of tender from Mr. J. Sharp, Clerk, 23, John William street, Huddersfield.

JANUARY 1.—**Pontypridd.**—ROAD.—For the completion of the new Elm-vee-way, on branch roads, all 36 ft. in width. Plans and specification seen, and quantities and forms of tender from Messrs. G. S. Marlow & T. Saunders, engineers, School-street, Pontypridd, Glam., on deposit of 51.

JANUARY 2.—**Reading.**—DRAINAGE.—For the construction of about three-quarters of a mile of sewerage pipe sewer, together with manholes and other appurtenances. Specification, general conditions, and quantities, with form of tender, from the engineers, Messrs. John Taylor, Sons, & Santo Crimp, Caxton House, Westminster. Deposit of 21.

JANUARY 2.—**Reading.**—ROAD.—For making-up the Highwood-road, extending from the Albert-road to Kidmore-road. Drawings seen, and specifications and general conditions, and forms of tender from Mr. John Bowen, A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Reading.

JANUARY 2.—**Rollleston.**—SEWAGE.—For the laying of about 550 yds. of 6-in. stoneware pipe sewer, and the construction of small settling tank. Plans seen, and quantities from the engineers, Messrs. Sands & Walker, Milton-chambers, Nottingham.

JANUARY 2.—**Waltham.**—MATERIALS.—For supplying road stone of different gauges, chippings, screenings, and for tar-macadam. Forms of tender and particulars from Mr. E. W. Jones, County Surveyor for Roads and Bridges (Eastern Division), Wrexham.

JANUARY 4.—**Bexhill.**—ROADS.—For making-up Bedford-avenue, Canteluppe-road (part), Jameson-road (part), and Rotherfield-avenue. Plans seen, and specification, quantities, and forms of tender from the Borough Surveyor Mr. Geo. Ball, A.M.Inst.C.E., Town Hall. Deposit of 11 1s.

JANUARY 4.—**Dorchester.**—MATERIAL.—For the supply of road material. Forms of tender from the County Surveyor, County Offices, Dorchester.

JANUARY 4.—**Northallerton.**—MATERIALS.—For supply of broken and unbroken stone for the maintenance of the main roads. Forms of tender and conditions of contract from Mr. W. G. Brynning, County Surveyor, County Hall, Northallerton.

* JANUARY 9.—**London, S.E.**—SANITARY WORKS.—The Southwark Guardians invite tenders for sanitary works at St. George's Workhouse, Mint-street, S.E. See advertisement in this issue for further particulars.

JANUARY 13.—**Gloucester.**—ROADS.—For the supply of stone for use on main roads. Forms of tender from Mr. E. S. Sinnott, M.Inst.C.E., County Surveyor, Shire Hall, Gloucester.

JANUARY 16.—**Chesham.**—STREETS.—For the execution of street improvement works at the corner of Moulsham-street and Baddow-road. Forms of tender, particulars, plans, and specifications at the Borough Engineer's Office, 16, London-road.

No DATE.—**Plymouth.**—STREETS.—For making-up and completing Hughville-street, Camborne, and the footpaths, back lanes, and surface water drains. Messrs. Carter & Carter, civil engineers, architects, and surveyors, 24, Lockyer-street, Plymouth.

Auction Sale.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*DEALS, BATTENS, BOARDS, TIMBER, Etc.—Great Hall, Winchester House, E.C.	Churchill & Sim	Jan. 15, 1913

RECENT SALES—(continued from page 764.)

By A. FAYOET & SONS. End—1, 3, 5, and 7, Cleveland-st., n.t. 257 yrs., g.r. nil, w.r. 1621. 10s. 4945	By S. SMITH & SONS. 136 and 138, Brixton-hill, f., a.r. 1001. apham—92 to 98 (even), Paradise-road and f.g.r. 181, n.t. 24 yrs. g.r. 191, w.r. 1881. 605	By NEWBORN & SHEPPARDS. glabury—Avenell-rd., Elwood-st., etc., f.g. rents 241, 5s., reversion in 64 yrs. 4,593	By F. L. MURDOCH & CO. lapham, Northants.—Manor Farm, school house, seven cottages, and 374 acres, f. November 22.—By HERRING, SOX, & DREW. oydon.—Churchill-rd., freehold laundry, f.g.r. 491. 325	By MOSS & GRAY. epney—Bromehead-st., f.g. rents 451, 13s. 4d. reversion in 22 yrs. 980	By MARETT & EDGE. xley, Warwick.—Lorley Hall and 124 a. 1 r. 33 p. f. 4,347	By HARRY BAILL. dford—21 to 27 (odd), Maxwell-rd., f., gross rental 341, 5s. 820	December 2.—By ERNEST J. GALE. thminster, Essex.—The Maltings, f., p. 2,000	By DENVER & COLLINS. wisham—9, 11, and 13, Myron-pl., n.t. 20 18 yrs., g.r. 201, y.r. 951. 350	By HAMPTON & SONS. yngo, Denham-rd., building land, 14 acres, f. rental portions, 92 acres, f. 5,390	By THORNBOROUGH & CO. allertang, Westmorland.—Four farms, 261 a. 1 r. 23 p. f. 5,395	December 3.—By W. A. ELLIS. npton—123, Brockton-rd., and 400 a. Cheval- pl. (business premises), f., y.r. 1901. 4,310	By SCHOFIELD, EVANS, & CO. y.—Australian-rd., The George p.h., f., y. and glass-panes, and other casings, 3,000	By W. LUTVENS & SONS. okenham—61, 63, 67, and 71, Kent House-rd., (n.t.), n.t. 55 yrs., g.r. 281, y.r. 1451. 980
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PRICES CURRENT OF MATERIALS.

* * Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.		WOOD (Continued).	
Best Stocks	Per 1000 Alongside, in River. £ s. d.	BUILDING WOOD (Continued).	At per standard.
Picked Stocks for Facings	114 0	Battens: best 24 in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in. 11 10 0	£ s. d. £ s. d.
Per 1000, Delivered at Railway Depot.	2 10 0	Battens: best 24 in. by 7 in. and 8 in. 11 10 0	£ s. d.
Platons	£ s. d.	Deals: seconds	1 0 0 less than best.
Best Blue Faced	1 13 0	Battens: seconds	1 0 0
Red	3 12 0	1 in. by 1 in. and 2 in. by 6 in. 9 10 0	£ s. d.
Best Red Faced	5 0 0	2 in. by 4 in. and 2 in. by 5 in. 9 0 0	£ s. d.
Best Blue Faced	5 0 0	Foreign Saw Boards—	1 in. and 1 1/2 in. by 7 in. 0 10 0 more than battens.
GLAZED BRICKS.		1 in. 1 0 0	
Best White, Double Headers 14 17 6		1 in. 1 0 0	
Ivory and Salt, One Side and two Ends 13 17 6		1 in. 1 0 0	
Glazed Headers 11 17 6		1 in. 1 0 0	
Quoins 11 17 6		1 in. 1 0 0	
4 in. Flat 15 17 6		1 in. 1 0 0	
Dble Stretchers 17 17 6		1 in. 1 0 0	
Second Quality £1 10s. per 1000 less than best.		1 in. 1 0 0	
Thames and Pit Sand 6 9 per yard, delivered.		1 in. 1 0 0	
Thames Ballast 5 6 "		1 in. 1 0 0	
Best Portland Cement 86 0 per ton, "		1 in. 1 0 0	
Best Groined Blue Lias Lime 13 6 "		1 in. 1 0 0	
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.		1 in. 1 0 0	
Grey Stone Lime 13s. 6d. per yard delivered.		1 in. 1 0 0	
Stourbridge Fireclay in sacks 27s. 6d. per ton at rly dpt.		1 in. 1 0 0	
STONE.		JOINERS' WOOD.	
Per Ft. Cube.		White Stone: first yellow deals, 3 in. by 11 in. 24 10 0	£ s. d.
BARK STOKES—delivered on road waggon, 1 7 1/2		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
Do. do. delivered on road waggon, Nine Elms Depot. 1 9		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
PORTLAND STONE (30 ft. average)—		Do. 3 in. by 9 in. 18 0 0	£ s. d.
Brown Whitbed, delivered on road waggon, Fuddington Depot, Nine Elms Depot, or Fulwood Wharf 2 3		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
White Baselbed, delivered on road waggon, Fuddington Depot, Nine Elms Depot, or Fulwood Wharf 2 4 1/2		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
Per Ft. Cube, delivered at Railway Depot.		Do. 3 in. by 9 in. 18 0 0	£ s. d.
Ancestor in blocks. 1 0		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
Beer in blocks 1 6		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
Greenhill in blocks 1 10		Do. 3 in. by 9 in. 18 0 0	£ s. d.
Darley Dale in blocks 2 4		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
Red Conch in blocks 2 3		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
YORK STONE—Robin Hood Quality.		Do. 3 in. by 9 in. 18 0 0	£ s. d.
Per Ft. Cube, Delivered at Railway Depot.		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
Scrapped random blocks 2 10		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
Per Ft. Super., Delivered at Railway Depot.		Do. 3 in. by 9 in. 18 0 0	£ s. d.
6 in. sawn two sides landings to sizes (under 40 ft. super.) 2 3		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
6 in. rubbed two sides ditto, ditto 2 6		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
3 in. sawn two sides slabs (random sizes) 0 11 1/2		Do. 3 in. by 9 in. 18 0 0	£ s. d.
2 in. to 2 1/2 in. sawn one side slabs (random sizes) 0 6		Battens 24 in. and 3 in. by 7 in. 17 0 0	£ s. d.
1 1/2 in. to 2 in. ditto, ditto 0 6		Second yellow deals, 3 in. by 11 in. 19 0 0	£ s. d.
SLATES.		METALS.	
Per 1000 of 1200 at Railway Depot.		Per ton, in London.	£ s. d.
In. In. £ s. d.		Iron—	
20x10 best blue 13 2 6		Common Bars	9 0 0
Bangor 13 7 6		Staffordshire Crown Bars, good merchant quality 9 5 0	£ s. d.
20x12 ditto 13 7 6		Staffordshire "Marked Bars" 11 0 0	£ s. d.
20x10 ditto 13 0 0		Mild Steel Bars 9 5 0	£ s. d.
20x12 ditto 13 0 0		Hoop Iron, basis price 10 0 0	£ s. d.
20x10 ditto 13 0 0		"Galvanised 17 10 0	£ s. d.
20x12 ditto 13 0 0		(And upwards, according to size and gauge.)	
20x10 ditto 13 0 0		Sheet Iron Black—	
20x12 ditto 13 0 0		Ordinary sizes to 20 g. 10 5 0	£ s. d.
20x10 ditto 13 0 0		" 24 g. 11 5 0	£ s. d.
20x12 ditto 13 0 0		" 28 g. 12 5 0	£ s. d.
20x10 ditto 13 0 0		Sheet Iron, Galvanised, flat, ordinary quality—	
20x12 ditto 13 0 0		Ordinary sizes, 6 ft. by 2 ft. to 8 ft. to 20 g. 15 10 0	£ s. d.
20x10 ditto 13 0 0		Ordinary sizes to 22 g. and 24 g. 16 0 0	£ s. d.
20x12 ditto 13 0 0		" 26 g. 17 0 0	£ s. d.
20x10 ditto 13 0 0		Sheet Iron, Galvanised, flat, best quality—	
20x12 ditto 13 0 0		Ordinary sizes to 20 g. 18 10 0	£ s. d.
20x10 ditto 13 0 0		" 22 g. and 24 g. 19 0 0	£ s. d.
20x12 ditto 13 0 0		" 26 g. 20 10 0	£ s. d.

METALS (Continued).

IRON (Continued).—	Per ton, in London.	£ s. d.
Galvanized Corrugated Sheets—		
Ordinary sizes, 5ft. to 8ft. 20 g.	15 0 0	—
" " " " 22 g. and 24 g.	15 5 0	—
" " " " 26 g.	16 15 0	—
Best Soft Steel Sheets, 5 ft. by 2 ft.		
to 5 ft. to 20 g. and thicker	12 10 0	—
Best Soft Steel Sheets, 2 ft. & 24 g.	13 10 0	—
" " " " 26 g.	15 10 0	—
Out Nails, 3 in. to 6 in.	11 0 0	11 10 0
(Under 3 in., usual trade extras.)		

LEAD, &c.

Delivered in London.

LEAD—Sheet, English, 4lb. and up	£ s. d.
Pipe in coils	22 12 6
Soil pipe	25 12 6
Compo pipe	25 12 6
Zinc—Sheet—	
in casks of 10 cwt.	
Vienna Montagne	33 15 0
Silesian	33 10 0
Zinc, in bundles, 15, per cwt. extra.	
COPPER—	
Strong Sheet	per lb. 0 1 1
Thin	0 1 2
Copper nails	0 1 0
Copper wire	0 1 0
BRASS—	
Strong Sheet	0 1 0
Thin	0 1 1
Try—English Ingots	0 2 3
" " " "	0 2 3
SOLDER—Plumbers'	0 0 11
Timmer's	0 1 2½
Blowpipe	0 1 4½

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	24d.	26 oz. fourths	4d.
" fourths	2d.	32 oz. thirds	5½d
21 oz. thirds	34d.	" fourths	4½d
" fourths	3d.	Fluted Sheet, 15 oz. 3d.	
26 oz. thirds	44d.	" 21 oz. 4d.	

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

½ Rolled plate	24d.	Figured Rolled, Oxford Rolled, Oca-	
rough cast plate, 24d.		anic, Arcetic, Milled,	
½ Rough rolled and		and Rolled Cath-	
rough cast plate, 3d.		dral, white	34d
		Drift, tinted	5d

* Not less than two crates.

OILS, &c.

Baw Linseed Oil in pipes	per gallon	£ s. d.
" " " in barrels	"	0 2 5
" " " in drums	"	0 2 6
Boiled " " in barrels	"	0 2 7
" " " in drums	"	0 2 7
Turpentine in barrels	"	0 2 5
" " in drums	"	0 2 7
Genuine Ground English White Lead, per ton 30 5 0		
(In not less than 5 cwt. lots)		
Red Lead, Dry	"	26 12 6
Best Linseed Oil Putty	per cwt.	0 10 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

Fine Pale Oak Varnish	per gallon.	£ s. d.
Pale Copal Oak	"	0 8 6
Superfine Pale Elastic Oak	"	0 10 6
Fine Extra Hard Church Oak	"	0 10 6
Superfine Hard-drying Oak, for seats of Churches	"	0 14 6
Fine Elastic Carriage	"	0 12 6
Superfine Pale Elastic Carriage	"	0 16 0
Fine Pale Maple	"	0 10 0
Finest Pale Durable Copal	"	0 19 0
Extra Pale French Oil	"	1 1 0
Eggshell Flating Varnish	"	0 18 6
White Pale Rhinoceros	"	1 4 0
Extra Pale Paper	"	0 12 0
Best Japan Gold Size	"	0 10 0
Best Black Japan	"	0 16 0
Oak and Mahogany Stain	"	0 9 0
Brunswick Black	"	0 8 0
Berlin Black	"	0 16 0
Knottling	"	0 10 0
French and Brush Polish	"	0 10 6

TENDERS.

* Owing to the Christmas Holidays the Builder will be published next week on Tuesday instead of Friday. All communications must therefore reach the Editor by first post on Monday morning.

* Denotes accepted. † Denotes provisionally accepted.

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Vigor & Co. £3,264 4 0 H. Kent £2,961 13 6
A. E. Symons 3,205 0 0 J. Appleby & Sons 2,953 0 0
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Edge 3,112 0 0 H. Groves 2,868 0 0
F. & T. Thorne 3,093 0 0 Friday & Ling 2,831 7 3
E. Lawrence Griggs & Son 2,732 0 0
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E. Lawrence & Sons, Ltd. 1,213 0 0
G. S. S. Williams & Son 1,192 0 0
W. Reason 1,179 0 0
W. Lawrence & Son 1,120 0 0
McLaughlin & Harvey, Ltd. 1,093 0 0
Stevens & Son 1,069 2 6
Brand, Pettit, & Co. 1,026 0 0

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J. Mowlem & Co., Ltd. 10,828 16 3
W. Underwood & Brother 10,803 2 6
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Griffiths & Co., Contractors, Ltd. 9,128 1 7
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THE BUILDER

A JOURNAL FOR THE ARCHITECT AND FOR ALL INTERESTED IN THE CONSTRUCTIVE & DECORATIVE ARTS

VOL. CIII.—No. 3647.

DECEMBER 27, 1912.

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A STUDY IN ORNAMENT. BY MR. A. E. MAXWELL.

DETAIL OF A FOUNTAIN. BY MR. A. E. MAXWELL.
R.I.B.A. MEASURED DRAWINGS, 1912 (CHURCH OF SANTO SPIRITO, FLORENCE).
CERTIFICATE OF HONOURABLE MENTION. AWARDED TO MR. WALTER M. KEESEY.

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THE MASQUE OF COLUMNS.

THE saying that architecture is history in stone is true in that it must inevitably express more or less of the character of the time, place, and folk it springs from. This is not to say that England has been successively Roman, Greek, Saxon, and variously Renaissance in character, according to the varying uses of her architecture in the last century and a half. But the fact that at that period the great generalising character Art has herself so completely succumbed to the caprices of that fickle Fashion—sometimes lightly misnamed the Age—is a phenomenon as notable in this connexion as the development of true styles.

In this period, commencing about the middle of the XVIIIth century, corresponding with what has been aptly called the palæotechnic age of mechanical industrialism, finds no more fitting symbol than the cylinder or heart of

the steam-engine. From its throbbing ventricle, more than from any invention previously sought out by man—who was made upright—has flowed an expansive energy to the piling up of riches and the spreading of men, on the one hand, over the earth even to its utmost recesses; concentrating, hurling them together, on the other, in more or less formless and chaotic conglomerations, which we, architects among the rest, are beginning now against mighty odds to reduce to the order of cities where men may live a common life to noble ends.

Of the same kindred—successors architecturally to those multitudinous refuge towers with which pugnacious mediæval burghers found it useful to adorn their towns—are the business of fighting became a state monopoly forbidden to private enterprise—are those tall dark columns that with fantastic smoke capitals support the murky dome with which the said conglomeration is often crowned. The ancients would certainly have given them picturesque names, as

of infernal monsters, hiding with their foul vapours the blue dome of Father Zeus and the eye of his bright son, so that the affrighted Muses, no longer worshipped, are fled away.

It would be quite easy to show how completely civilised man has, in this mechanical age, fallen under the spell of the cylinder. His food, clothing, shelter, all his instruments of use and beauty own its sway, in infinite variety of dimension and proportion, from the all-potent circulating golden disc to electric cables encircling the earth. Amid a myriad instances we are arrested by the notable phenomenon that, roughly synchronising with the coming of the steam cylinder at the basis of society, and the high hat as its crowning glory, architecture again became completely obsessed with that most noble of cylinders, the Grecian column.

This had, of course, first happened some time previously, especially under the influence of the great Italian architect whose name is reminiscent of that

adopted by Pallas Athene from a reprehensible sort of giant, whom she, as goddess of intelligence and the liberal arts, very properly slew; and then, with taste more questionable in a serious virgin divinity, adopted his skin also.

At the period we speak of the cult of the column received fresh impetus from the published works of Sir William Chambers, Stuart and Revett, and others; and architecture showed a renewed tendency to produce cylindrical forms whenever exigencies of construction or ornament made it possible. That which in its origin had been the noblest and most purposeful of architectural features became the hackneyed drudge of clever draughtsmen and decorators. Colonnades and porticoes, natural and right in the brilliant South, were repeated everywhere as decoration in our duller clime. Scholarly care was taken in proportioning the column and its entablature, but their spacing was treated with an airy freedom no stone architrave could stand, so that they became skewback arches or obvious shams with impossible jointing. The chief beam became no beam at all, which perchance was typical of the time, as architecture we have said must be. Doric and Corinthian columns of huge proportions were duly set on pedestals in lonely state, with the unfortunate statue of a sea lion or royal duke skied upon their abaci; an Ionic column, graceful symbol of massive strength, would be hoisted as a burden on the back of a church to weigh it down to earth, in place of the Gothic spire that did at least point upwards. These and many such like things they did, and we do still; and with our steel construction indeed we often go one better. Imagine, for instance, the shades of Iktinos and Hippiodamos reeling along from vertigo to nightmare and standing agape and speechless at last before the Blondin-at-Niagara effect of a 36-ft. column balanced above an expanse of sheet glass. Recovering from their aphasia, might they not, like a certain great personage, well say, "Wonderful, wonderful! But promise me never to do it again"?

Able, and indeed scholarly, men did these things, believing themselves inspired by the spirit of classic culture. But the cylinder had woven its spell over them. In their scholarship and artistry, while scorning not to use and profit by its power, they affected to despise its base mechanic form, saying loftily that no artistic expression was possible for it and its works; and the swart, restless demon that lurked in it took a terrible revenge and wrought havoc on our cities, towns, and villages. They became bloodless and atrophied, or swollen to shapeless masses and all their features marred with fell disease. Where the goddess of culture and the arts yet lingered she covered herself with the skin of dead giants, and turned against the smitten towns her shining ægis, so that they saw themselves writhing with the horrors of the Gorgon's head, and their heart and its sympathies turned stone-like in the cold glare. Even the brilliant and high-minded enthusiasts of the Gothic revival could not break the spell: and in the Renaissance revived—or still-born—that in many fashions and

individual eclecticism has prevailed since the battle royal of the styles, the classic column survives with even growing effect to-day.

We are so like those intellectual, beauty-loving Greeks, those Imperial conquering Romans—the explanation goes—so like those brilliant Pagans of the Renaissance. And perchance we are: in more ways than we mean, or care to think about. We have no more use—it goes on—for our own home-grown mediæval style; we agree with those men of taste—it is mere Gothic! Classic is much more suitable to our modern requirements and culture. It is a large and comforting assumption which for the moment has the support of appearances. But appearances are not absolutely safe guides for finite reason; as, of course, the ancients were aware in that fable of the Divine Intelligence wrapped in the skin of the earth-born giant. To rest on this assumption is to forget certain other things, as, for instance, that classic architecture, even if it be more amenable to modern wants, had already passed, as Gothic had not, through that mighty hammering and forging and shaping thereto by the giants and Titans of the great Renaissance age; and also that even now it does not fit so very well, but necessitates much padding and screening of the actual construction, much shrinking and altering of the dead skin to give it any semblance of style.

A varying Classicism holds the field; in our public and great commercial buildings at present, after many vicissitudes, tending back again to a severe purity and massiveness of treatment; and this concurrently with the development of progressively scientific methods of construction, enabling us, with perfect security and economy, to combine lightness and strength to a degree undreamed of even by the daring builders of Beauvais. In these circumstances it would be really interesting to learn in what consists the special appropriateness of the classic column which, scarce altered in twenty-four centuries, is now again the dominating feature of our architecture. There is no doubt plenty of archæological precedent, where not in Greek, at least in Roman and Renaissance times, for most of the modern uses and misuses it is put to. But this fact remains—that with the Greeks it was ever a beautiful factor of architecture, not merely expressing but actually one with the essential structure of buildings, and with us it is, for the most part, not so.

We have heard it suggested sometimes that the Greek architects of the Periclean age were probably more qualified to deal successfully with our modern problems than any who have succeeded them. Such propositions can only tease us out of thought. It is at least as probable that in the same conditions as have led us moderns to the present position the old Greeks had all the qualities and defects of character to have landed them in a quite analogous impasse. All such speculations are futile. We can at best only see how they solved the problems of their own requirements with their own methods and materials; and present ideals of architecture seem

to us to show but a limited appreciation of the great lessons of Greek art, a quite unintelligent following of its much admired example, in applying, whatever scholarship and ingenuity its beautiful constructional forms, to much more complex buildings of quite different methods and materials of construction.

The question of Greek, Gothic, Renaissance in relation to modern requirements and ideas is, in fact, of quite secondary and academic interest. The first real problem to be solved in architecture can again take its place as a consistently developing art is the reintegration of the two elements of structural efficiency and beautiful æsthetic expression in its actual factors. These elements were in perfect union in Greek and Gothic, but the development of steel construction emphasised the disharmony between them which exists in with the Renaissance. While it remains there can be no real advance. Pallas Athene must free herself from the skin of the dead giants and appear again in her own rich variously broadened peplos as the patroness of a living culture in which science and art reach in perfect and fruitful accord.

The utilitarian advantages of steel construction are as undeniable as are other mechanical products of the great age we have symbolised by the steely cylinder. That age has given us an unprecedented control of natural resources and powers; but it has used them crudely, wastefully, often cruelly, as giant unaware of his strength. Its motto has been Quantity rather than Quality. The finer æsthetic perception and faculties of art have been divorced from its utilitarian ends and trampled on in the rush of competitive commercialism; the common wealth has been neglected in the struggle for private wealth; machinery has become too much the master of man, instead of his very obedient servant. But there are signs all around of a new day breaking. The Palæotechnic, with its steam power, is merging in the Neotechnic, the symbol of which is the electric cable branching and rebranching into every dwelling and working place.

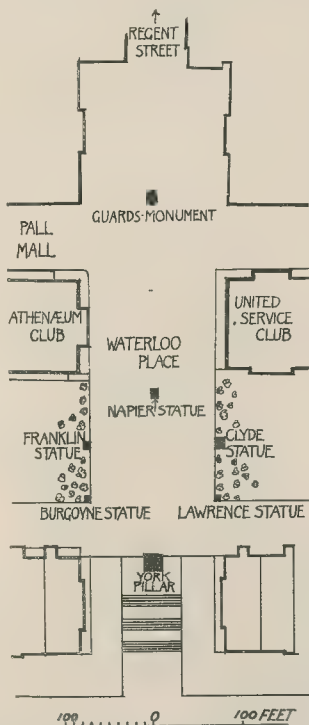
We may not stay now even to hint what this alone will mean in the cleansing and revival of our cities, towns, and villages: once it is politically and administratively, as it already is scientifically and practically, possible. In those marvellous manual tools, delicately subjected to hand and eye and brain of the skilled worker, but supplied with power by its own electric nerve, we see, as in many other evidences, the promise of an era in which technical problems no apparently insoluble will find solution through the truer mastery and application of machinery. The thought upon which we close is that the arrested tradition of architecture is more likely to be restored to a renewed and living development by aiming, both in training and in practice, at an all-round technical efficiency and sincerity, rather than by conscious and direct attempts to create a fitting beauty out of the forms proper to past ages. This, in fact, is the greatest lesson that both Grecian and Gothic building can teach.

KING EDWARD MEMORIAL.

THE much-debated question of a site for the King Edward London Memorial has once more come to the fore, this time with a suddenness which is almost pathetic. There are many who have ended from the first that the proposed site at the Piccadilly end of the grass walk in the Green Park was by any means an ideal one, and others of the *Builder* will remember just after the announcement that had been provisionally adopted we wrote:—"The only thing left now is to try and make the best of a bad job. It is definitely determined to place the monument of this description so that it bores the vista from Piccadilly to the Queen Victoria Memorial and turns its back on Piccadilly, it might perhaps be better to carry the idea to its logical conclusion by ignoring Piccadilly altogether." Similar thoughts have evidently been disturbing those in whose hands the final decision rests, and it is with no slight feelings of satisfaction that we read the letter which the King recently addressed, through Lord Curzon, to the Committee, with the result that at their meeting at the Mansion House on the 19th inst. drastic measures were immediately taken. It was decided then and there to abandon the Green Park site and consequently any designs or contracts that had already been entered into with regard to it, and His Majesty's suggestion the Advisory Committee will proceed to negotiate an equestrian statue of King Edward to be placed in the open space at the bottom of Waterloo-place between the Athenaeum and the United Service Clubs.

If a ready-made site is to be selected, as one has much to commend it, but it is to be hoped that it will not be utilised without due consideration being given to its limitations. From the sketch plan reproduced herewith it will be seen that this locality bristles with monuments of one kind or another already. This is not itself an objection, but when one realises that the York Column dominates, and from its lofty proportions is bound to dominate any monument near by, we feel that a serious drawback presents itself. But this is not all, for the Guards' Crimean Monument stands on the same axial line, and closes the vista—all too soon—as one looks down from the rising ground of Regent-street. The removal of the statue of Lord Napier of Magdala to the vacant pedestal in Trafalgar-square is contemplated as a first step towards the realisation of the scheme, but we are inclined to think that unless an unfortunate gradation in the height of the monuments in a row is to result the Guards' Monument should be removed as well. The question of the removal of this area would also need to be considered very carefully, for, although the space available—no more than about 100 ft. in width between the two clubs—is small, in view of the national importance attaching to the monument of so great a monarch so beloved a Sovereign something must needs be done to correct the drab appearance of what strikes many at

the moment as a dreary waste. By removing the Guards' Monument as well as the Napier statue, and by placing the new memorial on a lofty and spreading podium further forward on the axial line so that it would not be hidden entirely from Pall Mall, and by a general rearrangement of the *entourage*, we can imagine a dignified result, but we would have welcomed a more spacious site allowing of a grandiose scheme giving opportunity for the more expansive co-operation between architect and sculptor. London is not fortunate in the disposition of its open spaces, but



Plan of Waterloo Place, showing the site selected for the King Edward Memorial with its immediate surroundings.

perhaps this one offers fewer disadvantages beyond remedy than any of the others which have been proposed.

We feel that if the exact position and height of the monument are arrived at—preferably experimentally by placing plaster casts *in situ* at an early stage—so that the whole may be in scale with its surroundings, the selection of this site may prove to be the happy solution of a problem that would soon have been settled in almost any other capital city in the world, but one which, characteristically enough, has sorely taxed the resources of the greatest capital of all.

GYMNASIUM AND HALL, LORETO.

A new gymnasium and hall has been presented to Loreto School by Mr. Harry Brook, Dumbarton. Sir Robert Lorimer, F.R.S.E., Edinburgh, was the architect, and the building has cost 2,000*l*. It is fitted with a stage and proscenium.

NOTES.

The Power of Design.

It is undeniable that his knowledge and power of design is what discriminates the architect from other men—is, in fact, his whole art, to which all else that he does is accessory. To avoid misunderstanding this needs some definition; for obviously there are many others of whom the name designer is rightly used. But in no other art does it apply in so rich and comprehensive a sense, or require such varied qualities and attainments. There is but one power of architectural design, not many, nor even two, as might be inferred from the frequent allusions to aesthetic and structural design. It is a unity of two intimately related and interacting elements: the plan—that is, the ordering and arrangement for a definite purpose—and the construction which gives that order enduring form; the first requiring in the designer an intimate and practical knowledge of life in all its different phases for which buildings are required, the second a scientific knowledge of the physical and mechanical properties of materials. These two elements are the essential components of architectural design. Yet the ability of the expert and practical planner and of the scientific constructor may stop short of the power that discriminates the true architect. What is still wanting is not so much another element as a quality or enhancement of the planning and construction, that depends less upon what the designer knows than upon what he is. The most perfect knowledge of the architectural beauties of past times, the highest powers of draughtsmanship, may yet leave a man as much a specialist as a constructional engineer, as merely a decorative artist as a designer of wall-papers. All these things are necessary; but knowledge and power of design is not to be taught or attained by treating them in so many watertight compartments. They will not be learnt or attained at all in the absence of natural aptitude and faculties to conceive an order, purpose, and fitness in architecture that transcends the necessary utilitarian requirements of buildings. Hence the importance, from an educational point of view, of a right understanding of what power of design means in architecture.

Designer and Specialist.

In upholding the importance of architectural design we are very far from wishing to disparage the specialist in the smallest degree. Specialism is one of the most striking phenomena of modern science, art, and industry, and that to which they owe a great development in many directions. But as professor of the great generalising art—the synthesis of useful and fine arts—the architect is something very different from a specialist. He co-ordinates and controls the work of many specialists. His relations to them have been, for the most part, satisfactorily settled by long practice and custom; and if they are less satisfactory in relation to certain of the more modern types of specialists the reason is perhaps to be found—at least, in part—in his tendency to specialism himself, either, as he says, in the practical,

scientific, or artistic side of his profession. Tending towards the more attractive and abstract studies of his art he finds the mathematics of modern steel construction—to take one most characteristic instance—irksome; and so comes to depend too much upon the utilitarian specialist in one of the essential factors of true architectural design. Would architects but study to understand the properties of steel and concrete as they do those of wood, brick, and stone, there is no reason to doubt but that designer and specialist would soon find their normal and true relation, here as elsewhere, with great advantage to architectural design.

Smoky Chimneys.

VERY few persons when they enter into an agreement or lease to take an unfurnished house think of ascertaining whether the chimneys smoke, yet, as there is no warranty on the part of the landlord in the case of unfurnished houses that they are fit for habitation, this is a very necessary precaution, as has been proved in a case recently tried in the City of London Court, *Audoire and Hartree v. Bisgood*. In an action for a quarter's rent for premises let on a three years' agreement the tenant counter-claimed for 180*l.*, the amount of the three years' rent, on the ground that the chimneys smoked so badly that the house was uninhabitable and even dangerous, and the defect was incurable. The defence failed, the judge observing that, although the defects might have justified the defendant in refusing to commence his tenancy, they did not justify him in determining it without proper notice. The law is unquestionable, but intending

tenants will do well either to have the chimneys tested or to obtain an express guarantee from the landlord before entering into possession of unfurnished premises.

SOUTHWARK BRIDGE RECONSTRUCTION.

In previous issues we have referred to the general unsuitability of Southwark Bridge for vehicular traffic and to various proposals made for remodelling the structure so as to render it of practical service as a cross-river communication.

The City Corporation have now decided upon the entire reconstruction of the bridge in accordance with the designs of Messrs. Basil Mott & Hay, M.M.Inst.C.E., and a contract for execution of the works has been entered into with Sir William Arrol & Co., Ltd.

As our readers will remember, the existing bridge, built in 1814-19 by Sir John Rennie, comprises three cast-iron arches of 210 ft., 249 ft., and 210 ft. respectively, with the clear headway of 29 ft. above Trinity water-mark under the middle span. Owing to the position of Upper Thames-street, the northern approach is necessarily short and steep, another undesirable feature being the slope of Queen-street, on the northern side of Upper Thames-street.

The only really effective solution of the problem is to design the northern approach on the lines adopted in the case of London Bridge, levelling Queen-street and Queen-street-place, and carrying the roadway on an arch thrown across Upper Thames-street.

This solution, which we have advocated on previous occasions, would undoubtedly be costly, owing mainly to the alterations entailed to buildings on either side of the remodelled streets, but we are sure that the outlay would be amply repaid by the establishment of a level main thoroughfare between the City and Southwark.

Unfortunately, this idea has not been accepted by the Corporation, and the new bridge will simply modify to a relatively

small extent the inconvenience of the existing structure.

The clear headway under the middle span will be reduced by 3 ft., the gradients brought down to a maximum of 1 in 30 on either side, the roadway increased from 29 ft. to 35 ft. in width, and the footpaths increased from 6 ft. 9 in. to 10 ft. wide each.

An undesirable feature of the new design is the substitution of five arches for the present series of three arches, thereby involving four instead of two piers in the river, where additional obstructions to navigation and the flow of water are clearly undesirable.

We understand that various architectural details, including the ornamentation of the piers and the design of the parapets, are to remain to be settled.

Sir Ernest George will act as consulting architect for the designs of the new bridge. The plans of Messrs. Basil Mott & Hay provide for a structure of five spans (between the present abutments), whereof the central span is 140 ft. 6 in. long, the two next adjacent 131 ft. 9 in. long, and the two at the ends 123 ft., giving a headway above Trinity high-water mark of 26 ft. at the middle, and a roadway with two footpaths of which 6 ft. will be carried on cantilevers, as the width of the existing bridge with the abutments is but 42½ ft. The five spans will be of seven steel ribs from 3 ft. 3 in. to 3 ft. 6 in. deep in the centre, and from 1½ ft. to 5 ft. wide at the springing; spandrel posts at 4 ft. 7½ in. centres will carry the ribs for the flooring. The four new piers, to be encased in granite, will be 42 ft. in total height and 15 ft. wide for the two middle ones and 41 ft. high and 14 ft. wide for the two outer ones; they will rest upon steel caissons 100 ft. long, 29 ft. wide, and 13 ft. deep, supplied with compressed air, and filled with concrete. Sir William Arrol & Co.'s contract, for 278,148*l.*, includes the erection of temporary steel bridges for foot traffic on either side of the present bridge, and the removal of the old piers and piling to a depth of 35 ft. below high water.

Sir John Rennie's bridge was built at a total



Boys' Secondary School, Hereford. (See page 773.)

Mr. G. H. Jack, Architect.

est of some 800,000., and the ironwork, weighing 5,780 tons, was supplied by Messrs. Walker, of Rotherham. Joseph Gwilt laid out the approaches at both ends. In 1868 the Corporation bought the bridge for 200,000.

SECONDARY SCHOOL FOR BOYS, HEREFORD.

This building, which was recently opened by Sir James Rankin, Bart., is the largest school of the kind hitherto established in the county of Hereford. The principal facade, on Wide Marsh-street, has two entrances, for senior and junior scholars respectively. The exterior is of local red brick with Bath stone facings, the roofs being covered with Old Delabole slates.

The accommodation on the ground floor includes a large assembly-hall, six classrooms, a library, and lavatories for senior and junior boys, head and assistant masters' rooms, a cloak-store, stock-room, and manual block. On the first floor are the laboratory, lecture-hall, preparation-room, art-room, dining-room, kitchen, and store-rooms.

The assembly-hall, 47 ft. long by 26 ft. wide, can be increased in size by opening the folding partitions between the hall and two large classrooms. The building is warmed by low-pressure hot water, and ventilation is secured by means of hopper sash windows and extraction ducts in the roof.

The total cost, including land and furniture, was 10,200., the cost of the building alone having been 7,569., or 131. below the architect's estimate.

Mr. G. H. Jack, the County Surveyor, was responsible for the design and construction of the building, which was erected by Messrs. J. W. Wilks & Son, of Hereford.

LONDON BUILDING LAW AND PROPERTY.

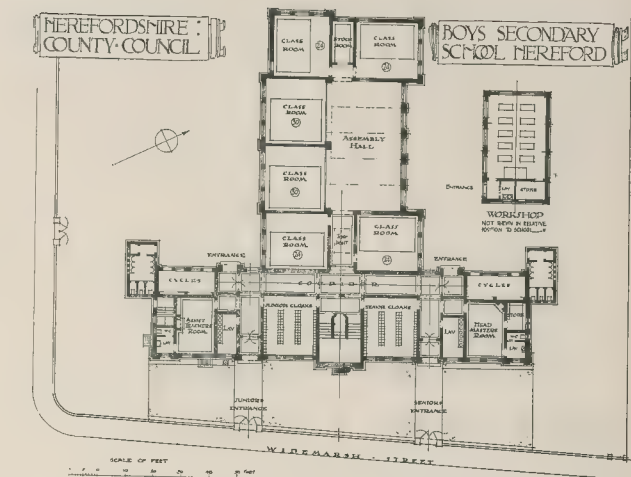
At a meeting of the Auctioneers' and Estate Agents' Institute, held at No. 34, Russell-square, on Wednesday, December 18, a paper, entitled "The London Building Law and the Development of Property," was read by Mr. George Cubitt, A.R.I.B.A., P.A.S.I.

Development of Land for Building.

In the course of his remarks he said:— "Let the development of land for building purposes be first considered. This form of enterprise is admittedly under rather a cloud, and probably comparatively little opening up of new estates is now being done in the London county area. But there is still a good deal of land in London that is available for building purposes, and it may be presumed that, when once it is a little easier to obtain for land development, and when newer districts on the outskirts become more populated, the inner suburbs of London will receive the attention that they deserve.

If the average surveyor were asked off-hand to state the principal provisions of the law that govern the development of land for building purposes, he might possibly refer his questioner to the requirements of Part II. of the London Building Act, 1894, in regard to the formation of streets. He might also draw attention to Act. 103 of the Metropolis Management Act, 1853, in regard to the making up and paving of private streets. A few years ago no one could doubt the correctness of his answer, but it is now open to question whether the provisions of Part II. of the Housing and Town Planning Act, 1909, are not of more importance to a person developing a building estate than those of all other Acts of Parliament. It is open to any person developing an estate in London to apply to the County Council, which is the local authority for the metropolis, to approve a town-planning scheme.

There is a good deal to be said in favour of the adoption of this policy. If the stereotyped course is followed, and the plans for the formation of the streets are submitted under the Building Act, it is probable that, although the County Council have power to allow roads to be formed of any width they may think fit, it is improbable that they will consent to a less width than the case of carriage traffic streets, than the standard width of 40 ft. Whereas, if a town-planning scheme is proposed, it may be reasonably expected that, recognising the public advantages to be gained by a lay-out of the land



on model lines, the Council will be prepared to make very considerable concessions in regard to the width of the roads. Everyone who has developed an estate is aware of the very heavy cost entailed in forming roads of the standard width of 40 ft. Such width for subsidiary streets in a residential neighbourhood is quite unnecessary. A street 24 ft. wide will satisfy all traffic requirements, and if the houses are kept well back from the line of the road all considerations as to light and air space will be properly met. Of course, in a large estate some roads will require to be 40 ft. in width, possibly the width of one or two main avenues may be made as much as 50 ft. or 60 ft., but, nevertheless, it will be found that, in the aggregate, a very considerable reduction in area of road-surface will result.

In addition to the saving on the construction of roads, there is another very important advantage to be gained by the development of an estate under the Housing and Town Planning Act. It is a well-known fact that the supply of houses in London now much exceeds the demand, and the person who develops an estate without using his utmost endeavours to make his property more attractive than that in the immediate neighbourhood is making straight for the Bankruptcy Court. There is an increasing tendency on the part of the modern householder to desire something better than the dead level of uniformity and dullness which is characteristic of most estates developed on the old lines. Not that it follows that the persons who laid out these estates were unwise in their own generation, although they have subsequently proved to be so. In their day the demand for houses if anything exceeded the supply, and it was to the obvious advantage of the owner of property to get as many houses as possible on his land. It was then hardly possible to anticipate the over-production in house property from which we are suffering to-day. It is, however, fortunate for us that most of the older estates have been so laid out that there is very little difficulty in surpassing them in general interest and attractiveness. A new estate laid out with a certain amount of irregularity in the lines of the streets—an irregularity which results naturally wherever undulating ground is encountered—and with a few open spaces, trees, shrubs, street flower-beds, etc., will make a greater appeal to the average prospective householder than one of straight streets and terrace houses all laid out on the old dull draughtboard plan. Not that the crank methods of street and house planning not infrequently met with in some recent garden suburbs need be in any way followed. When any new departure is made there is always a tendency to go to extremes, and the garden suburb movement has proved to be no exception to this general rule. There are ample opportunities for obtaining interesting effects without laying out streets of serpentine

curvature, or planning buildings of which not one single room in a house is square.

It may be accepted as an axiom that no ordinary estate can be economically developed on modern lines unless it is possible to keep the width of the roads within reasonable limits.

Although the regulations governing the procedure of the County Council in regard to the making of town-planning schemes are rather involved, the course of action of owners of land who desire to develop their property under the Housing and Town Planning Act is quite simple. All that is necessary is for the persons concerned to submit an application, with plans, to the County Council. Presumably, it is possible for a single owner to approach the Council in this way, although from the wording of the Act it is apparently considered that, in the majority of cases, applications will be made by several owners acting together. It is worthy of notice that, if the County Council refuse to adopt a town-planning scheme proposed by owners of land, such owners may make representation to the Local Government Board, and the Board, after holding a public local inquiry, may, if it thinks fit, approve the scheme, which will then have effect as if it had been approved by the County Council.

Development of Land Already Built Upon.

Let the question of the development of land which is already built on be now considered. There are here two obvious ways of treatment:— (1) The demolition of the existing buildings, followed by the erection of buildings of a more remunerative character, and (2) the reconstruction and extension of the existing buildings in such a way that they, as far as may be possible, fulfil the purpose of new buildings. It appears that the former of these two courses is the one which finds most favour in Central London, and it will, therefore, be considered first. Usually a large building will require to be erected, and, in consequence, all the ordinary and some of the special requirements of the London building law will be found to be applicable. The provisions affecting the frontage line and distance back from the street will probably have a very important effect on the position and extent of the building. Speaking generally, it will be found that the London Building Act, 1894, safeguards existing interests, and it will be possible to build on all land which for the last twenty or thirty years has been occupied by buildings. Further, it will be possible in streets laid out before 1862 to build without restriction of height up to the ordinary 30-ft. limit, provided that the building is not being erected to house persons of the working class. But very often the whole of the site next the street has not been previously occupied by buildings, and it becomes a question to what extent, if any, it is permissible to extend the new building over previously unbuilt-on land.

There are two important provisions of the

London Building Act, 1894, which govern this point. Sect. 13 of the Act provides that no previously unbuild-on land within the prescribed distance—20 ft. from the centre of the roadway in carriage traffic streets—may have a building erected on it or extended over it without the consent of the County Council. Sect. 22 provides that except with such consent no building may be erected on or extended over unbuild-on land in advance of the general line of buildings.

The operation of sect. 13 is quite straightforward, and there should be little difficulty in determining whether or not a proposed building is affected by this section. The only point that requires watching is the determining of the centre of the roadway, for the definition of this term, as given in sect. 5 of the Act, will show that where a street has been widened the present centre of the roadway may not be the statutory centre. The extent of the operation of sect. 22 cannot in many cases be easily determined. The general line of buildings in a street is often a question of great uncertainty, and unless the position of the line is obvious it will be necessary to apply to the Superintending Architect for a certificate defining the line. If this certificate operates unfavourably in regard to the proposed building, it may be well to exercise the right of appeal to the Tribunal of Appeal.

The provisions as to open space which apply in the case of all domestic buildings, other than office buildings, were originally thought to operate rather unfavourably in the way of the development of property. Increased familiarity with these requirements has, however, reconciled most people to them. Generally speaking, it may be said that if these requirements are thoroughly understood—which is admittedly no easy matter—it will usually be possible to arrange a new building in such a way that the law is complied with, and, at the same time, no very great sacrifice of accommodation is involved. It is worthy of notice that in the case of sites of irregular shape it is possible to apply to the Council to allow some deviations from the ordinary requirements, and in all cases it is possible to take advantage of the provisions regarding "equivalent air space," whereby it is permissible to extend a portion of the rear of the building beyond the diagonal line when such line is drawn from ground level, provided that an equivalent amount of cubic space is elsewhere left unbuild-on.

Prior to 1908 the power of the Council to allow divisions in large warehouse buildings to exceed the ordinary limit of 250,000 cubic ft. was restricted to a maximum limit of 450,000 cubic ft. By the London County Council General Powers Act of 1908 the Council obtained the right to exercise unlimited discretion in regard to this matter, and an obstacle in the way of the erection of buildings with the large open floor areas required in certain trades was thereby removed. The decision as to the allowance of increased cubic extent rests, however, entirely with the Council. There is no appeal in this matter from their decision, and it may be assumed that great increases in cubical extent will not be granted except subject to conditions, such as the provision of automatic sprinklers and the ensueing of structural steelwork, which will tend to prevent the growth of a big fire. This is only reasonable, and is in the interest of the owner of the property as well as that of the general public. We do not want to have the fire risks that are current in the United States, where our methods of subdividing large warehouse buildings are apparently almost unknown.

As regards the question of general construction, although it is not yet permissible to erect buildings with enclosing walls of reinforced concrete, the London County Council General Powers Act, 1909, has legalised steel-frame construction. But, except in the case of very large buildings, it will generally be found cheaper to build ordinary brick walls or piers than to provide a system of steel stanchions.

Less Drastic Method of Developing a Site.

The time has now come to deal with the less drastic method of developing a site on which buildings are already erected. There is a very great deal to be said, in the majority of cases, in favour of adopting the policy of altering and remodelling the existing premises instead of razing them to the ground and starting with a cleared site. Admittedly from the standpoint of efficiency, untrammelled by financial considerations, the more drastic policy is to be recommended. But the financial element is

usually predominant, and in a very large number of cases it will be found, if both sides of the question are fairly considered, that a scheme of remodelling and extending existing premises will show a very much better percentage on the sum expended than a scheme which involves the clearing of the site and the erection of new buildings. A very large portion of Central London was erected during the XVIIIth century, when it was the custom to design on liberal lines, with big rooms, and spacious halls and staircases, all decorated throughout in excellent taste. Numbers of fine Georgian buildings may be met with in the inner districts of London. Their demolition is open to objection on several grounds. From the artistic standpoint it is an act of vandalism. From the practical point of view it is bad business. The fine airy rooms met with in Georgian buildings are becoming to be more and more appreciated by the general public, and could not be built to-day at less than from 1s. 6d. to 2s. per cubic foot. The obvious way in which to deal with a building of this type is to remodel it, retaining the principal main rooms, and adding new sanitary arrangements and any additional accommodation that may be required. By this method not only a cheaper but a better building will in many cases be obtained than if the site were cleared and a new building erected. But work of this kind requires the skill of a trained architect even more than that of constructing a new building. It is quite a mistake to consider that because any proposed works are in the nature of alterations they can therefore be quite very well designed by an enterprising youth in the office who happens to have a little ability as a draughtsman. The work of remodelling an old building is more difficult than that of designing a new one, and even small alterations are worthy of more skilled attention than they usually receive.

Now as to the effect of the provisions of the London building law on any works of alterations and remodelling. Stowed away in an unlooked-for place in the 1894 Building Act is a section which is of vital importance in regard to such works. It is provided in sect. 207 of the Act that "it shall not be lawful (unless with the consent of the Council) to make any alteration of any building in such manner that when so altered it will by reason of such alteration not be in conformity with the provisions of this Act applicable to new buildings." The most important parts of the section are the words "unless with the consent of the Council." It follows that, with the consent of the Council, any form of construction or arrangement may be adopted, and the Council frequently exercise their powers under this section, and allow deviations from the ordinary requirements of the Building Act. Whenever in works of alteration some requirement is encountered which seems rather difficult to comply with, an attempt should be made to look at the case from an impartial standpoint. If, when thus viewed, no grave disadvantage will appear to result from a relaxation of the requirement in question, the Council may with advantage be approached. The application should not, however, be, as it were, slung at the heads of the officials of such body, but the reasons which make the requirement unsuitable in the case in question should be consensually explained, and everything possible should be done to induce the Council to see the matter from the standpoint of the applicant.

As regards the provision of additional accommodation, the extension of a building can, of course, take place in two directions—horizontally and vertically. Horizontal extension in the direction of the street will often be barred by the "prescribed distance" or "general line" provisions of the 1894 Building Act. Horizontal extension in the rear is usually a much more feasible proposition. Very often the property in the rear of a building is of a comparatively low class, and can be acquired cheaply. In the case of a domestic building, for which an open space at rear is required, it is a great advantage, where possible, to extend the building through to a street in the rear. Then this rear street will itself constitute the required open space, and the diagonal line, which limits the height of the rear portion of the building, may be drawn from the centre of such street, either at the level of the surface of the roadway of that street, or 16 ft. above the level of the pavement of the front street, according to the age of such front street.

The obvious difficulty in extending a building vertically is the probable insufficient thickness of the walls for any such increase in height.

And it must not be thought that the question may be dodged by putting a story or stories in the roof, for in London the statutory height of a wall, on which the required thickness to some extent depends, is from the base of the wall to the top of the topmost story. But sometimes two of the walls are thicker than the others, and there may be some strong piers suitably disposed in either of which cases it may be possible, by means of girders, to arrange that the weight of the new story or stories will come upon a portion of the structure which is well able to bear it. Or possibly in an exceptional case it may be desirable to erect steel stanchions or reinforced concrete pillars from the foundations upwards in order to support the new load. None of these contrivances will, of course, obviate the technical objection as to the walls being of insufficient thickness. But if a sound scheme of practical construction is devised the Council may then be approached with a view to obtaining their consent under sect. 207 of the 1894 Building Act.

THE ARCHITECTURAL ASSOCIATION CAMERA, SKETCH, AND DEBATE CLUB: INTERNAL DECORATION.

On the 12th inst. (Ladies' Night) a meeting of the Architectural Association Camera, Sketch, and Debate Club was held, when Miss Cohen read a paper on "Internal Decoration," Mr. P. H. Adams, Chairman, presiding.

Miss Cohen divided her paper into two parts—the first, attacks on the architect, and the second, attacks on public taste. She made these attacks because the house-decorator suffered by the misunderstanding and the mistakes both of the architects and of the public, and sometimes felt a little bitter about it. The decorator worked under a double limitation. There was the limitation which he and the architect had in common: each worked for a client. That was to say, each had the double duty of directing the taste of the client while satisfying it. But the architect was less restricted in this than the decorator, who worked on that part of the house with which the client lived most closely, about which he thought that he had a right to know something, and on which he would probably have fixed ideas, so that the house-decorator, in a stricter sense than the architect, worked solely to please other people. She did not, of course, mean by this that he must abandon his own taste and his own knowledge to the ignorance or false ideas of somebody else; but that, however beautiful he may make the interior of a house in itself, he had failed unless he had made his client feel that it was beautiful. Again, the house-decorator was rarely so fortunate as to work with an empty house. There would usually be furniture and pictures from a previous house which had to be fitted into the scheme. He might perhaps find a beautiful picture up to which he could decorate; on the other hand, it was more probable that he would have thrust on him ugly pieces of furniture which would tax his ingenuity to hide away. These were difficulties which the architect did not share.

But suppose that the house-decorator had the freest hand which, in the nature of things, is possible. He still had to work with the material which had already received the impression of another mind; he must take the room with the shape, the proportions, and the woodwork as it left the architect. He was limited by the architect's ideas and often hampered by his mistakes. She had seen rooms spoiled, even before the decorator entered them, by ill-designed mouldings, heavy mantelpieces, and ornate cornices. It was rare to find a mantelpiece that was well designed. The modern mantelpiece was often heavy in design and crowded with ornament. The decorator might, it was true, correct some mistakes if he did not like a room's proportions; and many a time had she had to do it.

It was a generation since house-decorating began to be practised seriously. It was now recognised as one of the professions: it was even accepted as an art in itself. But it had still to be accepted as a high and serious art, that was, which required long and careful study. Decorating would not be taken seriously by the public as long as architects took it lightly.

Let them consider two of the most important parts of decorating—the designing of woodwork and the choice of colours. She did not believe that to either did the majority of architects

ve proper study. She had come across much woodwork in modern houses that was ill done; was of poor design in itself, and it was even badly placed in the room. Nor had she formed any opinion of the neglect of woodwork only on her own experience, but from the confession of architects themselves. On the question of paint she would call one witness, he complained to the head of a large wallpaper manufacturers of the vicious fashion for white paint. One would see hundreds of houses which had all their woodwork painted a glaring white, altogether out of harmony with the other colours. She was told it was an architect's fashion; that architects chose white as an easy way out of the difficulty of matching and shading colours, because white might be thought to go passably well with any paper. He had read in the *Builder* a paper on "The Decorating of a Small House," by Mr. Arthur Seymour Jennings,* Fellow of the Institute of British Decorators, which contained some pertinent criticisms. But there was a suggestion in it on this subject of paint with which she strongly disagreed, and she mentioned it because it seemed to be another example of the errors which come from taking the business of decorating too lightly. The suggestion was that the Institute should offer, for a small fee, to give professional advice; that it should send one of its members to any tenant who desired such advice, and that he should select papers and paints on the spot and leave a "cut-and-dried" plan of decoration to be carried out by the local house-painter. "Half-day or a little more," Mr. Jennings said, "would be amply sufficient time in which to do such work." This sounded very simple, but there was one objection to it—it was not possible to leave a "cut-and-dried" scheme for a house-painter to carry out. The average house-painter could not be trusted to match colours; he had not the necessary knowledge of colours nor the necessary taste. These things were not easily acquired.

Proceeding, the lecturer said:—
 "I should like now to say something of those errors in public taste of which I have had experience. Some, like the white paint fallacy, come from taking house-decorating lightly; but the majority can, I think, best be described as errors against simplicity; they are, too, errors of ignorance. That is to say, if it were understood why the house-decorator wishes to do this and the principles on which he works, many of them would disappear. There are fewer people than is commonly believed with a natural delight in what is vulgar and pretentious. Most, I think, are very ready to admire what is simple and beautiful if they are taught. To understand the aim of the decorator, you must remember that he is picking up a broken tradition. Modern house-decorating was part of the movement of the fifties, which was a protest against the utilitarian ugliness of the two preceding decades—a desire for beautiful things. The utilitarian theory can be seen plainly in all the furniture and decorating of the Early Victorian period. The furniture of that period is ugly, because it is very solid and heavy. It was designed for use, and where ornament was desired it was made a separate thing. It was made not as part of, not even to harmonise with the thing of use, but as a contrast. That was the inevitable result of assuming that a useful thing need only be useful; and so we have side by side with the solid and sombre furniture of the Early Victorian time strange and fantastic ornaments and highly-coloured wax fruits, the extreme of simplicity in design for the useful thing, and the extreme of violence in colour for the ornamental thing."

It is clear, then, that the modern house-decorator, in taking up the broken tradition, as to go back a full century to the Georgian period, and through that to the Queen Anne and Jacobean periods. This is no retrograde movement, for it is towards the most modern period of good English decorative art. It is to take up the tradition where it was broken off. Even less is this movement purely imitative. The decorator can, of course, deal in mere copies of the designs of others, and much work of the sort is done. You will find many copies both of the furniture and the decorations of the XVIIth and XVIIIth century artists. There are even many fraudulent copies of the best modern wallpapers done with small mechanical alterations of the designs to avoid infringement of copyright. It is not for this reason that the chief part and the most delightful

part of a decorator's training is the study of the fine woodwork furniture and designs of the XVIIIth century, but because, like other artists, he must get an instinct for beauty and a standard of beauty by steeping himself in beautiful things, and because he has in the XVIIIth-century work a fine English tradition of decorating in a simple and dignified style, which he must attempt to carry on in the difference circumstances of modern life. In taking up this tradition he is taking up aristocratic ideas, the ideas of great town and country houses, and he uses them and modifies them for middle-class life, to suit smaller houses, and a different manner of living, and an age which, even in its art, depends a very great deal on machinery.

That is the central principle of modern house-decorating—to apply aristocratic ideas to fit middle-class life. I believe that the decorator must study and study, and continually study the fine things of the Georgian, Queen Anne, and Jacobean periods, not only because they are good or because they are English, but because they are good in the right way for us, in a way in which the contemporary French decorative work was not good. They are good in a simpler way; their chief beauty is their perfect proportions. It is for that reason that they are sound models for modern decorators. They are aristocratic, but because of their simplicity they can be adapted to middle-class houses and an easier and less elaborate ceremony of life.

If we keep this aim and idea clear the common faults of taste become at once impossible, because they become at once apparent. The most numerous and most serious faults are, first of all, the many faults which come under the head of imitations. Chief of these is the fault of decorating in set styles; it reduces decorating to a very mean and mechanical business, and the decorator to a mere copyist, but it is encouraged and much practised by the large furnishing firms. And so you will get houses furnished Louis Quatorze or Louis Seize or Queen Anne, without any regard to the fitness of the style, to the size or the shape of the rooms or their uses or the manner of life of their inhabitants. You may even get each room of a house furnished in a separate style.

This is a pathology of taste run mad. It breaks, violently breaks, the first and elementary rule, that all the rooms of a house, like all the things in one room, should show no violent contrast with one another, but be a harmonious whole.

I do not want it to be thought that any English decorator can be altogether indifferent to the ideas or independent of the products of other countries; we get many beautiful things from abroad. No longer ago than in my predecessor's time we had crozier in Spitalfields, but that industry has disappeared, and for silks we have now to go to France; for velvets we go to Germany; and we get many new and fine stuffs, beautiful wall-coverings made of grass fibres, for example, from Japan.

There are many other forms of imitation no less vicious than the copying of set styles: there is the imitation of Nature. Many impatient people are not content that a pattern should be a pattern and no more than a pattern. They are not satisfied with a conventional rose design; they want the illusion of a rose itself. They do not understand that a wallpaper covers a flat surface, and that if a design is no realistic that it seems to stand out from it, if the flowers on it offer themselves to be picked, then the paper suggests something which it is not."

In speaking of the Art Nouveau, the lecturer said:—"Its disciples are as wrong in their ideas as were the Early Victorians. They, too, believe that use and beauty cannot go together; but their products are even worse. The utilitarians did, at least, produce useful things; but the things of the Art Nouveau are neither useful nor beautiful. Use is sacrificed for the sake of a beauty which is not achieved. Art Nouveau throws aside all restraint in its designs, but its central idea is a grotesque shame. It is ashamed when a chair looks like a chair; it professes that it should look like the trunk of a tree. It attempts to disguise everything. It makes balusters like twisted serpents, and electric lights like horseshoes on an axle; it makes everything appear like something else. These imitations are bad enough, but there are others which are still more gross—imitations which attempt to give simply an illusion of costliness."

The manufacturer finds it better business continually to produce new designs, even if they are bad, and continually to encourage the public taste in novelty. Things that are made to satisfy such a standard cannot have, and are not intended to have, any durable worth.

Now all these errors of taste, imitations, and so forth, offend against that principal thing at which a decorator must aim—tranquillity. They are all restless. To be continually struck by the newness and strangeness of a piece of furniture, or to be continually reminded that a design is not what it seems, to look at marble and then remember that it is painted iron—all this is not to feel at home. In a home you aim at something different, at ease and familiarity, and so the things in it must have a lasting worth; they must satisfy more than a momentary fancy; they must be companionable."

Mr. Bullock, in proposing a vote of thanks, said he did not agree with the remarks as to imitating old works. He himself had had to do so, and it becomes a necessity in restoration or when a client demands a copy of some old room. He hoped that wallpapers would be abolished.

Miss Fuller seconded the vote of thanks. Mr. A. H. Belcher said that he had hoped to have heard more of Miss Cohen's methods, and did not agree with all the accusations she had levelled at the heads of architects. Whilst holding no brief for the imitations of mouldings on a flat surface, he instanced a church at Edgware where this method was followed with a pleasing effect. He also was of the opinion that the use of wallpaper was often an abuse.

Dr. Helen Boyle agreed that the house-decorator should educate the public taste. The house-decorator, in her opinion, should not pay too much attention to the client's wishes and should take justifiable risks. Mr. C. G. Boucher said that the less decoration used the better for the building. He was of the opinion that good architecture should rely on form and proportions for its effect. He suggested that Miss Cohen's criticism should be turned rather against the speculative builder than against the responsible architect.

Mr. Bart Tunnard said that he did not agree with Mr. Bullock's justification of reproducing verbatim old rooms. He held that these tended to vulgarise the original. As to the Nouveau Art movement, he did not hold the opinion that we lacked able craftsmen, and instanced some of the furniture shown at the recent Arts and Crafts Exhibition. He said that we were living in an age of our own, and that while the past could not be neglected, it was a mistake to reproduce old work and fit it to modern requirements.

Messrs. Rogers and Allcorn also spoke.

The Chairman, in putting the vote of thanks to the meeting, said that the business of the decorator was to divert the public from the standard of taste thrust at it by the wholesale manufacturer, and remarked that we lived in an age of selection rather than of initiative.

The motion being carried, Miss Cohen replied, and the meeting terminated.

THE LAND INQUIRY.

QUESTIONS were recently put to the Government in both Houses of Parliament relative to the informal inquiry into the tenure of land. The Lord Chancellor, in reply to Lord Halsbury, is reported as having said:—"The inquiry was being made by Mr. Lloyd George. No Minister could divest himself of his official capacity, but, so far as it could be done, the inquiry was unofficial." The Lord Chancellor also said that he had not the least idea who was finding the money. Lord Lansdowne drew attention to the speech delivered by the Chancellor of the Exchequer at Aberdeen in which he was reported to have said he must burst up the land system, thereby apparently anticipating the results of the inquiry for which he is responsible. In the House of Commons Mr. Asquith said that no person engaged in the inquiry had any right to profess to be acting on behalf of the Government.

It may seem open to question Lord Haldane's statement that no Minister can divest himself of his official capacity in the light of the utterances of the Chancellor of the Exchequer. A Minister who is responsible for the annual Budget, according to all precedent, observes a strict reserve beforehand as to his views.

In his Aberdeen speech Mr. Lloyd George said he was accused of undermining credit and ruining trade, especially in connexion with the

* See our issue for November 29, page 651.

Finance Act, 1909-10, but that trade had gone on improving ever since. The Chancellor of the Exchequer has been fortunate in that there has been a cycle of prosperity in the general trade of the country during the past three years which has to some extent mitigated the influences of his 1909 Budget.

With secret inquiries pending and popular promises constantly made in reference to the land, what is the position of those who are seeking to develop land, and those societies, such as building societies, land societies, etc., who have the savings of needy classes invested in land? Is it fair play constantly to depreciate vaguely their securities?

TRADE UNIONS, 1911.

The Board of Trade Labour Gazette in August last published some interesting statistics relating to the membership of all trade unions in the United Kingdom, upon which we commented in our issue of August 30. In the current number of the *Gazette* there is an article on the membership, income, expenditure, and funds of 100 principal unions for the year 1911. The 100 unions have a membership representing 60 per cent. of the membership of all unions. The years 1907-9 showed comparatively small fluctuations in membership, but in 1911 it increased by 347,186, and they now total 1,816,506. The total income is the highest recorded, and amounted to 2,936,754*l.* In the article it is stated that this is due to the increased membership, but that from the same cause both the amount of income per member and the expenditure per member is less than in any of the preceding ten years.

The total funds increased by 434,573*l.*, and the amount of 5,570,690*l.* has only been exceeded in 1907; but in that year they represented 77*s.* 6*d.* per head, whereas in 1911 the amount was 6*s.* 4*d.* per member. The summary of the expenditure during the past ten years is very interesting and instructive. During the ten years the 100 unions have expended 22,946,000*l.*, and of this sum 6,140,000*l.* went in unemployed benefit, 9,543,000*l.* was sick, accident, superannuation, and other benefit, and only 2,455,000*l.*, or 10*7* per cent., of the total amount was expended on dispute pay. Working expenses and miscellaneous items accounted for 4,808,000*l.* We quote these figures because at the present time they seem peculiarly important. Trade unionists are under the impression that a large section of the community is antagonistic nowadays to the unions. This is solely due to the discussion that has been evoked by their seeking political powers and the possible use by the unions of their highly-privileged position under the Trade Disputes Act in their proposed new political sphere. We have always recognised the efficiency and value of trade unions as benefit societies and, in many respects, as trade societies, and the future of trade unions rests largely in their own hands. In their capacity of trade societies on purely trade questions discipline should be maintained, so that their important function of collective bargaining may be exercised. Strikes without notice, contrary to trade union rules, should be vigorously repressed by the union leaders, and agreements when entered into should be adhered to. The strike, and especially the sympathetic strike, should be sparingly used, and never to intimidate the public. On the other hand, political action should be confined to matters connected with trade and employment; general politics should be avoided, and any kind of political dress or compulsion be prohibited by the unions. We venture to submit that if the unions proceed on such lines they have a great future before them.

THE WONDER OF WORK.

Those who went to the Royal Society of Arts on the evening of December 18 had no reason to regret their pilgrimage to the Adelphi, for Mr. Joseph Pennell gave a lecture on "The Pictorial Possibilities of Work" which will be remembered by the audience for a long time; and the lithographs and etchings on the walls, with the lantern views, were as instructive and as attractive as could be desired.

The origin of the lecture was Mr. Pennell's visit to the Panama Canal, but the opportunity was taken to look back on the artistic achievements of the past.

Among the artists chosen by Mr. Pennell to illustrate his subject were Rembrandt, Claude,

Canaletto, Piranesi, Turner, Whistler, Meunier, Ford Madox Brown, Puvion de Chavannes, Menzel, Mr. W. L. Wyllie, Mr. D. Y. Cameron, Mr. Muirhead Bone, Mr. John Lavery, and Mr. Frank Brangwyn. Several of Whistler's etchings were thrown on the screen, with the picture "The Building of New Westminster Bridge," painted in 1862, which was a feature of the Memorial Exhibition of the artist's works held at the New Gallery in 1905.

In the course of his remarks Mr. Pennell said:

"I went to Panama because I believed that, in the making of the greatest work of modern time, I should find the greatest inspiration. The day I landed in Colon I found it. I had seen great cranes at Pittsburgh and Duisburg, but nothing like that which stretched its great arm, with great claws, over the sad, silent swamp of Mount Hope—the *ciénaga* of De Leó—ambition. I had seen in New York, as I sat on the thirtieth story of the Metropolitan Building, a chain come up from below with a man clinging to it. But I had never imagined anything like the group of figures which rose out of Gatun Lock at dinner-time. I had looked into chasms and gulfs, but I never imagined anything so terrific as the gates of Pedro Miguel. I had seen the greatest walls of the oldest cities, but I never imagined anything so imposing as the walls of Miraflores Lock. I had seen the great aqueducts and great arches of the world, but I never imagined anything like the approaches to Gatun and the spring of Pedro Miguel, made by army officers and civil engineers mainly to save material. For there are no architects, no designers, no decorators on the Panama Canal—just engineers and organisers—Goethals, Gaillard, Gorgas, Williamson, Bishop, and more. But the engineers at Panama are great designers, and great work is great decoration."

"Work to-day is the greatest thing in the world, and the artist who best records it will be best remembered. In France, Germany, and Italy the Wonder of Work around us has been made the subject of endless commissions from the State to artists. But records of facts, facts of one's own time, here and in America are never recorded. Go to the Royal Exchange and you will find Wat Tyler, Phoenicians, prehistoric apple-carts, and everything in the history of London that can be made into a painting of the past, and not a single record of the present. Where is the building of the Tower Bridge, the electric light works, the docks, the Blackwall Tunnel, the trams, the Tube, or any of the other works by which this age, this workaday age, has distinguished itself, all of which are worth painting? John Lavery has made, in Glasgow, a decoration out of shipbuilding which is worth the whole wall coverings of the Royal Exchange and the House of Lords put together."

GENERAL NEWS.

Professional Announcement.

After Christmas the offices of Messrs. F. H. Greenaway & J. E. Newberry, architects, will be removed to Parliament Mansions, Victoria-street, Westminster.

Appointment: Calcutta Cathedral.

Mr. Heathcote D. Statham, Mus.Bac., Cantab., eldest son of Mr. H. Heathcote Statham, F.R.I.B.A., has been appointed organist of Calcutta Cathedral.

Cambridge University.

The following four candidates have passed the examination in Preliminary Architectural Studies at Cambridge:—Part II.—Class I.: P. H. Pilditch (Pemb.); Class II. (in alphabetical order): K. M. B. Cross (Cains); D. C. Parsons (Trin.); Class III.: E. N. Clifton (Trin.).

Crystal Palace Engineering School.

The "Wilson Premium" for the best paper read before the Crystal Palace Engineering Society (affiliated to the Society of Engineers Incorporated) during the present session has been awarded by the Council to Mr. J. R. M. Chalton for his paper on "Wireless Telegraphy." Other papers read during the session were:—"The South-Eastern Coalfield," by Mr. B. L. Rignid; "Compressed Air," by Mr. H. M. Jordan; and "Reconstruction of Komati Poort Bridge," by Mr. J. E. Thomas. The premium was presented to Mr. Chalton by Mr. R. Elliott-Cooper, President of the Institution of Civil Engineers, on the

occasion of the 120th distribution of certificates of the School, on the 10th inst., at which he presided.

Coronation of George V. Tapestry.

Messrs. Morris & Co. are weaving at their Merton Abbey Works a large piece of commemorative tapestry whereof the design reproduces that of Mr. Bernard Partridge's "Arming of the King" in the Coronation number of *Punch*; Mr. Partridge has made a coloured replica of his cartoon for use at the loom. The woven piece will be enriched with a wide border of trailed York and Lancaster roses interlaced with badges of the reigning houses during the past seven centuries, from designs by the Rev. E. Doring, who devised the heraldry for the King's Coronation and the Prince of Wales's Investiture at Caernarvon Castle. A scroll at the top is inscribed, "Georgius V. Rex et Imperator armis induitur A.D. X. Kal. Jul. MCMXI."

Property Sales.

The late Sir L. Alma Tadema's house in Grove End-road, St. John's Wood, upon which he expended some 70,000*l.*, was withdrawn from sale after a bid of 30,000*l.*; negotiations are in progress for buying the house and grounds as the headquarters of a learned and artistic society.—Avonholm, Glassford, Lanarkshire, designed by Robert Adam, has just been sold to Mr. R. Halket, of Glasgow.—Swinton House, Berwickshire, just purchased by Captain G. H. Taylor Swinton, of Uppminster Hall, Romford, has vested in that family (until a few years ago) since the 13th century, and there is record of Laith, of Bannburn and Swinton, Seigneur of Northumbria, as being the first individual Scottish subject whose ownership of land can be proved by contemporary and extant documents.—Messrs. Collins & Collins have sold No. 2, Carlton House-terrace, St. James's, for nearly 100,000*l.*; the house was the residence of Lord Liverpool, and latterly of Mrs. Malvina Drummond.—The Island, Waterford, with the Castle (the home of Edward Fitzgerald), built by the Fitzgeralds in the 13th-15th centuries, will be offered for sale, with the works of art and fine old furniture, in the coming season, together with Quenby Hall, near Leicester, a fine example of domestic Jacobean architecture (1610-20), constructed of brick, with the diamond pattern, and having Ketton stone dressings.—Sir Sothern Holland has bought Westwell Manor, Oxon, near Burford, a typical Cotswold house, of stone, and with a stone slab-roof, temp. James I.

Art Sales.

The first part of the sale at the Manzi-Joyant Gallery, Paris, on December 9-11, of the late M. Henri Rouart's collection of old and modern pictures realised 186,274*l.* The collection comprised forty pictures by Corot and fourteen by J. F. Millet, and numerous drawings by them, with examples of Degas, Manet, Fantin-Latour, Troyon, Cézanne, Diaz, Monet, Renoir, Henri Daubier, the caricaturist, and many other modern painters. The lots included Corot's "La Source" (1,480*l.*) and "Villa d'Este à Tivoli" (4,440*l.*)—these were bought for 14*l.* and 160*l.* respectively at the artist's sale in 1875—and his "Les Baigneuses aux Iles Borromées" (8,400*l.*—Knoedler); "Femme en Bleu" (6,480*l.*—Louvre Museum); and "Naples et le Château de l'Euif" (1,180*l.*); Degas's "Les Danseuses à la Barre" (2 ft. 6 in. by 2 ft. 7 in., depicting two ballet-girls at practise, originally sold for 20*l.* (17,400*l.*); "La Répétition des Danses" (8,000*l.*—Knoedler); "Sur la Plage" (3,600*l.*—Sir Hugh Lane); and "L'Enlèvement des Sabines" after Poussin (2,200*l.*); Manet's "Buste de Femme nue" (3,880*l.*); "La Leçon de Musique" (4,800*l.*); and "Sur la Plage" (3,680*l.*); Puvion de Chavannes's "L'Espérance" (2,600*l.*—the Luxembourg Museum); Goya's "Femme Espagnole" (5,680*l.*—Sir Hugh Lane); Fragonard's "Paysage" (2,800*l.*) and "Repos Pendant la Fuite en Egypte" (3,000*l.*). At Christie's was sold for high prices last week some old English silver, the property of Captain J. H. Reynolds, Mr. J. H. H. V. Lane, and others. The lots comprised a James I. silver-gilt steeple cup and cover, embossed and chased, 13½ in. high (1621), nearly 11 oz. in weight (80*l.*—Crichton); a William and Mary monteith, 11½ in. high, at 20*s.* (504*l.*—Crichton); an Elizabethan chalice and paten (1571), 9 in. high, at 400*s.* (268*l.*—Elkington); a James I. beaker, richly engraved, 6½ in. high

(1607), at 640s. (243l. 4s.—Elkington); and a lock-watch by Edward East, London, XVIIth century (147l.—Huggins); with an Irish potatoing, Dublin, of about 1670, at 1670, at 450s. (216l.—Pernann).

Church Building Society.

The Incorporated Church Building Society held its usual monthly meeting on the 19th inst., at the Society's House, 7, Dean's-yard, Westminster Abbey, S.W., the Hon. Sir E. P. Chesiger, K.C.B., in the Chair. Grants of money were made in aid of the following objects, viz.:—Rebuilding the Church of St. Mary Magdalene, Somersell, Somerset, 50l.; and towards enlarging and otherwise improving the accommodation in the churches at Dymchurch, St. Peter and St. Paul, Kent, 40l.; and Plessey Hill, St. Barnabas, Notts, 40l. The following grants were also paid for works completed:—King Cross, St. Paul, Halifax, 250l.; Langley Mill, St. Andrew, Derbyshire, 150l.; Taplow, St. Nicholas, Bucks, 150l.; Colne, Holy Trinity, Lancs, 120l.; Headstone, St. George, Middlesex, 100l.; Gringley-on-the-Hill, St. Peter and St. Paul, Doncaster, 50l.; East Wickham, St. Michael, Welling, Kent, 50l.; Fitzroy-square, St. John, Middlesex, 40l.; Hendon, St. Paul, Sunderland, 30l.; and Rathmell, Holy Trinity, Yorks, 10l. In addition to this the sum of 100l. was paid towards the repairs of five churches from trust funds held by the Society.

City Subway, Cannon-street.

The Corporation of the City have placed with Messrs. Mitchell Brothers, Ltd., of Victoria-street, S.W., a contract for the construction, after designs by Messrs. Basil Mott & Hay, M.M.Inst.C.E., of the subway at the junction of Queen Victoria and Cannon streets. The subway, having a total length of 280 ft., a width of 10 ft., and height of 8 ft., will be planned in the form of a cross, with entrances from the two streets and from beneath Mansion House railway-station. It will be made under timber road-decking, on the "cut-and-cover" system, with brick walls, concrete floor, and steel trough roof; a subway, 12 ft. wide, for mains and lines of various kinds must be lowered at Queen Victoria-street, and other mains and sewers, one of them 4 ft. high, will be diverted horizontally.

Art and Industry.

Mr. Frank Warner, President of the Silk Association of Great Britain and Ireland, recently distributed the prizes at the Macclesfield School of Art. In an address on "Art and Industry" he said that those in control of our educational system seemed bent on stifling all effort, thwarting every scheme, and humiliating to the dust all those who had the temerity to attempt to attach to our industries that touch of art culture of which they stood to-day in such need. They had forced upon them a scheme of examinations which was more academic, extreme, unnecessary, and impossible than anything ever attempted before. The new regulations for examination in industrial design would result in a fiasco, for the simple reason that no industrial student, certainly not one connected with the textile industry, stood a chance of passing unless he studied far beyond the range of subjects that was necessary for his efficiency as a designer. A still more serious upheaval was the threatened abolition of the National Competition hitherto held at South Kensington. The competition had done a great good, not only in stimulating the students, but to the art schools themselves.

BOOKS.

Pitman's Law of Repairs and Dilapidations. By T. Cato Worsfold, M.A., LL.D. (London: Sir Isaac Pitman & Sons, Ltd. Pages xii. and 91. Price 3s. 6d. net.)

This is a very useful little book written in a style which is both clear and concise. The branch of the law with which it deals necessarily affects in some degree persons of all classes either as landlords or as tenants. Many a man at some time or other has found himself in a difficulty and has been perplexed as to what he is or is not liable for as a landlord or as a tenant, and further to what extent in either capacity.

That being so, there was indeed room for a handy book upon this intricate subject, seeing that most of the standard text-books upon it

are too detailed and bulky for use by anyone but a trained lawyer. The author has succeeded in producing a very readable work which sets out in admirable fashion not only the principles embodied in statutes, but also the manifold legal decisions arising therefrom, and the book is quite up to date, for it includes decisions right down to July 31 of this year, which was the last day the courts sat prior to the long vacation. The author is certainly to be congratulated upon having fulfilled the difficult task of compressing into a small compass a very complex branch of our law, while at the same time retaining sufficient details to render his work of service to lawyers as well as to laymen.

The Table of Cases would perhaps have been more useful to the former if full references had there been given against the names of the cases, and it is also customary to enclose dates of cases in square brackets when such dates actually form part of the reference, but these are small matters which in no way detract from the general merit of the work. There is a Table of Statutes and an index.

Water Supply and Drainage Systematised and Simplified. By C. E. HOUSDEEN. With three plates. (London: Longmans, Green, & Co. 1912. Pages 28. 1s. 6d.)

This small volume is a supplement to the author's "The Precise Calculation of Pipe Drain and Sewer Dimensions," but it can be used without reference thereto. It explains in detail the method of determining the sizes of main pipes in a system of water supply, including the investigation of velocities of flow in the pipes and the reduction of excessive pressure, together with the allowances to be made for eventual incrustation. A drainage project is dealt with upon parallel lines.

The outstanding features of the book are two scales for ascertaining the dimensions of pipes and sewers, adopting any desired co-efficient for the state of comparative roughness of the wetted surface. These should be very useful in rapidly arriving at and in checking sizes of pipes.

The Mechanical World Pocket Diary and Year-Book for 1913. A Collection of Useful Engineering Notes, Rules, Tables, and Data. (London: Emmott & Co.; and Tokyo, Osaka & Kyoto: The Maruzen-Kabushiki-Kaisha. Pages 439. 6d. net.)

This issue is in no way inferior to its predecessors, and has some excellent points. We notice, for instance, the clear way in which terms of the class that "every schoolboy knows" are defined; anyone who is often asked for such definitions by beginners knows how difficult it is to lay hands on a small book which will give them clearly; in the present work we find an excellent series under the headings of "Steam and the Steam Engine," "Notes on Heat," "Beams and Girders," and elsewhere.

In addition to the chapter on steam engines of more ordinary types there is an article devoted entirely to steam turbines. The means of production of steam are dealt with in sections on boilers, their design and setting, and the corrosion and incrustation met with in them. The design of the chimney and notes on superheating of steam are added. Gas-producers and gas and oil engines are also treated of, and there are copious notes upon shafting, gearing, bolting, hemp and wire rope driving, chain driving, ball and other bearings, and many useful tables and workshop notes.

The appearance of the name of a Japanese joint stock company as joint publishers of a handbook of this kind is a sign of the times, and we should not be surprised to hear that the work has a good sale in the land of the Rising Sun, for it contains much useful matter, well arranged, well written, and with a good index. It is neatly bound in cloth, and among the many pocket-books of its class we do not remember a better sixpennyworth.

Primer of Scientific Management. By FRANK B. GILBRETH. Pages viii. and 108. (London: Constable. 1912. 4s. net.)

The preface of this book explains that it is intended to supply answers to questions put to the publishers of the *American Magazine* as a result of articles in that periodical upon "The Principles of Scientific Management." This fact is said to be the reason, "in part, at

least, why the book is not a complete treatise on scientific management."

The scientific management referred to seems to have as one of its features a somewhat extreme division of labour and to involve a multiplicity of foremen. Both these may possibly be useful in trades involving very many repetitions of any given operation, but would appear likely to make the life of a mechanic monotonous to the last degree. It is claimed that the system will give the biggest possible day's work and wage with the least possible expenditure of time, and this result would probably have its attractions for many. In some trades a wearisome monotony will in any case prevail, and such trades are probably those whose managers will derive the most useful hints from the book before us. In any case the author approaches his subject with the idea that the welfare of the operative is a matter to be considered equally with that of his employer, and contends that scientific management does this. Any system having a tendency in this direction will command sympathy, but the author's admission that his schemes tend to "keep the worker from being all-round mechanic and instead make him a narrowly trained specialist" does not so well please. For the worker in the higher walks of, say, surgery, specialisation following on a good general training may be almost without drawbacks, but for the manual worker we fear that specialisation can very easily do harm. On the whole we are inclined to think that the full application of the methods advocated by the author is more suitable to America than to this country.

Competition Points for Gas Salesmen. By ARTHUR F. BEZANT. (Published by Walter King, Office of the *Journal of Gas Lighting*. London. 1912. Pages xii. and 212. Price 3s. 6d.)

AN interesting and useful book, frankly endeavouring to make the best possible case for the use of gas in preference to electricity. It is addressed to the gas salesmen with the object of helping him in his duty of selling the product of his employers, whether company or other corporation, by putting him in possession of all the available facts and arguments for gas, and against other means of providing light and heat.

The subject is one of very general importance, there being few town dwellers who are not personally interested in it to some extent, financially or otherwise.

The author deals with it as regards direct cost of installation and maintenance, as well as with reference to efficiency, and discusses the relative merits of gas and electricity as affecting the eyesight of the user, the ventilation of rooms, the purity of the air, the preservation of bookbindings, and other important matters.

The special requirements and conditions of street, factory, shop, and domestic lighting, and those incidental to the lighting of public buildings are all dealt with, and a considerable space is devoted to cooking. Chapters upon Gas versus Electricity for Power Production, upon Fire Risks, Failures of Electric Supplies, and upon miscellaneous points complete the book.

Here and there—as, for instance, in the list of "Fires Reported to Have Been Electrically Produced"—the evidence adduced may be weak, and as to the whole book, we feel a desire for a corresponding volume prepared upon similar lines, but taking the opposite side. Nevertheless, provided the reader remembers the title and object of the book, it is full of instructive points.

The index might with advantage be amplified.

STORY OF THE MAIN DRAINAGE OF LONDON.

The London County Council have issued, at a price of 1s. 6d., a revised edition of the description, with plans and illustrations, drawn up by Sir Maurice Fitzmaurice, C.M.G., in 1909, of the main drainage of London. That system, we may mention, was originally instituted by the late Metropolitan Board of Works, whose first Engineer-in-Chief was Sir J. W. Bazalgette, M.Inst.C.E. The new work was carried out by him for the Board in 1857-74. Up to March, 1909, the London County Council expended more than 11 millions upon the drainage system of London.

ILLUSTRATIONS.

House in Rutland.

THIS is one of two alternative schemes prepared by Mr. H. S. Goodhart Rendel for a site in Rutland. The project has been abandoned. The conditions involved the incorporation of an old house and the irregular arrangement of the plan. The materials would have been those customary in the district—stone walls and roof, and leaded windows. The drawing was shown at the Royal Academy Exhibition this year.

Furze Hill, Willersey.

THIS house has been built in a very elevated position, commanding a wide prospect of the vale of Evesham and the Cotswold Hills, and overlooking the villages of Broadway and Willersey at about an equal distance from each. It is built of local stone in the local manner, and roofed with stone slates.

The house was designed by Mr. J. L. Ball, Director of the Birmingham Municipal School of Architecture, and was built by Messrs. Collins & Godfrey, of Tewkesbury. The heating apparatus, casements, leaded glazing, and lead rain-pipes were supplied by Messrs. Henry Hope & Sons, of Birmingham.

The Architectural Association Schools.

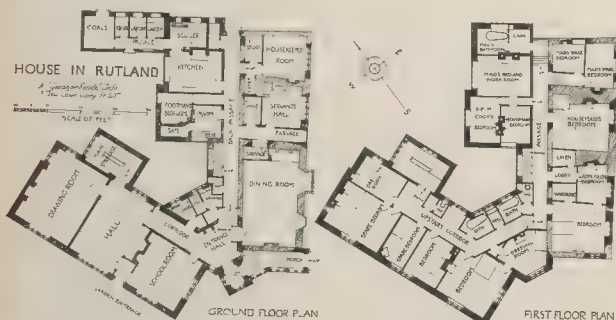
THIS "Study in Ornament" was prepared as a freehand drawing test of the end of the Third Year Evening School at the Architectural Association. The "Detail of a Fountain" and the whole design (p. 779) were shown at the A.A. Exhibition held last July. This design was part of a scheme of lay-out and planning of a library and site, being the principal subject in the Summer Term.

Mr. A. E. Maxwell is the holder of the R.I.B.A. silver medal (Drawings), the subject chosen being Compton Wynyates. Mr. Gerald C. Horsley, F.R.I.B.A., in his criticism of the drawings submitted for the Institute prizes and studentships, referred to these measured drawings and data as "an admirable example of what such a collection should be."

In his first year's course at the A.A. Schools Mr. Maxwell was awarded a special prize for excellence. He was also the winner of the freehand drawing test. His second year design, "A Garden Pavilion," was illustrated in the *Builder*, September 3, 1910. This was a subject set at the completion of the Day School course in the final test, in which Mr. Maxwell was placed first, receiving his Association Certificate with Honours. He then entered the Evening School, working in the daytime with a well-known firm of architects. Mr. Maxwell was born in 1891 in St. Petersburg, and was educated at Bowdon College, Cheshire, supplementing his studies at St. Petersburg, Berlin, and Paris.

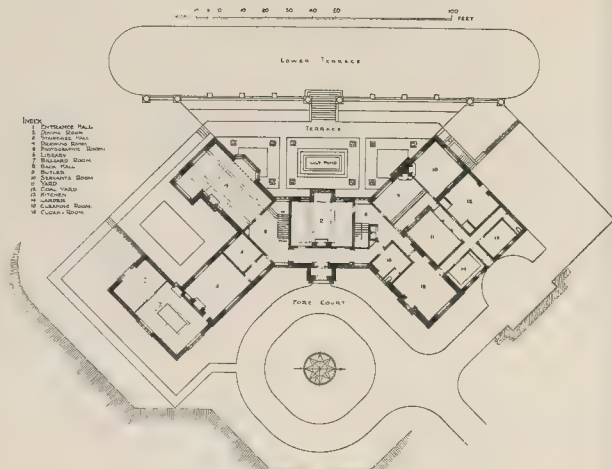
The Church of Santo Spirito, Florence.

THIS church was built by Brunelleschi after the burning of the former church standing on the same site. The scale is considerable,



House in Rutland.

Design by Mr. H. S. Goodhart Rendel.



Furze Hill, Willersey, Worcestershire: Ground Plan.

Mr. J. L. Ball, Architect.

COMPETITION NEWS.

A list of current Competitions is printed on page 794.

Henry Saxon Snell Prize.

The subject given by the Royal Sanitary Institute in 1912 for the Essay in competition for this prize was "The Ventilating, Lighting, Heating, and Water Supply Appliances and Fittings for an Operating Room for a General Hospital." Ten essays were sent in. The adjudicators for the competition were Mr. Edwin T. Hall, F.R.I.B.A., Dr. Louis C. Parkes, and Mr. A. Saxon Snell, F.R.I.B.A.; and they had the advantage of the criticisms and suggestions made by Sir Frederick Treves, Bart., G.C.V.O., who acted as consulting referee. Acting upon the advice of the adjudicators and of the consulting referee, the Council have decided to divide the prize of fifty guineas, giving one-half the sum to Mr. John Darch, M.R.San.I. (Wandsworth), writing under the motto "Aseptos," and the other half to Mr. H. F. V. Newsome (Manchester) and Mr. John G. Cherry, M.R.San.I. (Manchester), writing jointly under the motto "Magnum Bonum." The adjudicators consider that there are many excellent suggestions in each of these essays, but, on the other hand, there are some which they consider would prove unsatisfactory in practice. A bronze medal of the Institute will be awarded to each of the successful competitors. The adjudicators also commend the essays sent in under the mottoes:—"Science moves but slowly, slowly creeping on from point to point," "Ajax," and "Tout bien ou rien."

Schools, Newcastle-on-Tyne.

The following are the authors of the premiated designs in the competition for the Rye Hill Council School, Newcastle-on-Tyne:—(1) Mr. J. H. Morton, F.R.I.B.A., 57, Westgate-road, Newcastle-upon-Tyne; (2) Messrs. Harrison & Ash, 14, Grey-street, Newcastle-upon-Tyne; (3) Mr. Edwin F. W. Liddle, 12, Eldon-square, Newcastle-upon-Tyne. And in the competition for the Crutchie Park Council School the following have been successful: (1) Messrs. Harrison & Ash, 14, Grey-street, Newcastle-upon-Tyne; (2) Messrs. Wright & Chapman, 38, Grainger-street, Newcastle-upon-Tyne; (3) Mr. W. H. Knowles, 25, Collingwood-street, Newcastle-upon-Tyne. The competitions were open to local architects only.

BOOKS RECEIVED.

ENGLISH HOMES OF THE RENAISSANCE. By E. A. Tipping, M.A., F.S.A. (London: Country Life, 2l. 2s. net.)
ALEXANDER KOCH'S HANDBUCH NEUEZELTNER WOHNUNGS-KULTUR.
NATIONAL INSURANCE. J. H. Watts. (London: Stevens & Sons, Ltd. 12s. 6d.)

CORRESPONDENCE.

Fire Protection and the London County Council.

SIR,—Mr. Horace Cubitt's able letter in your issue of the 13th inst. may be divided into four sections. In the first place, he points out that owing to the neglect of the local authorities there are frequently relatively greater fire dangers to be met with in the provinces than in the metropolis, and he suggests that the state of affairs requires remedy.

I fully concur with Mr. Cubitt that in many localities in the provinces the state of affairs is scandalous, and this is often most evident in matters relating to the safety of industrial buildings or stores that cannot be brought under the Factory and Workshop Act. But for reasons best known to themselves many local councils do not even seriously put into force the powers they have in respect to factories and workshops under sect. 14 and 15 under the Factory and Workshop Act of 1901, and there are quite a number of local authorities that have not yet even made the necessary by-laws which they have power to frame under the last-named section. The central authority on factory and workshop matters unfortunately has little or no power over these neglectful local authorities, and the result is that, unless the factory inspector can persuade the building owner to act fairly, the necessary fire precautions on such buildings are most difficult to enforce.

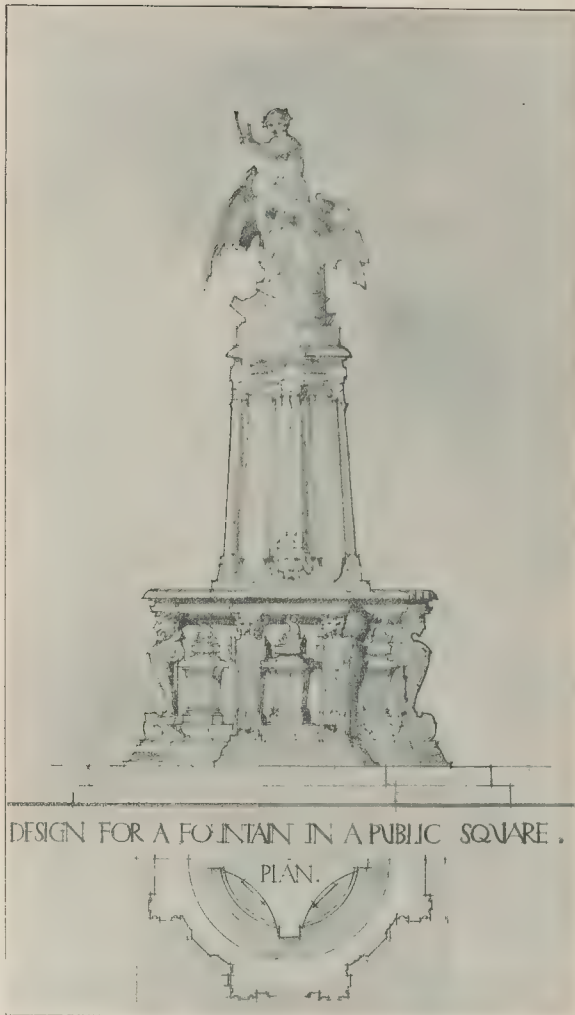
The only remedy against these apathetic local councils that appears feasible is to give the central authority some additional powers for bringing them into line with, say, some proviso that the central authority can, if necessary, take the matter in hand itself at the expense of the local authorities in question.

Regarding the second section of Mr. Cubitt's letter, in which he argues that "it may be generally conceded that the London County Council, in putting their powers in force in a gradual manner, are acting reasonably," I differ entirely. It is unreasonable of the London County Council to allow the many users of the buildings in question who do not happen to be building owners—including the many employees of the latter—to run the unnecessary risk of fire they now have to owing to the delay in enforcing the Building Acts (Amendment) Act of 1905. It is also unreasonable to place so many building owners in such a position as they are in at present where they do not know how when they may be called upon to make structural alterations—may be, just after they have redecorated their premises. It is unreasonable to spread five years' work over a period of five centuries and to take the few (527) individual cases that have been put in order under sect. 9 during the past seven years in the present haphazard fashion.

In the third section Mr. Cubitt apparently desires to argue that matters of fire prevention and matters of escape from fire are not very similar things. Originally fire prevention was purely considered to be a small chapter in the general subject of fire protection dealing with the precautionary measures against the actual outbreak of fire due, for instance, to individual negligence, defects in electric wiring, etc. Gradually the subject grew to what might be termed fire prevention in the wider sense, which included the prevention of the spread of fire and the spread of smoke, and the escape from fire and smoke. To-day the term fire prevention may be said to cover everything relating to building construction and equipment that may prevent the outbreak of fire, prevent the spread of fire, and prevent the loss of life from fire.

As to the fourth section of Mr. Cubitt's letter as to whether the more populous areas of the metropolis are more dangerous from the fire point of view than the less populous ones of the provinces, this is certainly a very debatable subject of wide issues. Without wishing to indicate concurrence with Mr. Cubitt's views, I will gladly agree that the provinces require fully equally that "stirring up" that is at present being applied to the London County Council.

In conclusion, but one additional word to Mr. Cubitt as a former member of the architectural staff of the London County Council, and that is that I wish to emphasise, as I have tried to throughout this correspondence, that whatever may be the failings of the London County Council in its corporate capacity, my strictures in no way reflect in the slightest degree on any



A Design by Mr. A. E. Maxwell. (See Plate for detail.)

member of the Council's Building Act Department. The remarkable efficiency and strenuousness of Mr. Riley and his chief assistants are as well known to me as his tactful handling of delicate or difficult technical cases, and it is only a pity that such a splendid staff should be working for such a sluggish Council.

EDWIN O. SACHS.

Intercepting Traps.

SIR,—If only in the interests of historical accuracy, some comment seems desirable on the reference to German house drainage practice found at page 40 of the Departmental Committee's Report on Intercepting Traps. Mr. Durham's statement favours the assumption that the omission of these appliances originated with one of the English engineers of the Frankfort sewerage system, and that the treatment of house drains in that and other cities constituted, in this respect, a new departure. I find it difficult to reconcile this with my recollection of the facts in regard to Frankfort after an interval of forty-five years.

So far from the absence of intercepting traps being a feature of the Frankfort house drainage regulations, compiled in 1868, these expressly enforced their provision for all liquid wastes

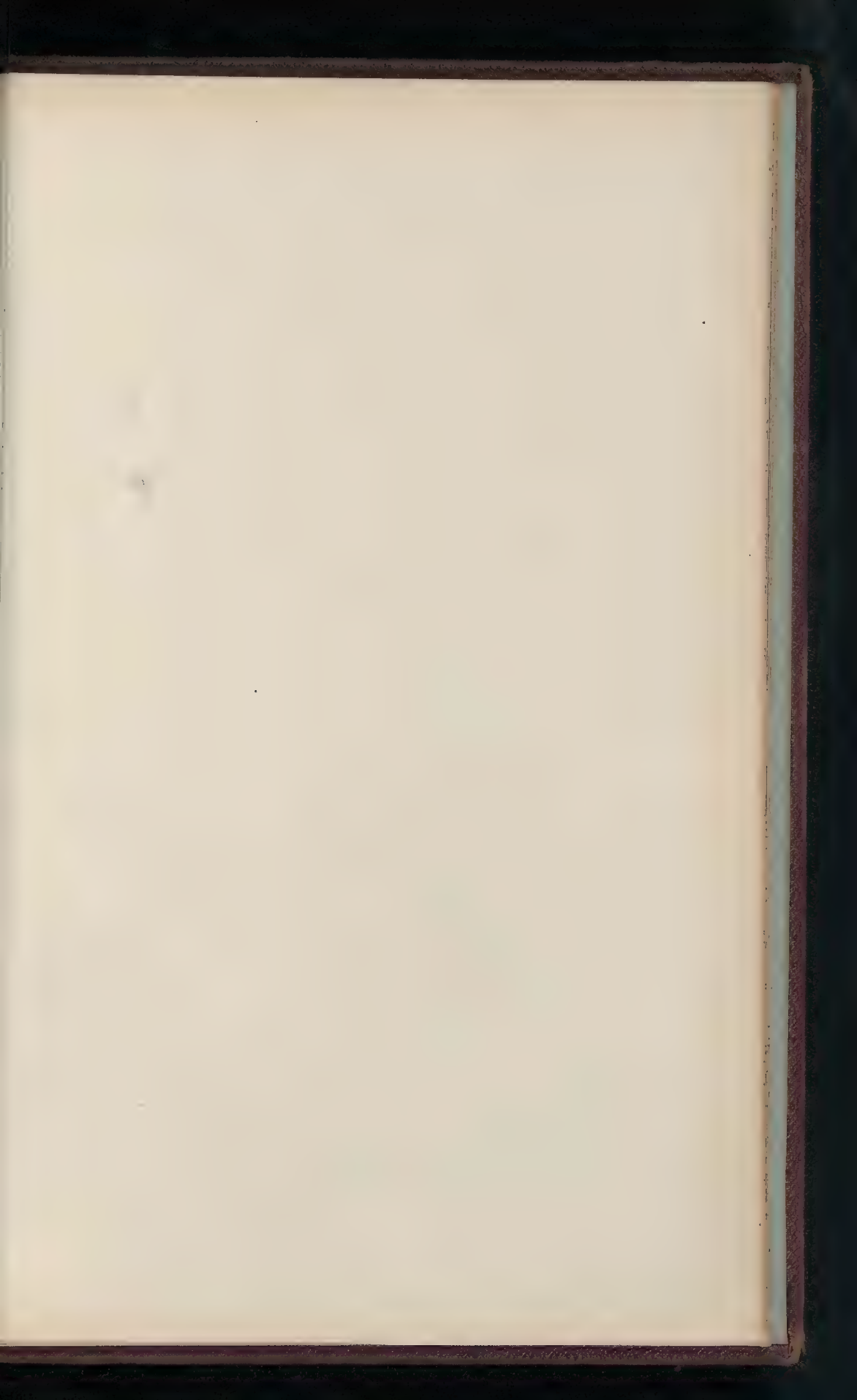
to be installed in a brick chamber at least 3 ft. in diameter and provided with a stoppered central opening—i.e., for cleaning only. Plans of typical house drainage systems, accompanying the regulations, showed in several cases the necessity for two such traps and chambers in order to avoid the passage of fecal matter through an interceptor, it being a cardinal feature of the plan that water-closets and their extended soil pipes should be directly connected with the street sewer.

It is clear, therefore, that the principle of disconnection—that is to say, the provision of a main underground trap in addition to the small seals on each waste-pipe—was a feature of the original Frankfort system. The essential difference between this method and that which has been ruthlessly imposed upon English sanitary boards since 1877 lies in the inclusion of water-closets under the model by-laws—a course which no reader of the present Report can fail to recognise as a grave mistake. The genesis of this latter method can be traced to the outbreak of typhoid in Uppingham School in 1875, and to the subsequent report thereon by an engineer no longer with us. In view of the disclosures of the Departmental Committee in regard to the putrid condition of house sewage discharged into public sewers

Stoic

* * * When referring in a recent "Note" to the demolition of some of the Paris theatres, we spoke of the Cirque Impérial—now known as the Châtelet—having been opened in 1780 by "un égyptien Anglais" named Astley. In the same year his London establishment, in St. George's Fields, was converted into a covered amphitheatre. It was only a timber structure, and was twice burned down. A building with a simple classic front took its place in 1820. Dion Boucault's management did not last long, and the house reverted to its old calling in 1873 under "Lord" George Sarger. Phil Astley died in Paris in 1814. Another of the transatlantic theatres, the old Surrey, for many years a rival to Astley's as a circus, had later as manager, the actor Elliston, who, as we all know, was the subject of one of Elia's Essays.—Ed.





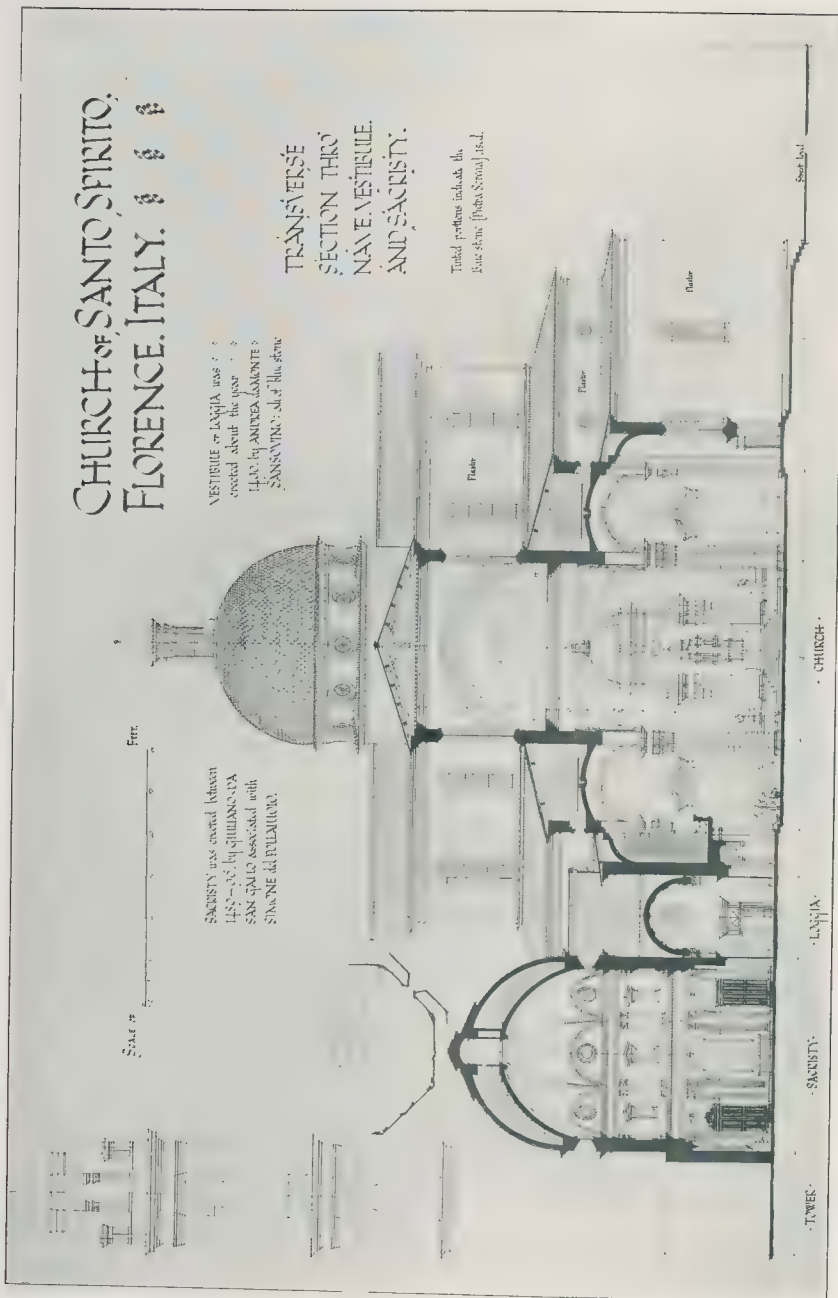
CHURCH OF SANTO SPIRITO, FLORENCE, ITALY. 1458-1503

VESTIBULE or LANCIA was erected about the year 1458 by ANDREA DIAMANTE SANSEVERINO, all of blue stone.

SANCTUARY was erected between 1458-1503 by GIULIANO DA SAN GALLO associated with SIMONE DEL POLLAIUOLO.

TRANSVERSE SECTION THRO' NARXES VESTIBULE AND SANCTUARY.

Timber portions indicate the base stone (photo shown) used.



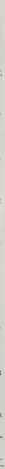
CHURCH OF SANTO SPIRITO, FLORENCE, ITALY.

ERECTED BY BRUNELLESCHI between 1453 & 1457

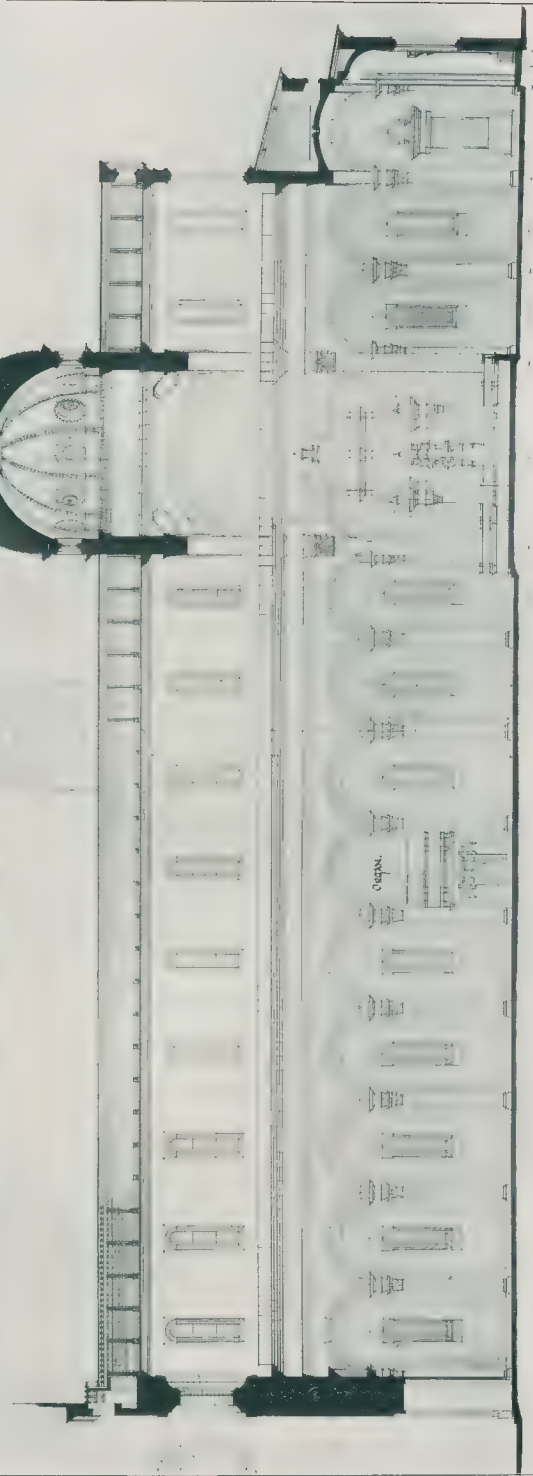
CAMPANILE SHOWN *
IN OUTLINE ONLY WAS
BUILT LATER BY BACCIO
D'AGNOLIO. * * *

THE FRONT FACADE IS
FLAT WITH PAINTED *
ARCHITECTURE VERY
MUCH DAMAGED. * *

Scale of Feet



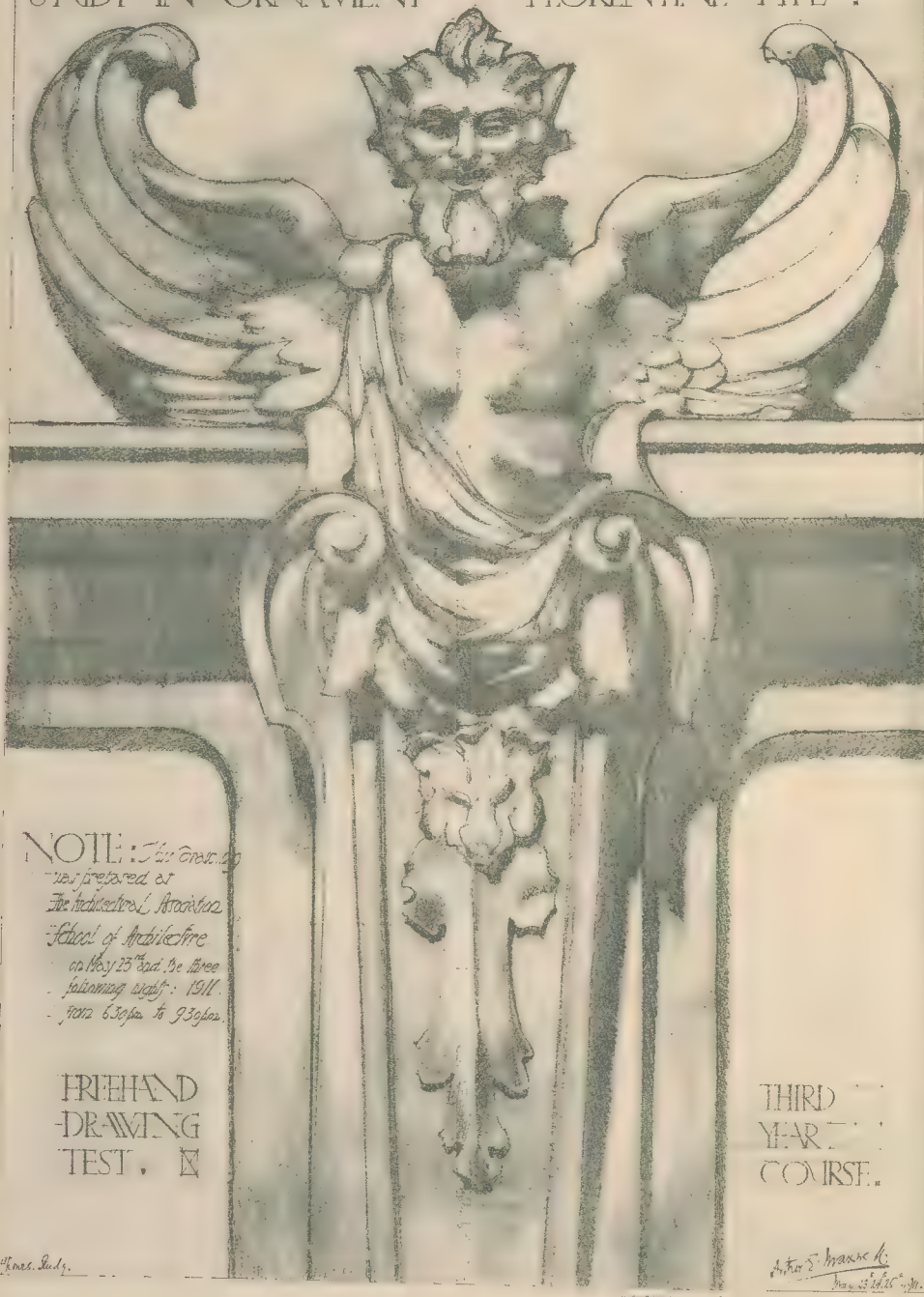
Tinted portions indicate the
blue stone (serena) base.
Ceiling is flat with painted
octagonal coffers.




Springer & Co., Ltd., Printers, 42 & 40, Dear St., Southampton.

RIBA MEASURED DRAWINGS PRIZE, 1912. CERTIFICATE OF HON. MENTION, AWARDED TO MR. WALTER M. KEESEY

STUDY IN ORNAMENT FLORENTINE TYPE .



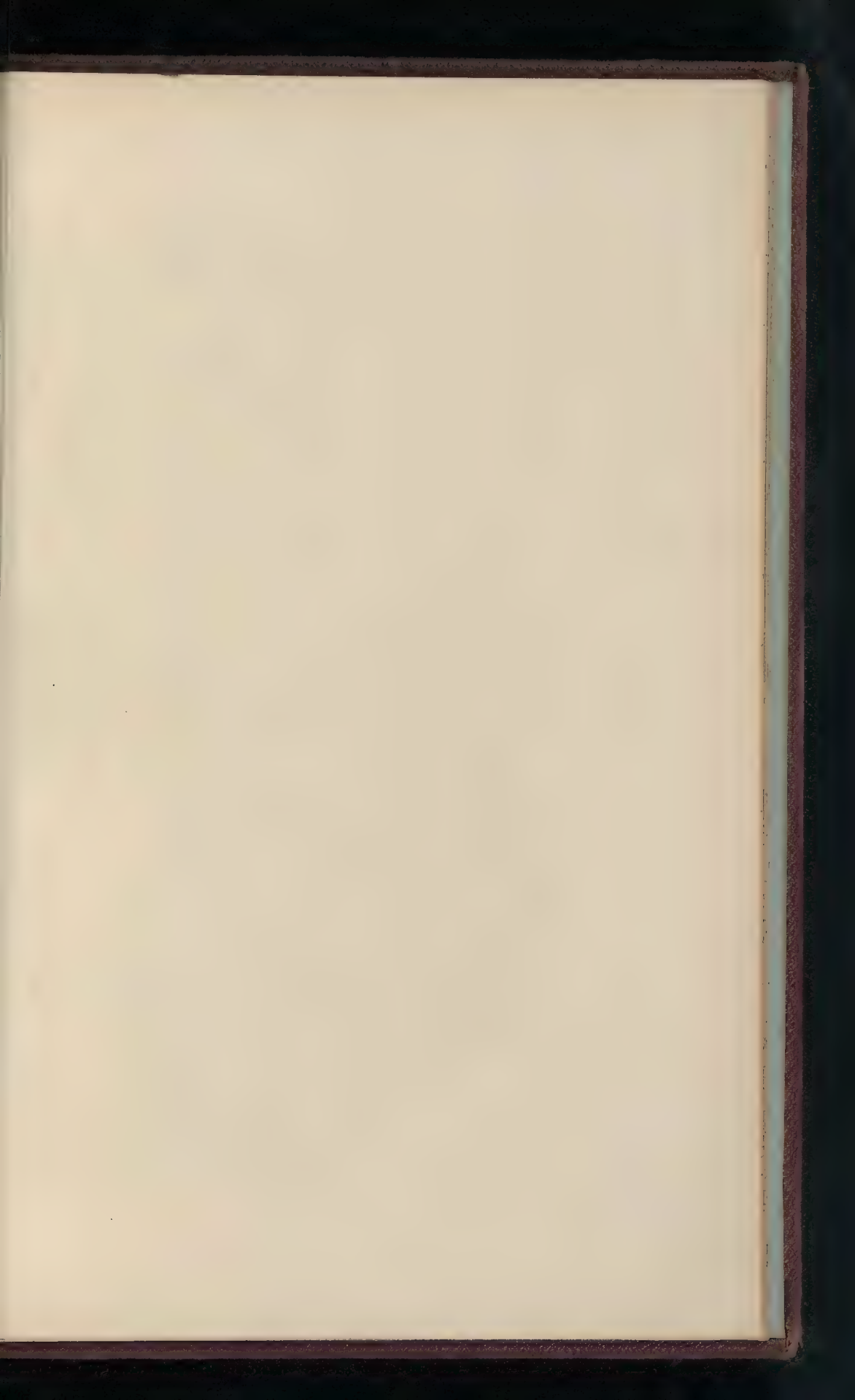
NOTE: This drawing
was prepared at
The Architectural Association
School of Architecture
on May 25th and the three
following days: 1911
from 6.30pm to 9.30pm.

HAND
DRAWING
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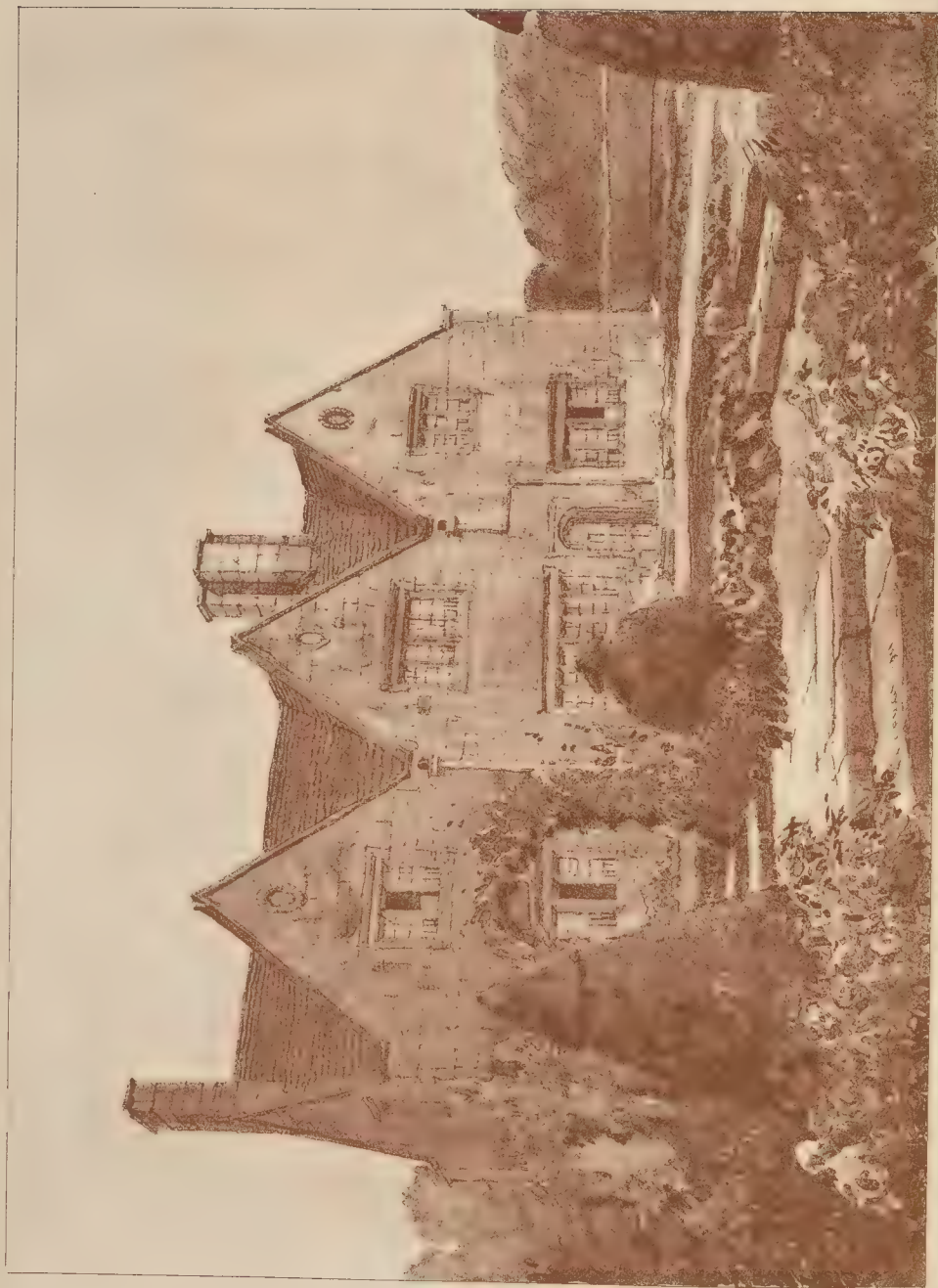
THIRD
YEAR
COURSE.

H. E. S. S.

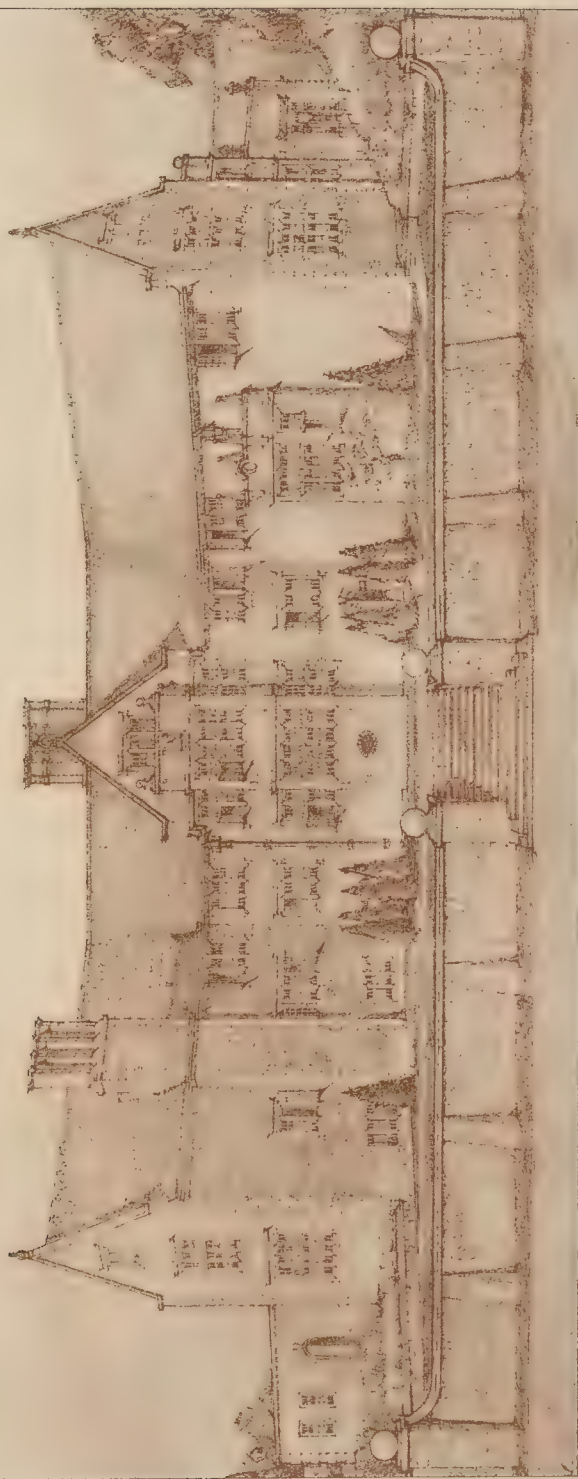
Handwritten signature: A. E. Maxwell
Dec 27 1912



THE BUILDER, DECEMBER 27, 1912.



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WEST FRONT, FURZE HILL, WILLERSEY — Mr J. L. BALL, ARCHITECT

IN PHOTO SEPAULT & CO. 15, R. D'ORAN STREET, LONDON W.

CARICON I Detail for Carver.



NOTE.

This drawing is one of the set. Subjects: "Lay out of Public Library and Library Ex" is a portion of one of the fountain's introduced into the design.

DETAIL OF A FOUNTAIN.—BY MR A E MAXWELL

CONSTRUCTION & ENGINEERING REVIEW



Fig. 1. New York Grand Central Station and adjacent Buildings.

NEW YORK GRAND CENTRAL RAILWAY-STATION.

THE New York Central and Hudson River Railroad is the only railway having western connexions for both freight and passenger traffic direct to Manhattan Island. It enters the city over the four tracks of the New York Central, which skirt the east bank of the Hudson River and run over the two-track viaduct from Chatham. The former route was originally the freight line, while the latter was the original passenger line to Albany and the West. The New York Central passenger traffic enters the Grand Central Terminal in conjunction with that of the New York, New Haven, and Hartford Railroad.

History of the Grand Central Station.

The precursor of the present station was built in 1832 by the New York and Harlem Railroad, now a part of the New York Central system, about 3 miles south of the new Grand Central terminus. In 1857 the station was moved to Twenty-sixth-street on the site of the present Madison-square Garden.

This station was shared jointly with the New Haven Railway, but in turn it became too small, and in 1871 the original Grand Central station was built.

In 1900 the station was enlarged by the addition of three stories and an increased number of lines.

It soon became evident, however, that nothing but entire reconstruction would meet the ever-increasing traffic requirements. At the same time it was recognised that the substitution of electricity for steam offered the only cure for the objectionable atmospheric conditions existing in the Park-avenue tunnel at entrance to the Grand Central Station. It was not until 1903 that legislative action was taken directing the complete abandonment

of steam locomotion in Park-avenue within a period of five years.

In the same year the railway company and the city authorities agreed upon radical changes which were possible only with the abandonment of steam traction. From a civic standpoint the most important of these changes, is the depression of the whole terminal area, so as to permit the extension of highways over the tracks from Forty-fifth to Fifty-sixth streets, inclusive, thus joining two sections of the city, hitherto separated by three-quarters of a mile, by an impassable barrier of railway-yards and buildings, and to permit also the continuation of Park-avenue so as to make it, by means of an overhead bridge at Forty-second-street, a continuous north and south thoroughfare.

Design of the New Station.

The design of the new terminus presented a problem of no small magnitude. Twice the railway company had been compelled to move their terminal northwards, and it was very desirable that the strategic position of the station in the heart of the city should be maintained, so that the heavy passenger traffic might continue to be brought into the centre of the city, yet without creating a public nuisance in the high-class residential quarter through which the line runs south of the Harlem River.

Other important considerations were the provision of accommodation for existing car and train requirements, together with probable future increases, and the necessary facilities for mail, express, and baggage traffic, together with arrangements for the cleaning and preparation of equipment for the return journey.

The new scheme provides two levels of tracks,

the lower level being joined to the upper level by four approach tracks, two inward having grades of 3 per cent. and two outward having grades of 2.7 per cent. Under the lower tracks three transverse subways are provided for transfer of mail, baggage, and express traffic, and for piping across the yard.

Above the upper tracks are carried the transverse streets, with one longitudinal avenue in the centre which, at Forty-fifth-street, is diverted to the east and west around the station building, the easterly branch being reserved as a private way for baggage and mail vans and the westerly branch joining Vanderbilt-avenue, together with an elevated roadway next the terminal building, by which vehicular traffic is maintained over Forty-second-street to join the present Park-avenue at Forty-fourth-street.

The buildings comprise (1) the station building proper; (2) a post-office and office building, in which are the premises of the American Express Company; (3) a sub-station for transforming high-voltage alternating current to 660-volt direct current for traction and to low-voltage direct current for operating signals; (4) a heating and lighting plant building of capacity sufficient for all the buildings; (5) an accumulator-house for storage batteries to supply traction and signal current in case of failure of the sub-station or during extreme loads; (6) the Adams Express Building; and (7) the Merchants' and Manufacturers' Exchange Building. The remaining building areas between the proposed street lines will be occupied as soon as satisfactory arrangements can be made, some buildings not mentioned above being already under construction. Fig. 1 is a bird's-eye view of the station and adjacent buildings, and Fig. 2 is a view showing



Fig. 2. New York Grand Central Station : Building Sites over Train-yards.

one of the available building sites over the rain-yard.

The Station Building Proper.

This is appropriately the dominating feature in the Grand Central group of buildings. It extends longitudinally from Forty-second to Forty-fifth streets and transversely from Depew-place to Vanderbilt-avenue, and covers an area measuring 722 ft. long by 301 ft. wide at street level. Below street level the station is 745 ft. long by 455 ft. wide.

In designing this building the architects had in mind an expression of the old terminal idea, which is that of a gateway to the city. Hence the main entrance to the station on Forty-second-street is in the form of a triumphal arch with three openings, each being 33 ft. wide and 60 ft. high. In this building are situated the waiting-rooms, concourses, baggage-rooms, and other facilities for travellers.

The principal hall is the main outward or express concourse. It is 272 ft. long by 120 ft. wide by 125 ft. high, and, as may be gathered from Fig. 3, a dignified simplicity of architectural detail has been preserved, while the interior, finished with Botticino marble, gives a warm and pleasing effect. In the concourse are the ticket offices, information bureaux, parcel-room, baggage checking department, and all the usual conveniences expected by American travellers.

The various offices and rooms are arranged so that the movement of the traveller is a progressive one, the ticket window coming first, the Pullman window next, the baggage office third, and so on in regular sequence. Stairways are obviated by inclined ways along which passengers proceed directly from the concourse to the train platforms, the concourse being slightly higher than the train platforms. The main waiting-room between the concourse and Forty-second-street is another hall of monumental proportions. The suburban concourse is directly beneath the express concourse, and is of the same area, although the ceiling is not so lofty.

One of the unique features of the station is the use of inclined ways instead of stairways, all the levels used by passengers being connected in this manner. Suburban traffic is separated from main line traffic and the incoming from the outgoing traffic, so that all passengers on any one inclined way move in the same direction, thus obviating undesirable congestion.

Fig. 4 is a section in perspective which serves the purpose of illustrating the general arrangement of the station and the means provided for access to and from the streets and the various metropolitan and suburban lines.

The new terminus will have direct sub-surface connexions with the Interboro Subway, the Hudson and Manhattan tubes to Jersey City, the Belmont Tunnel to Long Island, and the Lexington-avenue Subway now under construction. This will establish inter-communication between the New York Central lines and the interurban lines, so that every part of New York shall be in direct touch with the Grand Central Station.

The station for inward traffic is situated on the west side of Vanderbilt-avenue between Forty-third and Forty-fourth streets. Passengers arriving may proceed to an hotel, to the street, to the subways, or to the cabstand without crossing the path of a single outward passenger, thus eliminating a source of confusion which is very evident in most large railway-stations. The arrival station is provided with a waiting-room of ample proportions over the express level tracks, and means of pedestrian communication between the arrival and departure stations are provided by a subway below Vanderbilt-avenue.

Suburban Lines.

This part of the station includes seventeen tracks alongside the platforms, two reserved for baggage, and five additional tracks on the west which will be used for transferring trains from the arrival to the departure side by way of the loop shown. The storage yards are to the north of the station tracks.

The platforms vary from 14.33 ft. to 26 ft. wide, the passenger platform being 4 ft. above rail level, and the baggage platforms 4 ft. 3 in. above the same level.

Express Lines.

The arrangement of the express tracks and platforms is indicated in Fig. 5. There are forty-two tracks at the south end, some of these resting on rock, while those over the suburban lines are supported by a concrete floor carried by steel columns and girders.

There are three transverse subways in the express station, one at Forty-third-street for pipes, mail conveyors, and baggage trucks; one at Forty-fifth-street for baggage trucks, containing quarters also for storage and cleaning, together with a space for pipes; and a pipe subway north of Forty-eighth-street. On the westerly side of the station the three transverse



Fig. 3. New York Grand Central Station : Interior of Concourse.

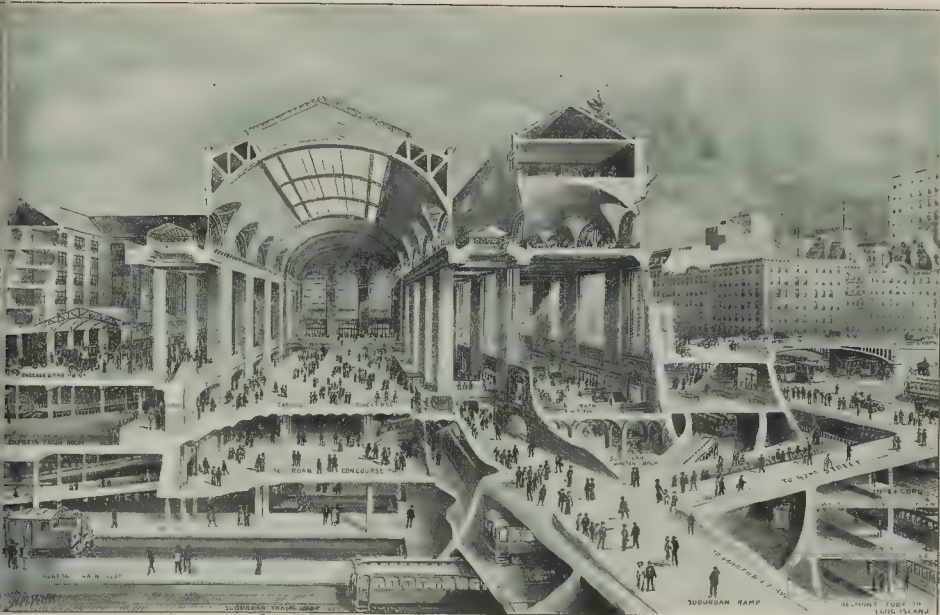


Fig. 4. New York Grand Central Station : Perspective Section.

ways are connected by a longitudinal pipe way. On the easterly side the pipes are in a gallery above and east of the parking platform and connected with the transverse subways.

The suburban and express platforms are of reinforced concrete, and a general idea of construction may be obtained from the longitudinal and transverse sections in Fig. 6. The steel columns supporting the viaducts are protected by an encasing concrete pier for a distance of 7 ft. above rail level, where adjacent to running tracks, and 5 ft. 6 in. above rail level where adjacent to station or storage track. Above the concrete pier the columns and girders are protected by concrete applied on wire fabric.

Street Viaducts.

Park-avenue and the transverse streets are supported on steel columns, some of which rest on the suburban roof steelwork and some on solid rock, these columns supporting a series of beams which in turn carry the concrete floors. Most of the viaducts carry city and water mains and electric conduits. The viaducts are paved with sheet and block asphalt. A feature of the viaduct design is the re-arrangement of Park-avenue, where separate tracks for mail, baggage, express, and cab traffic negate the vehicular congestion that characterized the old terminus, while the extension of Park-avenue has provided a new north and south thoroughfare of great value to the city, which will pass the heavy vehicular and traffic of Forty-second-street.

Steel Designs.

The steel structure supporting the roof over the suburban lines is designed not only to carry the main yard tracks, but also to support the ends of the cross-street viaducts, Park-avenue extension, and future buildings to the east of Park-avenue, those to the west being supported by independent columns.

The arrangement of the tracks of the suburban and express stations is not identical, the disposition of the columns varies at the two ends; consequently some of the columns carry structures over the main yard are supported by girders in the suburban station roof, a somewhat costly method of procedure rendered necessary by the paramount importance of track lay-out.

The suburban roof, forming the express station flooring, was designed for the following loading on each track—Two 142-ton engines,

followed or preceded by a uniform train load of 4,500 lb. per linear foot, or a special loading of 120,000 lb. equally distributed on two driving axles spaced 7 ft. centre to centre and followed by a uniform train load of 4,500 lb. per linear foot, commencing 5 ft. from the axle.

In designing the column footings the allowable bearing of steel on concrete for the live load was 250 lb. per square inch and for the dead load 500 lb. per square inch.

The building laws of the city of New York were followed in proportioning the structures for the support of loads from the columns intended to carry buildings. The floor loads from these proposed future buildings average about 1,800 lb. per square foot over the area of the suburban roof to be covered, and the average load from building walls is about 45,000 lb. per linear foot of the building wall.

Two types of construction were adopted in the design for the steelwork of the suburban roof, and which may be designated as longitudinal and transverse, corresponding to the direction of the girders forming the direct supports of the express level track. In general, the longitudinal construction has been used to the south of Forty-eighth-street, and the transverse construction to the north of that street.

To the south of Forty-eighth-street the columns in both stations are disposed in transverse lines normal to the axis of the yard, and spaced 20 ft. apart, except at the transverse streets, where the spacing varies to conform with the spacing of the viaduct columns, and their situation relative to the adjacent outer line of the building columns.

The general character of the construction is illustrated by the sections reproduced in Fig. 6.

All the steel construction is protected against fire. In most cases the girders are framed into the column shafts. The columns rest on grillage footings on solid rock, except in a few instances in Park-avenue, where the rock was at such a depth that caisson foundations were necessary.

In most cases where the building columns are supported on the transverse girders it has been necessary to provide twin transverse girders, as the loads to be carried are of such magnitude as to preclude the use of a single girder. Heavy I-beam grillages resting on the tops of the twin girders are used for distribution of the column loads. The maximum bending moment for each of the twin girders is 8,400,000 ft.-lb., the

maximum end shear being 704,000 lb. The greatest load transmitted by one of the columns to the transverse girders is about 1,800,000 lb.

The heavy girders spanning the suburban station have necessitated a considerable roof depth, the distance from the rail level in the express station to the underside of the fire casing on the transverse girders varying from 8 ft. to 10 ft. To the north of Forty-eighth-street the distances between the express and suburban tracks decrease, with a corresponding decrease in the depth of the roof, which is reduced to 4 ft. 6 in. at Fiftieth-street. In this latter type the concrete arches are carried directly by transverse plate girders of 20 ft. to 45 ft. span and spaced from 3 ft. 6 in. to 4 ft. 6 in. apart.

Along the east and west sides of the suburban station the ends of the transverse girders rest on the concrete retaining wall. Continuous longitudinal steel bents, composed of box girders framed into the columns, form the intermediate supports of the transverse beams, the ends of which rest on the top of the longitudinal girders, which are of the box type, having a depth of from 4 ft. to 5 ft. and a maximum span of 20 ft.

The entire suburban station roof is supported on heavy riveted columns of rectangular cross-section built up of plates and angles.

Drainage and Conduits.

The entire area of the terminus, with the exception of the three subways, is drained by gravity by a low-level sewer in Forty-sixth-street, connecting with an outfall into the river. The subways are drained by sumps, from which the water is delivered to the sewer by electrically-operated centrifugal pumps.

The tracks are drained by means of catch basins placed in the ballast or concrete, as the case may be.

A very complete system of hot and cold water, steam, compressed air, and vacuum cleaning pipes has been installed throughout the station and sidings. A complete fire-protection system is installed on both levels with nearly 300 hose reel connections at frequent intervals, and a fire-alarm system is provided with 125 boxes connecting with a central station from which the City Fire Department may be called if required to assist the railway fire brigade.

In addition to having duplicate lighting installations, 10 per cent. of all the lights are on an independent system, so that the station can never be left in total darkness.

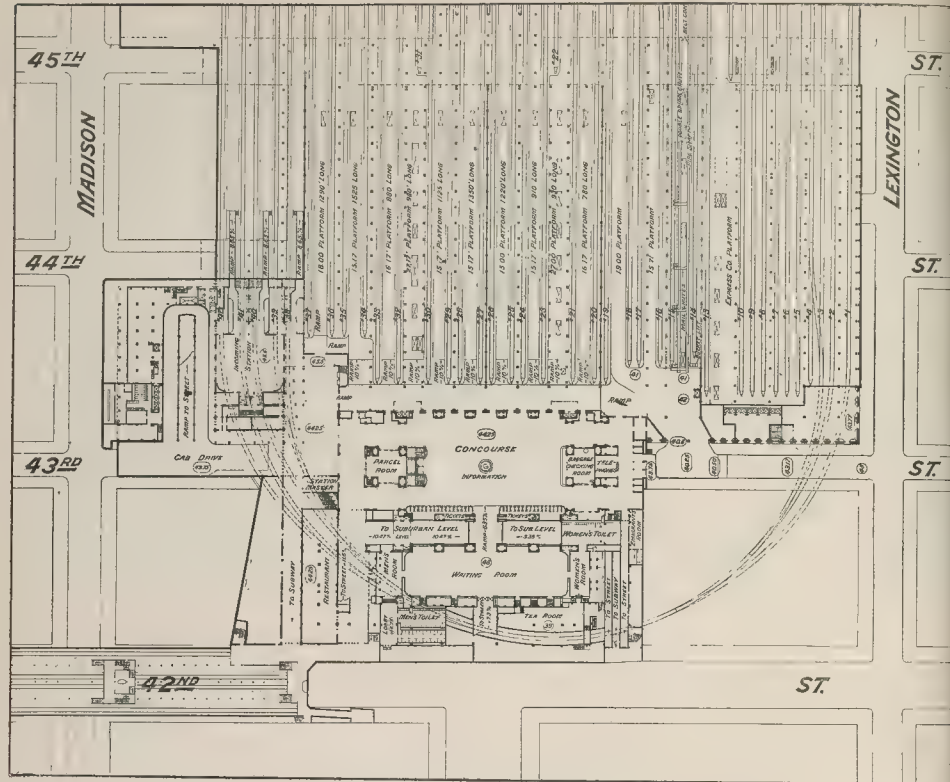


Fig. 5. New York Grand Central Station: Part Plan at Express Line Level.

Execution of the Works.

Before commencement of the works for the improvement of the Grand Central Station in 1903 all trains entered the terminus at Forty-second-street through the four-track masonry tunnel in Park-avenue, the southerly limit of which was at Fifty-sixth-street. Thence the tracks ascended about 17 ft. to Forty-ninth-street in a cutting and entered an open yard, remaining at street level until the station proper was reached. The yard was of irregular area, about two city blocks in width at the widest part by seven city blocks in length, and covered 23 acres of land. The establishment included 11.3 miles of tracks and various buildings used for passenger and freight traffic and other purposes.

To the north of Forty-ninth-street vehicular traffic was maintained on both sides of Park-avenue, the railway lines occupying only the middle of the street. Between Forty-ninth and Forty-second streets the tracks opened out into the terminal yard occupying the full width of Park-avenue. Vehicular traffic was carried across this yard by inclines, with a long-span tross bridge over Forty-eighth-street and a girder bridge over the cutting in Park-avenue between Fifty-first and Fifty-second streets. Foot bridges elevated above the street level and approached by stairs—with the exception of one at the east end of Forty-seventh-street, which had an incline approach—crossed the yard at Forty-sixth, Forty-seventh, and Forty-ninth streets, and the cutting at Fiftieth, Fifty-third, Fifty-fourth, and Fifty-fifth streets.

The conditions as then existing, quite apart from the nuisance caused by steam locomotives, were extremely unsatisfactory, not only for the railway company, but also from the standpoint of civic design.

The reconstruction scheme involved far more than the building of a new station, and included the numerous important operations enumerated below in the order in which they were undertaken.

The removal of all buildings; the rearrangement of the engine tracks at the Forty-seventh-street turntable; the moving of tanks and other conveniences in the rear of the New Haven engine-house; removal of car-cleaners' and supply quarters to the end of the tracks on Forty-fifth-street; transfer of Adams's Express business to Madison-avenue; the removal of milk traffic entirely outside the terminus; the closing of Park-avenue East and Park-avenue West to all but pedestrian traffic; the grading of Park-avenue West down to the level of the present tracks, followed by the laying of two new tracks on the surface prepared to compensate for the removal of the original easterly tracks along Park-avenue, which was used in conjunction with the new roadbed under Park-avenue East, or, in other words, widening the Park-avenue tunnel and throat of the yard between Fifty-sixth and Fifty-seventh streets on opposite sides alternately, and increasing the original four tracks to ten; excavation for the depressed yard between Park-avenue and Lexington-avenue was then made, and retaining walls and new tracks built within the area excavated; the station traffic having been transferred to these new tracks, excavation for the westerly portion of the depressed yard between Park and Madison avenues was commenced and is now under way; the excavation was followed by the construction of retaining walls, steelwork, the laying of tracks for regular service, and construction of the street viaducts for Park-avenue, and for the intersecting streets south of Fifty-seventh-street; the new station was then built, together with some of the buildings between cross streets over the areas occupied by tracks, and the temporary station is to be abandoned shortly.

The preliminary works comprised the removal and replacement of city sewers, gas and water mains, the removal of buildings on the site of the station-yard extension, the removal and rebuilding of some transverse bridges, and the rearrangement of switch and signal plant.

About 25 miles of sewers and pipes were removed or replaced, and about 10 miles of this work was completed before the general excavation was commenced. A new collecting sewer was built in Park-avenue from Forty-ninth to Fifty-fourth streets, intercepting the old sewers under nearly all the intervening streets and delivering their flow to a new 4-ft. 6-in. by 3-ft. sewer, built in tunnel across Park-avenue under the depressed tracks, and connected with the existing Third-avenue sewer. The drainage from other sewers intersecting the yard excavation was provided for by a new sewer from Madison-avenue and Forty-eighth-street to Lexington-avenue and Forty-second-street.

In September, 1903, excavation was commenced on the west side of Park-avenue along the wall of the old tunnel between Fiftieth and Fifty-seventh streets. This excavation was carried down at first only to the bottom of the tunnel, where two new tracks were laid in the excavated area and connected at both ends to the adjacent existing tracks, the construction of the new retaining walls involving the underpinning of adjacent buildings. As the excavation here and on the east side of Park-avenue extended across the entire width of that thoroughfare the foot pavements were supported over the excavation on temporary wooden trestles.

In 1904 work was commenced on the excavation of the east side of Park-avenue from Fiftieth to Fifty-seventh streets, where a trench wide enough for three new tracks was carried down to the final level. This excavation was in rock, dipping so steeply towards the west that it was necessary to build a heavy retaining wall outside and independent of the new tunnel wall, and to provide new footings for most of the buildings.

To provide for cross-overs in the tracks it was necessary to omit some of the columns and to support some of the side roofs in Park-avenue by longitudinal girders and trusses, those between Fifty-sixth and Fifty-seventh streets being 150 ft. long by 10 ft. high.

with six stiff-leg derricks operated by two engines. Screens were hung at the sides from the first platform level to protect passengers on the outer station platforms. The south face was boarded over, forming a false end for the station as soon as the staging had been moved to the south.

The material was prepared and framed together at the Harlem Works of the company, and portions ready for erection were brought into the station and erected at night up to the first floor level, the remainder being erected during the daytime after the members had been delivered and hoisted to the first floor level at night.

As the staging was moved south it was followed up with temporary wooden canopies, thus reducing exposure to a minimum. As soon as the staging had been moved to a new position two roof arches were blocked on it, and the corrugated-iron roofing, glass, skylights, and purlins were removed. The north of the two arches so supported was then cut into eight sections, which were then placed by derricks on the platforms of the staging, all this work being done during the daytime, while the material was loaded at night into wagons, on the passenger tracks under the staging.

The staging was moved by two 15-ton jacks on each platform, each being operated by two men. The work of moving was done in units of 40 ft., and it required at first about five hours and later two hours to move the staging for this distance.

The demolition of the north portal was the most delicate part of the whole operation on account of the necessity for cutting away all connections between the portal and the main roof before the work of demolition could be commenced. To facilitate this operation the north end of the staging was constructed with beams projecting 5 ft. beyond the face. These beams were passed through the window openings, or through openings out in the metal sheathing, and the entire portal was lashed to the staging. Timber troughs were constructed at the various platform levels so as to prevent loose material from falling on the tracks below.

Conclusion.

The new terminus, which has been under construction for several years, is now approaching completion, and represents an undertaking far greater than the mere building of a large railway station.

By depressing the tracks below street level and by the substitution of electric for steam traction a space equal to about twenty city blocks has been reclaimed for the erection of new buildings, all of which are to be designed in harmony with the general architectural scheme.

Thus the Grand Central Station reconstruction will not only be the source of a large revenue that will help to pay interest on the enormous outlay undertaken by the railway company, but will also constitute a great civic improvement in the heart of New York.

The works have been designed and executed under the direction of Mr. G. W. Kittredge, Chief Engineer to the New York Central and Hudson River Railroad Company. The buildings were designed by the associated architectural firms of Messrs Warren & Wetmore and Reed & Stem, and the steelwork was designed by Messrs Balcom & Darrow, civil engineers.

TEST DEFLECTIONS IN REINFORCED CONCRETE.

At the meeting of the Society of Engineers, held on the 2nd inst., Mr. Percy J. Waldram read a paper on "Test Deflections in Reinforced Concrete." The author selected this subject as being one which not only calls for the closer attention of engineers, but which also needs that closer attention without delay, before the proposed London County Council regulations fix a standard of deflection which may or may not be correct, or even safe.

The Relation of Stiffness to Strength.—The stiffness of a beam is no criterion of its strength, unless due regard be paid to the factors of depth and fibre stiffness; but it is not too easy always to appreciate that the fibres of a short deep girder, deflecting under load to, say, $\frac{1}{4}$ in., are possibly being punished much more severely than those of a long shallow girder deflecting, say, 3 in. Still more difficult is it to avoid the drawing of incorrect assumptions from the minute deflections of reinforced concrete

beams, because in their case not only are the formulae for strength very tedious, but the writers of text-books have failed to establish any connexion between them and deflection, and seldom even to show how deflection can be calculated at all.

Small Deflections in Reinforced Concrete Not a Proof of Strength.—When beams of reinforced concrete are tested to, say, one and a half times their working load extremely small deflections are recorded, which are triumphantly quoted as evidence of the enormous strength of the new material, because a steel beam of the same proportions would have deflected very much more under its ordinary working load.

A point which is seldom mentioned, however, is that the deflections are small because the greatest working loads and stresses which we dare to place on reinforced concrete are so very much less than those which we habitually work to in wood or steel.

Reinforced Concrete Weaker than Steel or Fir.—A deflection of, say, $\frac{1}{4}$ in. in an ordinary wood or steel floor beam under a test load might indicate quite a satisfactory factor of safety. The same deflection in a reinforced concrete beam of the same proportions would mean that the structure was on the verge of total collapse.

Reinforced concrete has so many advantages over wood and steel in its great durability, its adaptability, and its simple and monolithic character that there should be no need for its exponents to claim for it the strength of steel or even that of ordinary fir. It is a much weaker material than either, and to pretend to believe otherwise is to court disaster. The safe load on a fir beam can always be trusted to destroy a reinforced concrete beam of the same size unless the latter is heavily reinforced in compression.

It does not require much detailed investigation to appreciate that the fibre stress of 600 lb. per square inch, which is the limit of good concrete in compression in beams, obviously cannot produce deformations comparable with those which result from 11 or 12 cwt. per square inch on timber (quite a light loading) or $7\frac{1}{2}$ tons per square inch on steel.

Of course, concrete beams can be reinforced in compression, but the strength of the concrete surrounding the compressive reinforcement is still the governing factor, and double reinforcement is very uneconomical.

Reinforced concrete has the advantage of being easily formed with fixed ends, encastred edges, and into ribbed floors in which the transverse slabs assist the main beams, and the strength of each part contributes to that of one strong monolithic whole; but even with those advantages the proportions of the parts have to be more generous than would be necessary with wood or steel, and the deflections under test loadings are necessarily far less than we have been accustomed to in those materials.

Deflections of Beams under a Given Stress.—It should be carefully remembered that we can obtain the deflection of a beam of a given depth, span, and material under a given system of loading without troubling about its moment of inertia or its section modulus, or even the amount of the load, provided that we know that the loading is stressing the fibres to a given amount.

The formula expressing this is:—

$$\text{Deflection} = \Delta = \frac{p l^3}{E d}; p \text{ being a constant}$$

varying with the type of beam and the method of loading. For girders of uniform section under distributed load p is $\frac{w}{2}$. The term d is either the depth (in symmetrical sections) or (in unsymmetrical sections) twice the distance between the neutral axis and the layer of fibres stressed to the amount f (in pounds per square inch). E is the elastic modulus of the material.

Conversely, in all beams having the same proportion of depth to span any given proportion of deflection to span under the same system of loading must indicate the same fibre stress in material of the same stiffness, whatever may be the size of the beam, the span, or the load.

Reinforced concrete therefore must, always be expected to show deflections far less than those to which we are accustomed. Long before it deflects to anything like the extent that wood or steel does it would be time for those conducting the test to look to their own safety.

The London County Council Draft Regulations.—The draft regulations of the London

County Council specify certain degrees of deflection which would appear to need careful consideration, and it is hoped that discussion may elicit opinions as to whether they should be altered; and if so to what extent, and upon what lines. It is necessary not to lose sight of the fact that these regulations require the approval of the Local Government Board before they can come into force; and that until they are so approved it is the obvious duty of professional men to endeavour by all available means to bring them to a high state of efficiency. Their scope may be nominally limited to special buildings in London alone, but when once adopted they will most certainly be regarded as a standard, and their conditions will be specified in cases where they have no legal status whatever.

The Act of 1909 which authorises their compilation requires the Council, before applying for their approval by the Local Government Board, to give notice to the Surveyors' Institution, the Institution of Civil Engineers, the Royal Institute of British Architects, and the Concrete Institute. Every member of any of these Institutes can therefore approach his Council or the Local Government Board direct, if it should appear to him to be desirable that any of the 160 clauses should be altered.

The regulations in their present form appear to have been carefully compiled from codes already in existence in Europe and America, where reinforced concrete is far more extensively used than in England. At least one of these codes—that of the French Government—was based upon several years of valuable and exhaustive experimental research. It would therefore scarcely be expected that any serious errors of principle would have been generally adopted, and clauses upon which the foreign codes are unanimous, or are in general agreement, ought apparently to be good enough to adopt.

But precisely the same considerations obtained when other codes were drawn up. The natural desire of the codifying authority to be able to show precedents for its regulations is only too favourable to the perpetuation of errors, which acquire fresh status every time they appear. It would therefore certainly seem to be desirable that the Institutions should do all they can to awaken interest in these regulations and secure the greatest possible volume of criticism from their members; so that even if errors of principle may have crept into other codes they shall not be repeated in the first British code.

Early in the present year the author was consulted with reference to a case where the parties had agreed that the regulations as printed in the Council's minutes should be worked to. This opportunity of applying them to the problems of a somewhat complicated design necessitated a close examination of their provisions, and the result was, to say the least, disquieting.

For instance, the clauses determining the strength of columns—based, like the French code and the R.I.B.A. report, on a mistaken application of Euler's formula*—were unworkable; whilst those relating to deflection would appear to be positively dangerous.

Clause 23 allowed beams of a lesser depth than $\frac{1}{20}$ span provided the calculated deflection was less than $\frac{1}{160}$ span—regardless of the fact that even with absolutely free ends the concrete of a beam $\frac{1}{20}$ of the span in depth deflecting $\frac{1}{160}$ l would be stressed to nearly 700 lb. per square inch. Thus:

$$\Delta = \frac{p l^3}{E d}, \text{ and when } \Delta = \frac{l}{160} \text{ and } d = \frac{l}{20}, \text{ then}$$

$$f = \frac{24 \times E}{5 \times 600 \times 24} = 666 \text{ lb. per square inch.}$$

$$(E = 2,000,000 \text{ lb. per square inch.})$$

Whilst in beams with fixed ends it meant anything up to 3,330 lb. per square inch. As the clause did not specify whether test or working loads were to be calculated for it might have been merely, harmlessly unworkable, especially as there was no method specified for calculating the deflection of T and double reinforced beams.

But Clause 143 specified the test by means of which the District Surveyor should determine whether or not suspected work should be condemned as being a deflection of $\frac{1}{160}$ of the span under the full working load. A short deep beam with fixed ends or a thick square slab with four fixed edges was thus to show precisely the

* Vide Engineering, April 5, 1912.

degree of flexibility as a long shallow with absolutely free ends.

Of course, this was no test at all. No beam of ordinary proportions could ever show such a degree of deflection; it would simply not exist. A beam of only $\frac{1}{16}$ of its span span, even with absolutely free ends, over its section, is necessarily being loaded, when the deflection reaches $\frac{1}{16}$ of its span, to an extent which can only be resisted with a stress of 1,066 lb. per square inch on the concrete. The depth in the foregoing cases should strictly speaking be 2 in.; allowance must be made for the concrete in the span, which, although neglected, lowers the axis, so that 2 in. is generally more than all depth.

The amount of compressive reinforcement can vary any difference, because when that degree of deflection is reached the concrete surrounding the compression rods is receiving a stress under which it is liable to spall off and leave the beam denuded and free to buckle. If the beam is deeper or if the ends were fixed, as they are in the great majority of cases, the specified degree of deflection would be still more im-

possible. No beam, however bad or shaky, could be condemned under the clause so long as it held under test load any less deflection, and the following clause, which stipulates a 25 per cent. increase on the superimposed load, not only gave an implied official approval of a test deflection which would be very dangerous to everybody concerned, it would have effectually defeated its object by preventing the condemnation of any beam or floor which could just stand at one and a quarter times its calculated load without any factor of safety.

These and other points were submitted to the Council of the Surveyors' Institution, who promptly met and considered them and made recommendations which at the time of writing were presumably still under consideration.

Suggested Standard of Deflection Under Test

The author's suggestion made with regard to deflection was that the standard should be $\frac{1}{160}$ of the span on a beam $\frac{1}{16}$ of the span in length under the calculated load, with free and distributed loading; the effect of any points other than those being duly allowed for in each case. This would apparently have been equivalent to about 480 lb. per square inch on the concrete, but would only be reached in the case of beams. Of course, any test which involves only the superimposed load, as stipulated in Clause 144, varies in severity, being at one end on heavy beams and severe on light beams; a 25 per cent. increase on the total calculated load may or not be equivalent to a 25 per cent. increase on the superimposed load, but it is estimated to do so in the average case.

Effect of Ordinary End Fixing Not Yet Fully Mined

It would be obvious that a better standard criterion of deflection could be obtained by direct to the fixed ends customary reinforced concrete beams. But whereas it can predetermine the deflection of reinforced concrete beams with free ends and there are at present actual tests, experimental data lacking as to the actual effect of the ordinary ends of fixing the ends of such beams; it is a point that must be remembered, almost invariably doubly reinforced at the ends to the reverse bending moments over the supports, and are therefore of unequal stiffness, theoretical effect of complete end fixing and uniform section is to reduce the deflection to $\frac{1}{8}$; but to stipulate for a deflection $\frac{1}{160}$ of the span with fixed ends might be right or it might be wrong. We do not know.

Experiments to determine the point would be very expensive or difficult, and there is no authority under the parent Act for the Council to do them. But until the point is determined, it is approximately, it is obviously impossible to base on a basis about which we know practically nothing.

Importance of a Correct Standard.

If the end of stiffness be fixed too high good will be unjustly condemned; if it is too low and dangerous work will receive an undeserved certificate of strength. The minute difference of the deflections makes it all the more necessary to fix the standard with the greatest

THE CONCRETE INSTITUTE.

The twenty-ninth ordinary general meeting of the Concrete Institute took place at the offices on the 12th inst., the President, Mr. E. P. Wells, in the Chair. The discussion on Mr. Theobald's paper on "Experiments on Reinforced Concrete Work" was resumed, and the following took part in the discussion: Messrs. E. P. Wells, J.P.; Frederick Kingston, C. C. Workman, Member of Council, Concrete Institute; Moritz Kahn, Percival M. Fraser, John M. Theobald.

A paper was then read by Mr. W. Lawrence Gadd, F.I.C., M.C.I., on "Action of Acids, Oils and Fats upon Concrete." In the course of his remarks the author said:—

With regard to the mineral acids—*i.e.*, hydrochloric, nitric, and sulphuric acids—there is little to be said. Neither cement nor concrete will withstand the action of these acids, which decompose and dissolve the constituents of cement, even in dilute solution. Even a weak acid, like carbonic acid, has a distinct action upon cement, which, suspended in water, can be practically entirely carbonated by passing a current of carbon dioxide into it.

The action of organic acids, such as lactic and butyric acids, formed by the fermentation of milk or butter; tannic acid, occurring in tanning liquors; tartaric and citric acids, and acetic acid in vinegar or stale beer, is not so marked; but it is very probable that the whole of the series of higher fatty acids will be detrimental to concrete.

In most cases the action of the organic acids is confined to a combination with the calcium hydrate liberated when cement or concrete is gauged with water; but, as the organic lime-salt formed has no cohesive strength, the concrete must be deteriorated to a greater or less extent, depending upon the quantity of the acid and on its combining weight.

The tendency of organic acids to combine with carbonate of lime is much less than with hydrate of lime, and it follows that an acid which would be dangerous in contact with green concrete might be perfectly harmless in contact with old or indurated concrete. Thus, stale beer has a distinctly detrimental action upon new work, but once the concrete has indurated by exposure to air for some time, the acid of sour beer has little action upon it.

One of the commonest forms of acid action to which building material is subjected is that of sulphuric acid, derived by oxidation from the sulphurous gases present in the atmosphere of large towns. This is noticeable on Portland stone, of which many buildings in London are constructed. It appears to be less marked on concrete buildings, possibly for the reason that the surface pores of concrete become closed with a deposit of calcium sulphate, which affords protection from further action of the acid.

Lactic acid is produced by the fermentation of milk, brought about by the micro-organism *Bacterium lactis*, and is a possible acid to come in contact with concrete structures in farm buildings.

Concrete vaults would appear to be suitable for tanning operations, and the possible action of tannic acid becomes of importance. This acid, of which gallo-tannic acid ($C_{14}H_{10}O_8$) may be taken as a type, is again an organic acid which combines with calcium hydrate to form calcium tannate, but as the combining weight of tannic acid is high—sixteen parts by weight combining with only one part of calcium—the probable action is not very serious.

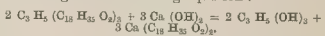
Proposals have of late been made, particularly on the other side of the Atlantic, to incorporate a certain small amount of oil or fat with concrete, with the object of giving the same dustless, waterproof, and other qualities. What we might almost call the natural instinct of the concrete-worker has, however, always led him to avoid oil or grease as far as possible, and he has been right. Whether we accept the crystallisation theory, or the colloidal theory of the setting of cement, the presence of oily matters must interfere with the process of setting, even assuming that the oil has no chemical action with the constituents of the cement. Furthermore, oil does not readily mix with water and has a tendency to collect in globules, which, however small, are a source of weakness to the concrete.

Many oils and fats react chemically with the cement constituents, and in this class must be placed the whole of the oils and fats of animal or vegetable origin.

These substances consist of the glycerides of various fatty acids, such as stearic, palmitic, and oleic acids, although the acids may be present in the free state, as, for instance, in palm oil, which may contain from 50 per cent. to 80 per cent. of free acids calculated as palmitic acid.

The glycerides of the fatty acids, which constitute the neutral oils and fats of animal or vegetable origin, are readily decomposed, or saponified, by certain metals and metallic salts, and by all alkalis, including calcium hydrate, which we know is a constant product in cement or concrete which has been gauged with water. The result of this saponification is the decomposition of the oil with the formation of a metallic or alkaline salt or soap, and the liberation of glycerin.

Thus, tallow is saponified by calcium hydrate, according to the following equation:—



Tristearin (tallow) + calcium hydrate = glycerin + calcium stearate (lime soap).

Calcium stearate is a whitish, friable material, insoluble in, and immiscible with water; whilst the lime soaps of other fatty acids commonly occurring in oils and fats are slimy and sticky substances which, although water repellents, do not, so far as my experiments show, render concrete less permeable to water, and decidedly reduce the tensile and crushing strength.

By this process of saponification, which takes place rapidly under the influence of heat and more slowly in the cold, cement or concrete will certainly be injured by the admixture of any animal or vegetable oil or fat; and if the concrete be green or new, there is some liability of damage being done to it by mere contact, such as might occur from constant drippings of oil upon it.

Mineral oils and greases, which are hydrocarbons, are of a different constitution from that of the animal and vegetable oils, and are incapable of saponification. They have, therefore, no injurious action from this particular cause, although they weaken the strength of concrete for physical or mechanical reasons.

The vegetable and saponifiable oils cottonseed and colza are absolutely destructive to concrete, and that the mineral oils, which are not saponifiable, reduce the strength very materially when mixed in small proportion with the mortar. It will be noticed that the strength at twelve months is less than at six months in the cases of cylinder oil (mineral), lard (animal), and colza oil (vegetable).

When testing samples of cement for tensile strength, which is commonly done now by users, I have observed that many operators use colza oil for the purpose of greasing the briquette moulds. The film of oil which remains, or should remain, on the moulds is, of course, very thin, but colza oil cannot be considered as suitable oil for the purpose, seeing that it has so great an action upon cement. Briquette moulds should be oiled with mineral oil, or a mixture of heavy mineral oil and paraffin.

It is to be noted that these slabs were not intended to be made absolutely water-tight, the object being to obtain a comparison. Leighton Buzzard sand was therefore used, and the results show that under identical conditions sand mortar without any addition of oil was more water-tight than with any of the oils or fats tried. The addition of lard, colza, and cottonseed oils to the extent of less than 2.5 per cent. on the weight of the concrete prevented the slabs from setting properly.

The conclusions I draw from theoretical and experimental data are:—

1. That the addition of oil or fat of any kind to concrete results in a weakening of the strength.
2. That animal and vegetable oils have a direct action on green concrete, and in time will bring about its destruction.
3. That indurated concrete is less liable to be attacked by oils and fats.
4. That oil-mixed concrete is not rendered more waterproof. The least permeable concrete is, in my opinion, a dense mortar in which the aggregate is properly graded to fill the voids.

The following took part in the discussion on this paper:—Messrs. E. P. Wells, J.P.; D. B. Butler, A. Alban, B. Scott, E. W. Vawdrey, B.A., Percival M. Fraser, W. V. Perkins, District Surveyor for Holborn; F. Kingston, G. C. Workman, W. Lawrence Gadd.

HEAT LOSSES FROM STEAM PIPES.

In a paper read by Professor Petavel and Dr. Lander before the British Association this year it was stated that experiments under normal conditions showed the loss of heat from 1 in. uncovered steam pipe to be 3 B.Th.U. per square foot per hour per degree of temperature difference. Of this total 15 per cent. was due to radiation, 4 per cent. to conduction, and 81 per cent. to convection.

It was found that the best insulating materials possessed some thirty times the conductivity of air, so that, were it not for their use in reducing convection, pipe coverings would actually increase instead of diminishing the loss of heat. If the insulation was very tightly packed, its efficiency was low owing to the increase in conductivity, while, on the other hand, if packed too loosely a large proportion of the convection would still continue. For this reason it appeared that for each class of insulation a certain density of packing was best.

For slag wool this was found to be one-fourteenth the actual density of the individual fibres. In that case the loss by conduction through the insulation to the air would be raised from 0.1 to 0.4 B.Th.U. per square foot per degree per hour; the loss by convection would be reduced from 3.2 to 0.1 B.Th.U. per square foot per degree per hour, the net loss being one-seventh of that with bare piping.

With bare pipes the character of the service had a distinct influence on the loss by radiation. With a good machined surface the loss by radiation was reduced from 15 per cent. to about 7 per cent. of the total loss, and if the piping were polished the radiation loss was still further reduced to about 3 per cent. of the total. The loss by convection was not, however, affected in any way, and, as this was the main proportion of the total loss, very little was to be gained by polishing.

Another factor to be considered was the diameter of the piping. With a small radius the conduction loss varied with the diameter of the pipe. It was, however, found that this increased loss by conduction only became important with pipes of less than $\frac{3}{4}$ in. in diameter. For pipes above 4 in. in diameter the loss was found to become nearly constant at 2 B.Th.U. per square foot per degree per hour irrespective of the diameter.

MANUFACTURE OF WATER-PROOF ARTIFICIAL MARBLE TILES.*

FACINGS of artificial marble are now very common, even in buildings of comparatively modest pretensions. The trouble is that durability is sometimes sacrificed to appearance, and the slabs are not only not proof against those accidents which will occur in modern buildings through leaky roofs, bursting water-pipes, overflowing bath-tubs, etc., but even hardly resistant to the careful house-cleaner's wet cloth. In the manufacture of slabs suitable for such uses there are required gypsum (plaster of Paris) and the requisite colouring matters—of course, mineral only; as, for instance, graphite (plumbago, black-lead), chrome-green, English red, iron oxide, red, yellow, and brown ochres, and ultramarine, all of which are unaffected by the gypsum or by each other. A separable frame is made, about 2 in. high, of planed $\frac{1}{2}$ -in. strips, and divided by a cross strip.

For small "tiles," say $4\frac{1}{2}$ in. by $4\frac{1}{2}$ in., there are needed several glass plates about 8 in. to 12 in. square, and the wooden frames are arranged so as to leave spaces of the size of the glass plates.

A solution of paraffin wax is made in benzene, in the proportions of 30 grammes to a litre (about $\frac{1}{2}$ lb. to an American gallon). This solution must be kept in a warm room in a tightly-corked bottle, and requires to be shaken at each time of using. One side of the wooden frame and the glass plate is to be well rubbed with the solution, and then dried thoroughly with a clean cloth.

On the work-table there is laid a mirror, face upwards; on this are laid two strips of wood; on the latter the glass plate and on this the mould. To prevent the glass plate from shifting, rubber rings should be laid between it and the wooden strips.

Next the colours are to be mixed. For

* Translated from an article by Fried. Huth.

green and black veining, chrome-green and graphite are used. Each colour is mixed to stiffness with a little water in a separate saucer. In a large vessel the gypsum and water are mixed to the consistency of thick cream.

The frame is half filled rapidly with the plaster, and at once a brush dipped in the graphite must be thrust through the mass to the glass, on which the pattern is to be traced—a matter of a few seconds only. The veining will be seen by reflection in the mirror below. If they are too thick in any one place, they may be lightened with the brush. If the consistency of the plaster and the colour be right, the two will run together properly. Then the green colour is applied in similar manner. In a few minutes the first layer will be hard enough to permit the frame to be filled to the edge with a mixture of sand and gypsum or sand and cement. If the slab is intended to be specially durable, wire gauze or cloth may be laid on the first layer, before the second is poured in, the ends of the wires being bent upwards. In a short time the frame may be removed to hasten the drying of the tiles. These must remain on the glass plates until thoroughly hard and dry, and care must be taken not to slide them on the plates.

The surface obtained is smooth, but not very highly polished, and is somewhat porous. The pores can be closed by amylocatate colloidum, which improves the polish and makes the tile waterproof. It resists both acids and alkalies, and the surfaces can be washed with water and chamois leather.

When the tiles are dry they should be slightly warmed and thoroughly waterproofed by immersion in a mixture of the above-named colloidum and a third of amylocatate, which will sink in to a depth of about a third of an inch. The tiles are then to be dried in a warm place, and finally painted with undiluted amylocatate colloidum.

Greater hardness may be obtained by adding to the gypsum a small quantity of ground pumice-stone or powdered glass, which gives the tiles a grain without damaging their appearance.

ENGINEERING NOTES.

The Los Angeles Aqueduct.

The great aqueduct now under construction for supplying the city of Los Angeles with water has the unprecedented length of 240 miles, including some 47 miles of tunnels and 193 miles of steel and reinforced concrete pipes. One of the most interesting features of the project is the construction of twenty-two inverted steel siphons for conveying water from the eastern side of the Sierra around the western boundary of the Mojave Desert, beneath the Sierra Madre range, and into the San Fernando Valley. These siphons range in length from 611 to 15,596 ft., and in diameter from 8 ft. 6 in. to 11 ft., the thickness of the metal ranging from $\frac{3}{4}$ in. to $1\frac{1}{2}$ in., according to the pressure. The aggregate length of the steel siphons is 49,576 ft., which, with concrete siphon approaches and siphons composed entirely of reinforced concrete, brings up the length of this class of construction to 63,585 ft. in all. The maximum head varies greatly, the lowest being 50 ft., while that of the siphon crossing the Jawbone Canyon amounts to 850 ft. This siphon will have a total length of 5,093 ft., the pipe ranging from 7 ft. 6 in. to 10 ft. in diameter. The longest siphon is that by which the water will be carried across the upper end of the Antelope Valley on the Sierra Madre range. This siphon at its northern end consists of a concrete pipe 10 ft. in diameter, designed for the head of 75 ft.; 15,596 ft. of steel pipe 10 ft. in diameter, constructed for a head of 200 ft.; and 3,414 ft. of 10 ft. diameter concrete pipe at the southern end, for a head of 75 ft. It is hoped that the aqueduct will be completed during the early months of next year, the total cost of the work being about five millions sterling.

The Young Engineer.

At a meeting of the Junior Institution of Engineers on the 11th inst. the President, Sir A. Trevor Dawson, delivered an address on "Staff Officers in Industrial Works: Their Scientific and Practical Training and Duties," in the course of which he said that the demand now was for well-trained youths having experience of materials, mechanical methods, and men. Experience was a dominant

consideration. This could not be too forcibly emphasised, for young men were at times prone to seek advancement without carefully considering whether that which looked like advancement would conduce to the winning of the experience so invaluable in future work. He was a wise youth who, when he could afford it, accepted experience as part of his remuneration. There was a national need for much more highly-trained engineers—men combining scientific and practical knowledge, and having experience of materials, mechanical methods, and men to serve on the staff of works. The most difficult of all problems which beset the young engineer was the management of men. There were certain occupations in which a man could design and complete his work himself. The painter, the *littérateur*, the musician could labour in solitude, and their products were the fruit of their own brains. But with the staff officer the case was quite different. He had largely to see through other persons' eyes, to hear through their ears, and to act through their hands. The day was not long enough for him to take personal cognisance of everything for which he was responsible. He must act to a great extent through subordinates. When they served him well he got the credit, and when they served him ill he bore the blame. It was therefore of immense importance to him and his firm that he should, in the first place, select his assistants with skill, and, in the second, imbue them with a spirit of loyalty. Nothing conduced more to good service than the knowledge among the rank and file that the chief could take any job out of their hands and do it as well as or better than themselves. Our great technical institutions in the metropolis and provincial cities were not excelled in any country in the world, and it was creditable also that our great City Companies and many private endowments had assisted many less-favoured in the "world's goods" to prosecute their engineering studies at such institutions. Yet the results had proved unsatisfactory, alike from the point of view of the student and the nation. The absence of practical training, of early contact with the workshop, deprived those students in most cases of an indispensable part of their preparation for future industrial work, and interfered with their finding a suitable position after their college course had been completed. Was it too much to expect that, as there was great national need, the State should extend its educational system so as to enable the best youth to enter upon a combined practical and theoretical training for the greatest of manufacturing industries, without requiring great sacrifices on the part of parents who might be unable to support their sons throughout the prolonged period of training?

Bridging the Mersey.

Mr. L. H. CHASE, M.Inst.C.E., lectured on the 18th inst. before the Liverpool Engineering Society on his schemes for bridging the Mersey between Liverpool, Birkenhead, and Seacombe. Instead of making the approaches extend over a distance of 1 mile from each side of the river, Mr. Chase proposes a spiral roadway up which motors and trams would run by their own power to the level of the bridge, some 200 ft. above the high water level of the River Mersey, and thus clear of such vessel as the *Mauveletina*. The spiral roadway was to be built in reinforced concrete, and would look not unlike the Roman Colosseum. The bridge would be of the suspension type and its span of 2,700 ft. would make it the largest span in the world. The main towers would be placed near the Prince's Landing Stage on the Cheshire side, and would be 500 ft. high. The total cost, exclusive of land and legal expenses, was estimated at about £25,000. Mr. Chase also mentioned a new design for dealing with passenger traffic only on a similar bridge.

The Largest Testing Machine in the World.

The 10,000,000-lb. testing machine designed by Mr. Timius Olsen, of Philadelphia, for the Structural Materials Testing Laboratory of the U.S. Geological Survey, at Pittsburg, was shown in operation during the Congress of the International Association for Testing Materials, when a 4-ft. square brick column, 12 ft. high, was tested to destruction under a load of 6,580,000 lb. The machine was designed to test 60-ft. columns vertically, and it can also be applied for testing slabs and beams of large dimensions. As at present erected, however, the machine is not available for testing columns more than 25 ft. in length.

THE BUILDING TRADE.

THE TRADE UNION BILL.—III.

IN our last notice of the proceedings in Committee relating to this Bill we referred to the amendment, which was lost, but the rules provided by Clause 3 should be statutory force so that if they were infringed some remedy might be given to members to secure the observance of the rule. The clause, it stands, affords the minority little protection, as we showed in our article of November 15.

A number of sittings have been occupied with the discussion of the subclauses to this clause. By subclause (a) the funds of a union are only to be applied to such political objects as are approved by a resolution passed on a ballot by the members "by a majority of the members voting." It has always been contended that this subclause does not provide for the real expression of the opinion of the members of a union, and amendments were moved providing (1) that the political objects must be approved by a majority of the members of the union, or (2) that at least two-thirds of the members voting in the United Kingdom must vote on the resolution. Both these amendments were rejected after some considerable discussion. If the political objects to which the funds are to be devoted can be determined as the Bill now stands, by a majority of the members voting, the exemption of those who are unwilling to contribute becomes increasingly important, but all amendments to subclause (c) were negatived, and the clause stands as in the Bill. According to this clause members not wishing to contribute to the political objects are to be placed under no disability, but, as we have shown in our previous articles, if a man is placed under no disability no remedy is open to him. Subclause (2) of Clause 3 defines the political objects. This clause was passed, save that the members of the union were reintroduced into the maintenance of Members of Parliament. These words were in the Bill when it was introduced last year, but were omitted when payment was granted to Members of Parliament. It was suggested that this might not be a permanent condition, as the State payment of Members of Parliament was only granted by a clause in the Budget, and was therefore subject to review at the end of the financial year, thus the words were reintroduced. Clause 4 deals with the ballot which has to be taken in accordance with any rules made by the union for the purpose, and in the Registrar of Friendly Societies shall not approve any rules unless he is satisfied that every member has an equal right of voting, and that the secrecy of the ballot is properly secured. In the motion of the Attorney-General a provision was conditionally inserted that every member should have, "if reasonably possible, fair opportunity of voting."

Clause 5, which requires a circular to be sent to the members of a union on the passing of a resolution adopting political objects, acquainting them with their right to exemption from contribution, was amended on the motion of the Attorney-General, substituting for the circular "notice" to be given, the latter part of the clause being re-drafted. It will be seen at the Bill leaves the Committee (for they have concluded their labours) very much in its original form and, if anything, less favourable to the rights of minorities.

We have shown that the Bill affords no real protection to those who, compelled to join a union in order to obtain work, do not wish to forward the political propaganda selected by a majority; the rules inserted by way of protection are a dead letter since there is no appeal to the Courts or elsewhere, the ballot is satisfactory, and the position of those who defy the union that they decline to contribute to the political objects is very precarious.

The only real concession made in the interest of the dissenting minority in the unions was a promise made by the Attorney-General that he would consider whether the Registrar of Friendly Societies should be empowered to settle disputes between members of a union about small sums. Apart from the effect the Bill may have upon unions and their members, there remains a question of the greatest interest to the public, especially since the recent decision in the House

of Lords in *Vacher's* case (see the *Builder*, November 29 last). The Trades Disputes Act enables a trade union to commit any tort against the public or anyone else without being held liable in any court of law. Is this immunity to be extended to their political powers and activities? Are the public to be placed entirely at the mercy of the unions at election times, with no civil redress for head-smashing, window-smashing, defamation of character, or any other tortious act? A new clause, confining the protection of sect. 4 to the existing powers of trade unions was rejected by the Committee without a division, and the public are to be left without redress.

EDINBURGH, LEITH, AND DISTRICT BUILDING TRADES ASSOCIATION.

IN Ferguson & Forrester's Restaurant, Princes-street, on the 11th inst., the annual dinner of the Edinburgh, Leith, and District Building Trades Association was held. Ex-Ballie Forrest presided.

Mr. Malcolm Stewart, of the Glasgow and West of Scotland Building Trades Council, proposed the toast of the Association.

The Chairman, in reply, said their relations with the employees during the year had been harmonious and cordial. Referring to the Insurance Act, which he characterised as a source of annoyance and irritation all round, the Chairman said that as it had become law it was their duty to make the Act work as smoothly as possible. They had passed through a prolonged depression of trade, and they naturally were asking the reason of the long-continued depression. He personally was convinced that recent legislation had done the greatest part of the damage. No trade had been so heavily hit as theirs. Confidence in heritable property had been destroyed, but he was convinced that they were round the corner. No houses were being built, but the population must be increasing to some extent. There had been a considerable amount of contract work in the city during the year, and with increased trade that work should be more plentiful.

Mr. A. D. Angus proposed "The Corporations of Edinburgh and Leith," and said that builders could not keep in too close touch with those bodies.

Councillor Cameron said a great industry like that which they stood for ought to be directly represented in the Council.

Baillie Pennell, Leith, also replied.

GOVERNMENT CONTRACTS.

The following tenders have been accepted during the past month by the Government Departments named:—*Admiralty, Works Department:* Portland cement for Peterhead Harbour of Refuge Works—Woolldham Cement Company, 35, Great St. Helen's, E.C.; works services: redecoration of end and erection of sewage lift tower at Fort Cumberland, R.M. Barracks, Eastney—Mr. S. Salter, York-street, Southsea; shed for loaded powder trucks, H.M. Dockyard, Chatham—Messrs. West Brothers, Rochester. *War Office:* Works services: alterations to boundary wall, etc., Duke of York's Headquarters, Chelsea—Messrs. Bovis Ltd., Upper Berkeley-street, W.; erection of abattoir, Curragh Camp—Mr. J. Murphy, Ardville, Blackrock-road, Cork; erection of barracks block, Hilsa—South-Western Building and Slean Joinery Company, Ltd., Gosport; erection of officers' quarters, Quebec Barracks, Bordon—Messrs. Martin, Wells, & Co., Ltd., Victoria-road, Aldershot; erection of sanitary annexes to married quarters at Birm.—Mr. J. Hickey, Birm.; erection of sanitary annexes to married quarters at Northampton—Messrs. E. Archer & Sons, Ltd., Northampton; erection of sanitary annexes to married quarters at Paisley—Messrs. J. Paterson & Sons, Ltd., 610, Pollokshaws-road, Glasgow; erection of small arms ammunition store, shelter shed, etc., Rainham Rifle Range—Messrs. Pavitt Brothers, Aveley, Purfleet; installation of electric light, etc., Old College, Sandhurst—Mr. V. G. Middleton, Broadway-chambers, Westminster, S.W.; installation of heating apparatus at New Cavalry Barracks,

Redford—Messrs. E. Doane & Boal, Ltd., 3, Monument-street, E.C.; Old College, Sandhurst—Messrs. E. Doane & Boal, Ltd., 3, Monument-street, E.C.; School of Aviation, Salisbury Plain—Messrs. Strode & Co., 45, Osnaburgh-street, N.W.; overhead conductors and supports for electricity supply, Tidworth and Bulford—British Insulated and Helsby Cables, Ltd., Prescott, Lancs.; provision of gymnasium, forage barn, etc., Horfield Barracks, Bristol—Messrs. E. Walters & Son, St. Andrew's-road, Montpellier, Bristol; repairs and maintenance of War Department buildings at Lichfield—Messrs. T. Lowe & Sons, Curzon-street, Burton-on-Trent; Netley—Mr. H. G. Ross, Station-road, Netley; Purfleet—Messrs. Pavitt Brothers, Aveley, Purfleet; Warrington—Mr. J. P. Booth, 3, Fore-street, Warrington; revision of foul drainage, Sheerness—Messrs. T. Wood & Sons, Ltd., Cruckhill, Swanley; supply and erection of cooking apparatus, Old College, Sandhurst—Falkirk Iron Company, Ltd., Craven House, Kingswood, W.C.; *Crown Agents for the Colonies:* Steel bridge-work—Messrs. J. Butler & Co., Ltd., Stanningley Ironworks, near Leeds; Horsehay Company, Ltd., Tipton, Staffs.; cement—Associated Portland Cement Manufacturers, Ltd., 3, Lloyds-avenue, E.C.; British Portland Cement Manufacturers, Ltd., 4, Lloyds-avenue, E.C.; Messrs. Martin, Earl & Co., Ltd., 139, Queen Victoria-street, E.C.; Wouldham Cement Company, Ltd., 35, Great St. Helen's, E.C.; sanitary pipes—Messrs. George Jennings, Ltd., Lambeth Palace-road, S.E.; *Office of Works:* Builders' work: erection of ballroom, Cairo Consulate—Messrs. Cossena & Biorioti, Cairo; new post-office, Dover—Messrs. Ellis Brothers, New Romney, Kent; erection of Edinburgh Labour Exchange—Messrs. H. Miller & Sons, Millar-place, Edinburgh; extension of Grimsby Telephone Exchange—Mr. P. T. Kettlewell, 60, Trinity-street, Hull; extension of women's cloakroom, Hampton Court Palace—Messrs. Pasterfield & English, 27, High-street, Collier's Wood, S.W.; alterations, Leicester Land Revenue Office—Messrs. H. Herbert & Sons, 33, Millstone-lane, Leicester; erection of new telephone exchange, Purley—Messrs. H. & G. Taylor, Hayes-lane, Reckenhall; alterations, Reading Labour Exchange—Messrs. Alley & Co., 115, Oxford-street, Reading; ordinary works and repairs at Smethwick—Messrs. J. Barnsley & Sons, 102, Ryland street, Birmingham. *General Post Office:* Laying lines of pipes, Edinburgh—Mr. T. Spencer, 13, Cathcart-place, Edinburgh; laying lines of Sykes' ducts, London-Canterbury (sect. 3)—Mr. W. Dobson, Yeaman-lane, Dundee-street, Edinburgh; London-Cventry-Birmingham (sect. 5)—Mr. W. Dobson, Yeaman-lane, Dundee-street, Edinburgh; laying lines of Sykes' ducts and pipes, London-Weybridge-Guildford (sect. 2)—Messrs. Greig & Matthews, 35, Queen Victoria-street, E.C.; Coudson Redhill-London—Messrs. Greig & Matthews, 35, Queen Victoria-street, E.C.; Finchley-Barnet (sect. 2)—Messrs. Greig & Matthews, 35, Queen Victoria-street, E.C.; Dundee—Mr. David Horsburgh, 65, Trades-lane, Dundee; laying lines of ducts, Bishops-gate-street, E.C.—Messrs. Airds, Ltd., 22, Queen Anne's-gate, S.W. *Metropolitan Police:* Erection of a new police-station at South Fulham—Messrs. J. Garlick Ltd., 43, Sloane-street S.W.; erection of a new police-station at Tottenham—Mr. G. R. Rowley, 278, Philip-lane, West Green, Tottenham; general repairs at Metropolitan Police buildings—Messrs. Holand & Hamen, Hyde-street, Bloomsbury, W.C. *Commissioners of Public Works, Ireland:* Building works: erection of Blacklun National School, Co. Kerry—Mr. P. T. Kennedy, Moyderwell, Tralee, Co. Kerry; alterations to mechanical engineering laboratory, Royal College of Science, and erection of new public offices, Upper Merrion street, Dublin—Messrs. McLaughlin & Harvey, Ltd., Dartmouth-road, Dublin; erection of St. Joseph's, Kilsasser National School, Co. Mayo—Mr. W. Killackey, Kilsasser, Co. Mayo; erection of St. Patrick's, Coagh, National School, Co. Tyrone—Messrs. Currie Brothers, Castlecaulfield, Co. Tyrone.

COUNCIL SCHOOL, NEWBOTTLE.

A new Council school has been erected at Newbottle at a cost of about 2,984, from the designs of Mr. Rushworth, the County Architect. The building provides accommodation for 260 boys, and the work was executed by Mr. White, contractor, of Sunderland.

GENERAL BUILDING NEWS.

DRILL HALL, PERTH.

Mr. G. P. K. Young, A.R.I.B.A., is the architect for the new Territorial drill hall which has been erected in Perth. The new buildings have been erected as additions to the old Volunteer drill hall in Tavistreet, and include lecture, recreation, officers', and general rooms. The contractors were:—Masons, Messrs. Beat Brothers, Perth; joiners, Messrs. D. S. & J. Anderson, Perth; plumbers, Messrs. Frew & Co., Perth; plasterer, Mr. D. McNair, Falkirk; slaters, Messrs. J. Buchan & Son, Perth; glaziers, Messrs. J. Coutts & Co., Edinburgh; steelwork, Mr. D. McGregor, Perth; heating, Messrs. Taylor & Fraser, Glasgow; and painter-work, Mr. H. MacKay, Perth.

NEW JETTY AT TILBURY.

The Port of London Authority has accepted the tender of Messrs. Perry & Co., amounting to 105,466*l.*, for constructing a deep-water river-side jetty at Tilbury. The jetty will be 1,000 ft. long and 50 ft. wide, will have railway connections, and be equipped with the most modern type of cranes for the rapid handling of cargo.

NEW HOSPITAL, CLAPHAM.

It is stated that an anonymous gift of 25,000*l.* has been made for hospital purposes in Lorton, including a site at Clapham Common, and it is proposed to erect a hospital for women there at the cost of 25,000*l.*

CHURCH OF THE ANNUNCIATION, W.

The name of the builder of this church, illustrated in our issue of December 13, was given as Mr. F. T. Chisholm, of Kensal Green; this should have been Messrs. Chisholm & Co., of the same address.

TRADE NEWS.

The Cherry Tree Machine Company, Ltd., laundry engineers, Blackburn, inform us that they have in hand, for the Western Hospital of the Metropolitan Asylums Board, the contract for the supply of two new "Manchester" metal-washing machines of 350 shirt capacity each, with elevated back gearings, and cage divided in two compartments: the same contract also includes one of their 100-in. by 24-in. "Manchester" Decoudon ironing machines, with two-speed gearing, automatic safety finger guard, etc.

Ronuk, Ltd., the proprietors of Ronuk sanitary polish, have received a Royal Warrant of Appointment to her Majesty Queen Alexandra.

Under the direction of Mr. George H. Farley, architect, Banbury, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to the Wesleyan Chapel, Gimsbury.

Messrs. E. H. Shortland & Brother, Ltd., of Failsforth, Manchester, have received repeat order to supply their double-fronted patent Manchester stoves with descending smoke flues to the Napier-Hill, New Zealand.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

At the last meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Width of Way.

Finsbury, East.—Buildings upon a site abutting upon Dingley-road and Nelson-passage, Finsbury, with a portion of such building next to Nelson passage upon land not previously built upon and at less than the prescribed distance from the centre of such passage (Messrs. Vets, Sturdy, & Usher for Messrs. T. Wallis & Co., Ltd.).—Refused.

Greenwich.—One-story building on the northern side of Wood Wharf, Greenwich (the London Electric Supply Corporation, Ltd.).—Consent.

Southwark, West.—Erection of a building on the southern side of Friar-street, Southwark (Mr. J. F. Wetherell).—Consent.

Westminster.—Re-erection of No. 69, Catherine-street and No. 6, Wilfred-street, Westminster (Mr. G. J. Cawthorne for Miss J. Beckley).—Consent.

Width of Way and Lines of Frontage.

Paddington, North.—Projecting steps at No. 9, Blomfield-mews, Paddington (Messrs. Norman & Burt).—Consent.

St. George, Hanover-square.—Projecting illuminated sign at No. 5, Mill-street, Hanover-

square (Messrs. Freeman & Co. for the Bodega Company, Ltd.).—Consent.

Width of Way and Construction.

Deptford.—Temporary wood and iron building on land abutting upon Trundley-road. Deptford (Mr. B. Cloke).—Refused.

Kensington, North.—Erection of a temporary steel and iron building on the eastern side of Old Court-place, Kensington (Messrs. J. Barker & Co., Ltd.).—Consent.

Limehouse.—Wood and iron building on the western side of Carr-street, Limehouse, in front of railway arch No. 640 (Messrs. A. Hapson & Co.).—Consent.

Paddington, South.—Temporary wood and iron covered way at the rear of Nos. 40, 42, and 44, Westbourne-grove, Paddington (Mr. W. Hanney).—Consent.

Lines of Frontage and Space at Rear.

Paddington, South.—One-story building at the rear of No. 154, Westbourne-grove, Paddington (Mr. G. A. Sexton for Mr. A. Woollard).—Consent.

Formation of Streets.

Greenwich.—Formation or laying-out of a new street for carriage traffic between Airy-street and South-crescent, Greenwich, in connection with the erection of houses (Mr. J. S. Gilberth for the Governors of the Roan School Foundation).—Consent.

Kensington, North.—Formation or laying out of a new street for carriage traffic to lead from Dalgarno-gardens to Barby-road, Kensington, and a new street to lead from such proposed street to Highlever-road (Messrs. P. & H. W. Carey).—Consent.

Newington, West.—Formation or laying out of a new street for carriage traffic in continuation of Ambergate-street, Kennington (Messrs. Briant & Son).—Refused.

Wandsworth.—Three proposed new streets for carriage traffic upon a site on the eastern side of Valley-road, Streatham (Messrs. P. Anson & Son).—Consent.

Wandsworth.—Retention of barriers across Broadwater-road and Khama-street, Garratt-lane, Tooting (Messrs. Grundy, Izod, & Co.).—Consent.

Wandsworth.—Formation or laying-out of a new street for carriage traffic to lead from Garratt-lane to Steerforth-street, Wandsworth (Mr. J. Wise).—Consent.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERGAVENNY.—Eisteddfod Pavilion (1,295*l.*); Mr. B. J. Francis, architect, Linden House, Abergavenny; Messrs. Foster & Hill, builders, Abergavenny.

Accrington.—Weaving shed as technical school (2,000*l.*); Mr. H. Littler, architect, 16, Ribblesdale-place, Preston.

Airdrie.—Proposed extension of County Buildings; Mr. James Rennie, County Surveyor, Sandyhill, Shettleston, N.B.

Alloa.—Extensions to bakery, Mar-place (1,500*l.*), for the Alloa Co-operative Society.

Altrincham.—Hospital; Mr. F. B. Dunkerley, architect, 17, St. Anne's-square, Manchester.

Arbroath.—Proposed public baths (7,000*l.*); Mr. P. C. Smith, Surveyor, Burgh Hall, Arbroath.

Ashton-upon-Mersey.—Conveniences, shelter, etc.; Mr. A. Cardingby, builder, Mersey-road, Ashton.

Barnard Castle.—Hall and rifle range; Messrs. Wright & Chapman, architects, 23, Grainger-street, Newcastle; Messrs. Wilson & Sons, builders, 1, Victoria-street, Barnard Castle.

Barnstaple.—Swimming-bath (3,000*l.*); Mr. E. Y. Saunders, Surveyor, Town Hall, Barnstaple.

Bearpark (Durham).—School (3,000*l.*); Messrs. Clark & Moscrop, architects, Feethams, Darlington; Mr. R. Southern, builder, Dipton, Durham.

Benfieldside.—Picture hall (3,000*l.*); Mr. J. Eltringham, architect, Derwent-street, Blackhill.

Berwick.—Proposed remodelling of workhouse (3,900*l.*); Mr. H. R. Peters, Clerk, Guardians' Offices, Berwick.

Bingley.—Theatre (5,000*l.*); Messrs. J. B. Bailey & Son, architects, Scott-street, Keshley.

Bishop Auckland.—Hospital, Tindale-crescent (3,200*l.*); Mr. R. B. Thompson, architect.

* See also our list of Competitions, Contracts etc., on another page.

Market-place, Bishop Auckland.—Messrs. Hope & Son, builders, Coundon, Bishop Auckland. Additions at B. and S. Hospital, Helmington-row (3,000*l.*); Mr. R. B. Thompson, architect, Market-place, Bishop Auckland; Mr. T. Manners, builder, Peel-street, Bishop Auckland.

Blackpool.—School, Devonshire road District; Mr. F. G. Plant, Education Offices, Blackpool. Wesleyan Sunday-schools (2,750*l.*); Messrs. W. E. Potts, Son, & Hennings, architects, Victoria-street, Manchester.

Blackwood.—Hall; Messrs. H. & D. Barclay, architects, 295, St. Vincent-street, Glasgow.

Bolton.—Central hall for Lancs. Miners' Federation (6,000*l.*); Messrs. Bradshaw & Gas, architects, 19, Silverwell-street, Bolton.

Botwell.—Factory for Sandow's Cocoa and Chocolate Company, Ltd., Elephant and Castle, S.E.

Bournemouth.—Additions to printing works for the Richmond-hill Printing Works Company, Ltd.

Bovey Tracey.—Sanatorium, Hawkmoor Estate; Mr. E. H. Harbottle, County Architect, Exeter.

Bridlington.—Residence (1,950*l.*); Messrs. W. J. Walker & Son, builders, Lowgate, Hull.

Brighton.—Proposed alterations to old workhouse and new infirmaries (1,710*l.*); Mr. B. Burfield, Clerk, Guardians' Offices, Brighton.

Bromsgrove.—Proposed children's home; Mr. H. D. Holloway, Clerk, Guardians' Offices, Bromsgrove.

Burnley.—Additions at Town Hall; Mr. G. H. Fieles, Engineer, Town Hall, Burnley. Schools, Padham-lane (8,000*l.*) and Burnley-lane (8,000*l.*); Mr. H. Littler, architect, 16, Ribblesdale-place, Preston.

Burton-on-Trent.—Children's home, near Belvedere-road; Mr. C. F. Chamberlain, Guardians' Offices, Burton.

Bury.—Police courts, stations, etc. Tenterden-street (about 15,000*l.*); Mr. W. H. Schofield, Surveyor, County Offices, Preston.

Byers Green.—School (5,000*l.*); Mr. H. A. Curry, architect, 3, Biggmarket, Newcastle; Mr. T. Douglas, builder, Close House, Bishop Auckland.

Cannock (near Speechhouse).—Proposed 100 houses; Mr. P. Phipps, Rural District Council Offices, West Dean.

Chard.—Isolation hospital; Mr. C. O. Baines, Surveyor, Urban District Council Offices, Taunton.

Church Gresley.—Drill hall for the Derbyshire Territorial Association.

Cimla.—Proposed conversion of infectious diseases hospital into sanatorium; Mr. W. E. Thomas, Surveyor, Rural District Council Offices, Neath.

Clayton le Moors.—Church, Atlas-street; Vicar, St. James's Church, Clayton.

Colwyn Bay.—Additions to Royal Hotel for Messrs. Worthington & Co., Ltd., brewers, Burton-on-Trent. Proposed shelters and conveniences; Mr. W. Jones, Surveyor, Urban District Council Offices, Colwyn Bay.

Cottingham (Hull).—Picture theatre, Hallgate; Mr. J. H. Wright, Hallgate, Cottingham.

Coupar Angus.—Garage, Union-street, for Messrs. C. Gardiner & Co.

Croyde.—Proposed drill hall for the Croyde and Georgeham Territorials.

Denny.—Proposed library; Mr. A. G. Merriles, Surveyor, Town Hall, Denny.

Devonport.—Municipal buildings (70,000*l.*); Mr. J. F. Burns, Surveyor, Town Hall, Devonport.

Dinnington.—Additions to Wesleyan Methodist Church for the Trustees.

Drumblade.—Cookery, laundry, and manual work buildings; Mr. W. L. Duncan, Hall Hill House, Turf.

Dukinfield.—Church school, King-street; Vicar, St. Luke's Church, Dukinfield.

Dundee.—Alterations to premises, West Henderson's Wynd, for Messrs. A. Thomson & Sons, wastepaper merchants.

East Cowes.—Additions to premises, for Messrs. S. E. Saunders & Co., motor-boat builders.

Faith.—Weaving shed for the Spodden Manufacturing Company, Ltd., cotton goods manufacturers, Spodden Mill, Fagit.

Fogginton.—School, between Morrville and Rundlestone-cross; Mr. P. Morris, architect, 1, Richmond-road, Exeter.

Ford.—Tuberculosis pavilion and alterations and additions to isolation hospital (7,978*l.*); Messrs. J. & T. Parker, builders, Commercial-road, Sunderland.

Gee Cross (Hyde).—Additions to works, Wych Fold, for the Werneth Rubber Company, Ltd., indiarubber goods manufacturers, Glasgow. Two houses, Springburn-road, Bishopsbriggs; Mr. W. Nimmo, builder, Netherhall, Bishopsbriggs, Glasgow.

Great Yarmouth.—Plans have been passed for four houses in Victoria-street for Mr. F. P. H. and for four houses in Suffolk road, Weston, for Mr. R. G. Wales.

Griff.—Engine-house (672 $\frac{1}{2}$); Messrs. G. E. W. Wingo, builders, 12, Church-street, Great Yarmouth.

Hatherden.—Ten Houses; Messrs. Boale & sons, builders, 1, London-street, Andover.

Heywood.—Additions at Perseverance Mill the Haywood Cotton Spinning Company, Ltd.

Hindolvestone (Norfolk).—Church (1,590 $\frac{1}{2}$); H. J. Green, architect, 31, Castle-meadow, Norwich.

Horsham.—Two schools, New-street; Architect, West Sussex Education Offices, Horsham.

Hunstanton.—Shelters on esplanade (720 $\frac{1}{2}$); Messrs. F. Southgate, builder, Hunstanton.

Hunstanton.—Mr. J. C. Walker, Surveyor, Town Hall, Hunstanton.

Hyde.—Additions to mill for Messrs. Jacob, Welch & Co., wholesale stationers, Newton Hill, Hyde.

Hyde (Lancs).—Extensions to public baths; Messrs. Hall Construction Company, Ltd., builders, Salford.

Keighley.—Cinematograph theatre; Messrs. B. Bailey & Son, architects, Scott-street, Keighley. Additions to technical institute (2,650 $\frac{1}{2}$); Messrs. W. H. & A. Sugden, architects, Devonshire-buildings, North-street, Keighley; Mr. J. Warton, builders, Ingrow.

Keighley.—Swimming-baths (7,000 $\frac{1}{2}$); Messrs. B. Bailey & Son, architects, Scott-street, Keighley; Messrs. P. Rhodes & Co., builders, Keighley, Leeds.

King's Lynn.—Additions to iron foundry, isebach-road, for the Cooper Boiler Bearing Company. Swimming-baths; Mr. A. Smith, surveyor, Town Hall, King's Lynn.

Kingston-on-Thames.—Congregational church (6,000 $\frac{1}{2}$); Mr. E. Carter, architect, 86, Eden-street, Kingston.

Kirkcaldy.—Enlargement of school (3,550 $\frac{1}{2}$) for the Kirkcaldy School Board.

Leigh (Lancs).—Weaving shed for the Leigh Mill Manufacturing Company, Ltd., cotton goods manufacturers, 226A, Chapel-street, Mill Lane, Messrs. Taylor & Sons, cotton goods manufacturers; Messrs. Bradshaw & Gass, architects, 19, Silver-street, Bolton. Free Methodist Church, Wigan-road (3,000 $\frac{1}{2}$); Mr. H. Dinsley, architect, 12, Cleveland-street, Wigan.

Leith.—United Free Church hall; Mr. G. Craig, architect, 85, Duke-street, Leith.

Lincoln.—Proposed abattoir buildings; Mr. A. MacBrat, Surveyor, Town Hall, Lincoln. Infirmary (20,000 $\frac{1}{2}$); Mr. W. B. Danby, clerk, Guardians' Offices, Lincoln.

Maldon.—Proposed sixteen houses (2,925 $\frac{1}{2}$); Mr. T. R. Swales, Surveyor, Town Hall, Maldon.

Melksham.—Picture theatre (1,990 $\frac{1}{2}$); Messrs. Greenwood & Co., builders, Spa-road, Melksham.

Newcastle-on-Tyne.—Proposed extensions to Northford Technical College (10,000 $\frac{1}{2}$); Mr. C. Coffin, Education Offices, Newcastle.

Newcastle-on-Tyne.—Heaton (3,000 $\frac{1}{2}$); Mr. B. G. Hills, (Lancs) architects, Newcastle.

Newcastle-on-Tyne.—Heaton & Tasker, architects, Trinity-buildings, Newcastle.

Newport (Mon).—Schools for defective children (4,000 $\frac{1}{2}$); Mr. A. Bain, Architect, Newport.

Newtown-on-Ayr.—Refrigerating factory and abattoir (4,000 $\frac{1}{2}$); Mr. P. St. Clair Williams, architect, Sandgate-street, Ayr.

Newtown.—Tuberculosis hospital; Mr. A. G. Parker, Architect, Town Hall, Worcester.

Northwich.—Baths (9,580 $\frac{1}{2}$); Messrs. Rice & sons, builders, 15, Stockwell-road, S.W.

Norfolk.—Alterations and additions to Didgford Hall (25,000 $\frac{1}{2}$); Messrs. Dunn & Richardson, architects, 38, Lincoln's Inn-fields, London, W.C.; Messrs. Holland & Hannen, builders, 5, Inn-road, W.C.

Norwich.—Additions to East Anglian Institute for Blind and Deaf Children (2,175 $\frac{1}{2}$), for the Governors.

Nottingham.—Proposed rebuilding of works, Lancelotti street, for Messrs. M. Perry & Co., Ltd., apron and pinafore manufacturers.

Nuneaton.—Additions to factory, Meadowcroft, for Messrs. Hall & Phillips, hat manufacturers.

Odham.—Proposed almshouses, Broad Oak (6,000 $\frac{1}{2}$); Trustees of the late Miss Sarah Barker, Broad Oak, Odham.

Oskehampton.—Territorial drill hall (2,000 $\frac{1}{2}$); Messrs. Ellis, Son, & Bowden, architects, Dorchester-circus, Exeter.

Ongar.—Alterations at workhouse; Mr. A. Richardson, Clerk, Guardians' Offices, High-gate, Ongar.

Oulton.—Enlargement of school (150 extra seats); Mr. J. Stuart, Architect, County Hall, Kenilford.

Plymouth.—Proposed school; Mr. C. H. Bothamley, Architect, County Education Offices, Weston-super-Mare.

Pontypool.—Theatre and Hippodrome (over 1,000 places) for Mr. G. H. Pitt.

Rainham (Kent).—Cement factory; Mr. P. L. Spoor, Rede-court, near Rochester.

Ramsbottom.—Additions to weaving shed for the Chatterton Weaving Company, Ltd.

Ramsbottom.—Proposed shelter, Italian-gardens, West Cliff; Mr. G. Taylor, Surveyor, Town Hall, Ramsbottom.

Rotherham.—Congregational church, Kimberworth-road (2,600 $\frac{1}{2}$); Mr. J. Totty, architect, 20, Moorgate-street, Rotherham.

Scarborough.—Alterations and additions to school (1,555 $\frac{1}{2}$); Mr. W. Ascoug, Education Offices, Scarborough.

Sedgefield.—Hospital; Mr. J. Stones, Surveyor, Council Offices, Sedgefield.

Skelton-in-Cleveland.—Drill hall; Mr. W. Wardman, architect, High-street, Redcar; Mr. M. France, builder, 3, Balmoral-terrace, Redcar.

Slough.—Additions to factory for Horlick's Malted Milk Company, Ltd., infants' food, etc., manufacturers.

South Molton.—Artisans' dwellings; Mr. E. D. Grove, Surveyor, Town Hall, South Molton.

South Shields.—Picture hall; Messrs. J. H. Morton & Sons, architects, North-eastern Bank-chambers, South Shields.

Stafford.—Proposed sixty houses; Mr. W. Plant, Engineer, Town Hall, Stafford.

Stirling.—Home (2,500 $\frac{1}{2}$); Mr. John Allan, architect, 32, Dumbarton-street, Stirling.

Stockport.—Shelter, bowl-house, and pavilion (785 $\frac{1}{2}$); Messrs. D. Badie & Co., Ltd., builders, North-street, Stockport.

Stoke-on-Trent.—Proposed school for girls; Mr. W. Lincoln Copeland, Education Offices, Stoke.

Stretford.—School, Trafford Park; Mr. H. Little, architect, 16, Ribblesdale-place, Preston.

Sunderland.—Extensions to engineering works for Messrs. Lynn & Co., which manufacturers; Messrs. W. & T. R. Milburn, architects, 20, Fawcett-street, Sunderland. Engineering works foundry, etc.; Messrs. W. & T. R. Milburn, architects, 20, Fawcett-street, Sunderland. Two schools; Mr. H. Read, Education Offices, Sunderland. Pavilion (1,200 $\frac{1}{2}$) and laundry at hospital; Mr. G. T. Brown, architect, 51, Fawcett-street, Sunderland.

Sutton-in-Ashfield.—Fire-station (350 $\frac{1}{2}$); Mr. W. Burnley, Surveyor, Town Hall, Sutton.

Swansea.—Coal exchange, Cambrian-place (22,250 $\frac{1}{2}$); Mr. C. T. Ruthen, architect, Bank-chambers, Heathfield-street, Swansea; Messrs. Billings & Sons, builders, Trafalgar-yard, Glastonmouth-road, Swansea. Additions to Ship Inn, Penryn-quina-road, for the Swansea United Breweries, Ltd., Wassall square, Swansea.

Tarbolton.—School (6,000 $\frac{1}{2}$); Messrs. J. & H. V. Eaglesham, architects, Wellington-chambers, Ayr.

Tiverton.—Houses; Mr. J. Siddals, Surveyor, Town Hall, Tiverton.

Todmorden.—One hundred and eighty-four houses, Rawson Fields Estate, for Mr. George Collett (Chairman of the Hare Spinning Company), Failswoth.

Torquay.—Secondary school; Architect, County Education Offices, Exeter.

Town.—Transmitting-station (60,000 $\frac{1}{2}$) for the Marconi Wireless Telegraph Company, Ltd., Marconi House, Strand, W.C.

Trindon Colliery.—Twenty-six houses; Mr. J. Stones, Surveyor, Rural District Council Offices, Sedgefield.

Troon.—Extensions to clubhouse (500 $\frac{1}{2}$); Mr. A. Black, Surveyor, Town Hall, Troon.

Trowbridge.—New county offices (12,000 $\frac{1}{2}$); Mr. J. E. Powell, Surveyor, County Offices, Trowbridge.

Trowbridge.—Alterations to premises for the Wilts United Dairies, Ltd. (3,750 $\frac{1}{2}$); Messrs. Bigwood & Co., builders, Spa-road, Melksham.

Tynemouth.—Additions at St. Saviour's Church; Mr. A. E. Plummer, architect, 13, Grey-street, Newcastle-on-Tyne.

Wakefield.—Restoration of St. Andrew's Church for the Vicar.

Wallsend.—Sixty-six houses, near Rising Sun Colliery, for the Wallsend and Hebburn Coal Company, Ltd., Exchange-buildings, Newcastle.

Warrington.—Proposed rebuilding of works, Bank Quay, for Messrs. H. D. Pochin & Co., Ltd., chemical manufacturers.

Wellingborough.—Buildings for London County and Midland Bank; Mr. A. Whinney, architect, 8, Old Jewry, E.C.; Messrs. Henson & Son, builders, Wellingborough.

Wellingborough.—Isolation hospital; Messrs. Sharnham & Archer, architects, 32A, Sheep-street, Wellingborough.

Weymouth.—Alterations to bottling store, Lower Bond-street; Messrs. Crickmay & Son, architects, 49, St. Mary's-street, Weymouth.

Weymouth.—Alterations to London Hotel; Mr. S. Jackson, architect, Bridge-chambers, Weymouth.

Wick.—Fish market and offices for the Harbour Trustees (3,000 $\frac{1}{2}$); Mr. G. E. B. Coulcher, Harbour Offices, Wick.

Windsor.—Hospital at Combemere Barracks (10,000 $\frac{1}{2}$); Messrs. G. H. Hunt & Son, builders, Station Works, High Wycombe.

York.—Proposed open-air school and school for defectives, also enlargement of tram depot; Mr. F. W. Spurr, Surveyor, City Hall, York.

FOREIGN AND COLONIAL.

Polytechnic College, South Africa.

H.M. Trade Commissioner reports that, according to information received from the Commissioner of Customs and Excise at Pretoria, the Provincial Administration of the Orange Free State intend shortly to erect in Bloemfontein a Normal and Polytechnic College, at an estimated cost of 22,500.

TRADE CATALOGUES.

The Nautilus Fire Company, Ltd., of 215, Tottenham Court-road, W., forward us the latest illustrated catalogue of their patent "Bush" fire. The governing principle of this fire is simplicity, the component parts consisting of a plain or ornamental frame in cast-iron or other metal, with or without a canopy, a loose front fitted with an ashpan, and a ventilator fitted in the front of the ashpan to regulate combustion. There are no fire-bars, and the fire, in the most distinctive form of the "Bush" fire, rests on an "island" brick entirely surrounded by a cast-iron grating, which supplies air to the outside of the fire without forcing the draught through the heart, thus securing a slow-burning but always cheerful



fire. The fire-brick linings used in conjunction with the grate radiate the heat into the room, and do not allow it to escape up the flue. The "Bush" gas-fire is an entirely new barless pattern, designed with the idea of combining the conveniences of a gas-fire with the cheerfulness of a coal grate. It can be fitted to any grate, and owing to its construction it has the appearance of a coal fire, the specially made fuel giving out a similar glow. Though the fittings are completely hidden, it is only necessary to draw out the fret to expose the burner, which can be taken out for cleaning purposes without dismantling the arrangement, or removed if it be desired to use the grate for a coal fire. Though standardised for the "Bush" fire, it may be readily altered to suit any other grate.

RIVER TRENT PROTECTION WORKS.

The City Corporation of Nottingham has accepted the tender of Messrs. Gibbons & Turner, of Nottingham (licensed contractors for the "Piketty system" of reinforced concrete), for the execution in reinforced concrete of the River Trent Protection Works, in accordance with the plans of Mr. Arthur Brown, M.Inst.C.E., City Engineer. The work is to be carried out on the "Piketty" system of reinforced concrete construction, which has been selected in competition.



Queen Ethelburga's School, Harrogate.

Designed by the late Mr. C. Hodgson Fowler, F.S.A. Erected by Mr. W. H. Wood, F.R.I.B.A.

QUEEN ETHELBURGA'S SCHOOL, HARROGATE.

On September 27 the Bishop of Ripon dedicated a new chapel in connexion with the above school. The plan of the chapel consists of a continuous nave and chancel, with narrow passage aisles to the nave, and a sacristy on the north side of the chancel. A stair turret gives access to the western gallery, where the organ will be placed. The north aisle is connected by a corridor with the school buildings. The walls are built of stone, with green slates on the roof, and the floors throughout are of wood blocks.

The chapel will accommodate 340, and is the gift of Lord Mountgarret. The work has been carried out by Messrs. Bowman & Sons, builders, of Stamford, from the designs of the late Mr. C. Hodgson Fowler, F.S.A., under the supervision of Mr. W. H. Wood, F.R.I.B.A., of Durham, and Newcastle-on-Tyne, his successor.

LAW REPORTS.

OFFICIAL REFEREE'S COURT.
(Before Mr. VEREY.)

Decorative and Electrical Work: Action by Messrs. Hampton.

THE hearing has been concluded of the action by Messrs. Hampton & Sons, Ltd., of Pall Mall East, S.W., against Princess Annie de Lusignan, to recover 162*l.* 5*s.* 11*d.* for decorative and electrical work done in her flat at 11, Wellington-court, Knightsbridge, S.W., last year.

Mr. Frank Mellor, who appeared for Messrs. Hampton, said the Princess's flat was on the fifth floor, the kitchen and domestic offices being on the floor above. Most of the work was in respect of the fifth floor. The defence was, apparently, an allegation that the work was negligently and unskillfully done, and that 100*l.*, which the defendant had tendered, was sufficient payment. Counsel added that from the first Messrs. Hampton had taken up the position that if anything had been defective they should have been allowed to put it right. They had over and over again expressed the wish to remedy any defects, but the defendant had never given them the opportunity. One of the reasons why they had not had that opportunity was that the Princess had apparently got rid of her lease. Eventually, the plaintiffs, through the courtesy of the present occupier, were permitted to inspect the premises.

Mr. John Harvey Coney, building surveyor, in the employ of the plaintiffs, said he had charge of the work. He repudiated the suggestions as to defects in the work. His firm had only used the best materials. Assuming that there were any defects, witness thought a sovereign would put them right.

Witness said that when the defendant took possession she only complained of the wall-paper in the corridor being wrong; but, added witness, she admitted she had changed her mind a great deal. She also spoke about a ceiling.

Mr. R. B. Mann, of the firm of Messrs. John Mann & Sons, quantity surveyors, of Parliament-street, S.W., said he had inspected the work and considered it to be satisfactory.

Mr. T. E. Haydon, for the defendant, submitted that his client, in tendering before the action and bringing into Court 100*l.*, was amply satisfying the requirements. This was, urged Counsel, a case of *quantum meruit*.

Mr. George A. Hall, F.R.I.B.A., of Victoria-street, S.W., said he had examined the work done by the plaintiffs on behalf of the defendant. With reference to the fastenings in the drawing-rooms, they had not been lacquered for a long time, and witness criticised the material of a picture-rail in the oak-room—a knob had fallen out and another was loose. The ordinary precaution of sandpapering had not been observed. Witness said he would not have passed such work in a flat which let at 360*l.*

The dining-room paper was badly hung and trimmed. The joints were not regular, which would have been the case if the paper had not shrunk. In the bedroom the ceiling was badly done, and knots in the woodwork were showing through the paint. In his opinion, there had been lack of supervision.

Mr. Haydon said that Mr. Martin had given evidence that he had measured up the work and put in a tender, assuming that the work was to be executed on the basis set down in the specifications. Mr. Martin said that a fair price would be 107*l.* Mr. Martin had not examined the work for any defects, but he had noticed that it was poorly done, and he considered 90*l.* was an outside price that ought to be paid to the plaintiffs.

Counsel asked Mr. Hall what he had to say. Mr. Hall said if the estimate for 107*l.* had been put before him he would have reduced it.

Mr. Haydon: Having regard to the condition of the work when you saw it, it would be easier to tell the defects than when Mr. Martin inspected the premises?—Yes.

What do you say would be a fair value of the work to the Princess?—I should think 90*l.* absolutely.

That is an outside figure?—Yes.

Cross-examined by Mr. Mellor: I am taking it that, in your opinion, the difference between the estimated work which the Princess has had is a difference between 90*l.* and 107*l.*?—Yes.

Witness added that he had made a thorough examination.

Do you think there is any single defect that you did not notice?—I should be surprised to hear of anything that I have omitted.

Other evidence was given for the defendant, and the Official Referee, giving judgment, said that he thought the correspondence showed that the plaintiffs were ready and willing at all times to put right whatever small defects

there might be, and he thought that a somewhat unreasonable lady had been shown on the part of the lady in not giving the plaintiffs that opportunity. The question he had to decide was whether the work had been substantially completed. He had listened with great interest to the arguments advanced by Counsel for the lady, and to the way he had analysed the evidence. On the other hand his Lordship had had the evidence of Mr. Coney, the plaintiffs' building representative, and that evidence stood uncontradicted. On the whole of the evidence before him he came to the conclusion that the plaintiffs did substantially carry out the contract, that they did the work specified, and, taken on the whole, in a proper manner. He thought, however, that a somewhat deduction should be made for the cost of making good certain little things. For that he would allow 2*l.* 5*s.* 11*d.* Deducting that sum, the plaintiffs were entitled to judgment for 160*l.* and costs.

Mr. Haydon, for the defendant, asked for a stay of execution in case his client desired to appeal.

Mr. Verey: You can take what course you like, but I do not think it is a case in which I ought to do anything.

London Building Law:

Borough Councils and District Surveyors.

AT Tower Bridge Police Court Mr. Cecil Chapman gave his decision on the four summonses taken out by Charles Archibald Daubney, District Surveyor, representing the London County Council, against Mr. Robert John Angel, A.R.I.B.A., Borough Engineer and Surveyor, Bermondsey, for having failed to give building notices in respect of works at Vine-street, Rouel road, Rotherhithe-street, and Bermondsey-street, and for having begun such works without giving notice.

Mr. Chapman said the District Surveyor of Bermondsey had summoned the Borough Surveyor for failing to give him notice under the London Building Act, 1894, before interfering with and replacing the soil under certain houses in the reconstruction of a sewer passing under a block of houses in one place and in close proximity to the sides of houses in another place. "The claim," he said, "is based upon the proposition that anything done to the foundations of a building, within 3 ft. of a building, must be 'work' for which notice is required under sect. 145, subsect. (a), although the interference was only incidental to the execution of other work which had nothing to do with the buildings. The word 'work' in the section which deals with notice to be given is associated with the words 'building or structure,' and it is natural to infer that it must mean work *ejusdem generis* as building or structure. The cases relied upon for the plaintiff—London County Council v. District Surveyor, Inspector, Moran & Sons v. Marsland, and City of Westminster Council v. Watson—do not seem to me to conflict with this view. They show that brick or other work connected with a reservoir comes within the term structure or building, and that a wooden stand erected in a public place for the purpose of sight-seeing is equally a structure. . . . The defendant's case is based upon the contention that work which is not directed to a structure or building is outside the scope of sect. 145, although it may be closely associated with, and even materially affect, a building. In support of this contention, the case of Verner v. Macdonnell is relied upon, in which a solid structure of seats within the Agricultural Hall, for the purpose of accommodating hundreds of people, was held not to require notice to the District Surveyor. In my opinion, the reasoning in that case applies directly to the one before me, and, as I imagine, governed the action of local authorities ever since the London Building Act was in force. If it were otherwise, the construction of sewers or the laying of electric cables, or the carrying out of any other works below the surface of London would have been accompanied by endless notices and fees for District Surveyors. Such demands have never yet been heard of, so far as I know, except in two cases, one of which appears to have been successful and one unsuccessful. In my judgment, it is unnecessary to discuss the extent of interference with the subsoil of the houses in this case, because I hold that whatever was done incidentally to a building in the carrying out of a sewer construction, an entirely different operation, is not a work or structure for which notice to the District Surveyor is necessary. The case, therefore, against the Borough Surveyor will be dismissed, with 12 guineas costs."

On the application of Mr. Pasmore, the magistrate consented to state a case. A summons for fees was adjourned *sine die*.

LONDON COUNCILS.

Barnet.—Mr. F. Cade has lodged plans for the erection of a block of flats at the corner of Bedford-avenue and Barnet-hill.

Bermondsey.—The disused tram-track in Spa-road is to be taken up and the roadway, including certain portions outside the track, is to be repaved with pitchings or wood at an estimated cost of 4,500.

Camberwell.—A scheme has been approved for the erection of a convenience at Goose Green at an estimated cost of 900.

Deptford.—Tenders are to be invited for carrying out (1) the drainage work, (2) the formation of roads, and (3) the demolition of stages, in connexion with the extension of rockley Cemetery. A plan lodged by Mr. F. Varman for the erection of a building abutting upon Hales-street and Stanhope-street, has been passed.

Finchley.—Plans have been passed for Messrs. Edmundsons, Ltd., for the erection of seven shops and houses in Ballards-lane; also for the Up-to-Date Picture Palaces, Ltd., for the adaptation of the skating rink on the north North Road into a cinematograph theatre.

Holborn.—Tenders are to be invited for carrying out alterations to the public mortuary in Goldsmith-street, so as to provide for improved accommodation for the caretaker; private mortuary chamber; a suitable cleansing station, with baths on ground and first floors; and various other improvements to make the building suitable for present and future requirements.

Isle of Dogs.—Plans have been passed for Mr. V. J. Hobbs for the erection of three houses in Bethell-avenue and seven in Emerson-road.

Kensington.—Tenders are invited for making p Wallingford-avenue, Balloil-road, Kingsbridge-road, and the extension of Kelfield-avenue.

Levensham.—A communication has been received from the L.C.C. stating that they have decided to undertake the widening of London-road, Devonshire-road, and Valdmarr-road, Forest Hill, at an estimated cost of 46,500. The Council have acceded to application from Messrs. Jarvis & Richards on behalf of the Catford Estate Company, Ltd., to construct a 6-in. sewer from the boundary of their property to the west side of Catford Bridge. The work is to be undertaken by the Council at the cost of the applicants. Plans have been passed for Mr. J. Hughes and Messrs. W. T. Champion & Sons for the erection of six houses in Downhill-road, and for additions to Nos. 142 and 4, High-street respectively; as have also plans for Mr. A. Henley for alterations to a picture palace opposite Crofton Park Railway station, Brockley-road.

The following have lodged plans with the L.C.C.: Mr. W. Goddard, buildings, Lewis-grove; Mr. F. W. Loasby, buildings, Hither Green-avenue; Mr. G. A. Lansdown, forming and laying out new road.

Tottenham.—Plans have been passed for Mr. J. S. Theobald and Mr. Wm. C. Staljes for additions to the factory, in North-grove, of Messrs. A. Bewick & Co., and for additions to Oceana Laundry, Cornwall-road, respectively.

Wandsworth.—The attention of the Lord Chancellor, H.M. Treasury, and the Office of Works is again to be called to the inadequacy of the building used as the Wandsworth County Court, and to the immediate necessity of a larger building being provided. Tenders are to be invited for paving Otterburn-street, Footing, and part of Salford-road, Stratnam, as new streets. The following plans have been passed:—Mr. A. Harvey, additions to Convent of the Holy Family, High-street, Footing; Messrs. Erwood & Morris, addition to St. Mary's Schools, St. Alphonsus-road, South Clapham; Messrs. Holloway Bros. (London), Ltd., four houses off Kellerton-road, Springfield; Messrs. Jones Bros. (Footing), alterations and additions to Nos. 6 and 8, St. Nicholas-road, Balham; Messrs. J. Arnell & Son, additions and alterations to Southampton House, Roehampton-lane, Putney, W.

Willesden.—The Engineer has been directed to report as to the probability of securing a suitable site for the erection of swimming and slipper baths. The Education Committee has been authorised to proceed with the erection of temporary schools on the "Doecker" principle, to accommodate 400 children, upon the Bridge-road and College-road sites; also to proceed with the erection of a permanent school on the Dudden Hill site to accommodate at the first instance 400 children, with the possibility of enlargement to 1,200, and finally 1,600 if required. To cover the cost of the work application is to be made to the Local Government Board for sanction to borrow 7,755. Electricity mains are to be extended at an estimated cost of 82. The following plans have been passed:—Messrs. Lawrence &

Aitken, additions at Albion Works, Kimberley-road, Willesden-lane; Mr. H. R. Hunter, six houses, Doyle-gardens; Messrs. William Moss & Sons, additions to Workhouses, Acton-lane, for the Guardians; Mr. F. W. Heel, alterations to No. 126, High-road, for Messrs. E. G. Harvey, Ltd.; Mr. T. W. Willard, additions at Edinburgh Biscuit Works, Waxlow-road, for Messrs. McVitie & Price; Messrs. John Belcher, R.A., and J. J. Joass, addition to factory, Waxlow-road, Acton-lane, for the British Luxfer Prism Syndicate. Plans have been lodged by Messrs. T. Marcus Houghton, S. Hathaway, and G. S. Valentin for the erection of a picture theatre at rear of No. 159, High-road, Kilburn; a mission hall in Melville-road, Stonebridge Park, and for extensions to cinema theatre, High-street, Harlesden, respectively.

PATENTS.

APPLICATIONS PUBLISHED.*

23,705 of 1911.—Charles Thomas Lee: Ventilator screens.

26,609 of 1911.—John Willis Cloud: Pipe joint.

28,596 of 1911.—Carl Murer: Machines for moulding plastic substances.

1,920 of 1912.—Richard Henry Annison: Piling, sheeting, and other members for structural work.

4,006 of 1912.—James Holt: Silencing arrangement for water-waste preventers, cisterns, or the like.

4,112 of 1912.—Albert Barnes: Apparatus for closing water supplies to taps and other fittings.

7,624 of 1912.—Frederick James Kellow: Slab walls.

7,995 of 1912.—Joseph Wilkinson Crosby: Moulds for forming blocks of artificial stone, concrete, and the like.

9,168 of 1912.—Franz Kaiser: Doorlock and safety device therefor.

10,521 of 1912.—The British Reinforced Concrete Engineering Company, Ltd., and Andrew William Storey: Stirrups or shear members for use in reinforced concrete structures.

12,114 of 1912.—Logan Willard Mulford: Concrete skylights, vault-lights, and floor-lights.

13,708 of 1912.—Edward Aloysius Tracy: Paving blocks.

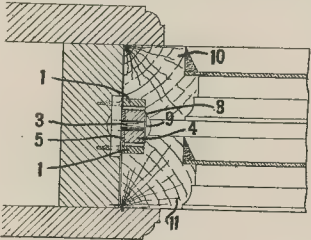
15,955 of 1912.—Anton Drexler: Building blocks.

16,264 of 1912.—John William Ewart: Baffles for preventing down draughts in flues.

17,070 of 1912.—Roy Alfred Plumb: Method of rendering cement, mortar, and concrete waterproof.

SELECTED PATENTS.

16,471 of 1911.—James Johnston: Windows. This relates to windows having a pair of sliding sashes balanced one against the other by means of racks 1 on the sashes 10, 11, engaging pinions 4 mounted on the window-frame.



16,471 of 1911.

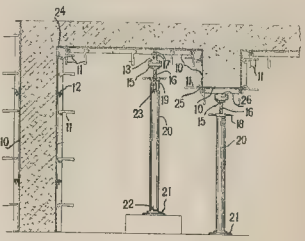
The pinion 4 is mounted between washers 5 and 8 on a spindle 3, riveted over to form a head 9. A deep draught-rail is also fitted to the sill to enable the upper sash to be opened without admitting air below the lower sash.

16,763 of 1911.—Reichert Manufacturing Company and August Reichert: Moulding concrete floors.

This relates to moulds for casting concrete floors and beams *in situ*, which are supported by T-section or other rails 13, 26, carried by grooved heads 15 on screw-threaded rods 16, adjusted by nuts 18, provided with shoulders 19, to engage the upper ends of pipe lengths

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

20. The screws are provided with enlargements 23 at the lower ends, to fit within the pipes, which are centred on feet 21 with bosses 22. The edges of the mould-plates 10 are provided with flanges, which are secured



16,763 of 1911.

together by pivoted clamps 11 and pins 12, and are retained on the T-rails 13 by lugs 17. The corners of the moulds are formed by angle-pieces 24, 25, secured to the adjacent mould-plates by the clamps 11.

SOME RECENT SALES OF PROPERTY: ESTATE EXCHANGE REPORT.

December 4.—By DUNN, SONAR, & COVENDALE, Walworth, 3 and 4, Cottage-st., f. p.	£900
Wandsworth.—38, Trentham-st., ut. 88 yrs., g.r. 21. 8s., e.r. 32d.	175
By EDWIN FOX, BOUSHFIELD, BURNETT, & BADELEY, Palmer's Green.—37, Selwyn-st., f. e.r. 50d.	540
Peckham.—1 to 13, Grumman-st., f.g. rents 70l. 4s., reversion in 32 yrs.	1,625
East Dulwich.—85, Friern-rd., f. e.r. 32d.	350
By J. A. & W. THARP, Wood Green.—54, Palace Green-rd., ut. 85 yrs., g.r. 21. 10s., y.r. 32d.	295
By WALTER WINDRUM, Linehouse, 1 to 13 (odd), Maroon-st., f. w.r. 23d. 8s.	1,630
Poplar, 42, Finchhorn-st., ut. 61 yrs., g.r. 31. 18s., w.r. 31l.	150
By WYATT & SON, Chidham, Sussex.—Cottage and 2 acres, f.	295
Chichester.—25 and 26, Southgate (s.), and stable, f.	918
By KENSLEY, Romford.—21 and 23, Malvern-rd., f. w.r. 36l. 8s. 16 to 22 even, Miln-rd., f. w.r. 36l. 10s. 15, 47, and 49, High-st. s., f., y., and w.r. 88. 5.	375
December 5.—By HAWTHORN & SONS, Wimbledon.—St. Mary's-rd., Burfield and 1, acres, f. p.	3,750
By BILEY & SONS, Rotherhithe.—3, 5, 21, 23, 25, 27, 37, and 38, Silvercock-st., ut. 44 yrs., g.r. 32d.	1,615
By DAVID J. CHATELAIN & SONS, Northolt, 1 to 6, Beechcroft-rd., f., y.r. 196l.	1,320
Kensington.—21, 25, and 31, Penfold-rd., ut. 24 yrs., g.r. 24l., y.r. 270l.	1,200
106, Warwick-rd., profit rental 18l. 7s., ut. 28 yrs.	275
By W. HALLITT & CO., Puddington, 120, Harrow-rd., ut. 30 yrs., g.r. 16l., e.r. 80l.	300
St. Mary's-rd., ut. 33 yrs., g.r. 11l. 10s., y.r. 65d.	355
By NEWBON & SHEPHERDS, Caledonian-road.—Wharfside-rd., Northdown-st., etc., f.g. rents 220l., reversion in 31 and 32 yrs.	4,850
Harringay, 98 and 100, Effingham-rd., f.g. rents 10l., reversion in 75 yrs.	235
Highbury, 17 to 37 (odd), Chatterton-rd., f.g. rents 37l. 16s., reversion in 63 yrs.	750
By ANDREW PAUL, Acton.—Churchfield-rd., Albion-bh., ut. 38 yrs., g.a. 25l., y.r. 30l.	800
By STIRTON & SONS, Clapham.—83, Gauden-rd., ut. 49 yrs., g.r. 13l., e.r. 70d.	400
1, 3, and 5, Claydon-rd., f., y., and w.r. 120l.	1,215
Blackfriars, 31, Bennett-st., f. e.r. 38d.	355
Walworth.—8, Lorraine-st., ut. 33 yrs., g.r. 3l., w.r. 32l.	175
Southend-on-Sea.—6 and 7, Cliff Town-rd., f.g. rents 50l., reversion in 82 yrs.	1,140
Manor Park.—81b, Romford-rd. (s.), f. e.r. 100l.	1,300
Leyton.—248 and 352, High-rd. (s.), f., y.r. 32d.	895
Southgate.—Nos 133 and 135, ut. 15 yrs., g.r. 13l., y.r. 42l. and p.	300
By DENHAM, TUNSON, RICHARDSON, & CO., East Dulwich.—17 to 29, 75 to 87 (odd), Pellatt-rd., f.g. rents 84l., reversion in 87 yrs.	1,740
Tooting.—37 to 54 (even), Ascot-rd., f.g. rents 40l. 11s., reversion in 93 yrs.	785
26, 28, 30, 40 to 52 (even), 60, 61, 68, 71, and 79, Links-rd., f.g. rents 76l. 10s., reversion in 91 yrs.	1,190
New Malden.—55 to 69 (odd), Elm-rd., f.g. rents 49l. 7s., reversion in 93 yrs.	910
Bromley, Kent.—8, Langford-rd., f.g. rents 7l. 17s. 6d., reversion in 91 yrs.	175

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number;** Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, —; Auction Sales, xviii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* * It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

Competitions.

JANUARY 1, 1913.—**Belfast.**—DWELLING-HOUSES. Premiums of 25*l.*, 15*l.*, and 10*l.* Particulars from the City Surveyor, Belfast (11. 1*s.*).

JANUARY 1, 1913.—**Dublin.**—MUNICIPAL BUILDINGS.—Assessor, Mr. Albert E. Murray, A.R.H.A. Conditions from the City Treasurer, Dublin. Deposit, 2*l.* 2*s.*

JANUARY 3, 1913.—**Jamaica.**—MUNICIPAL BUILDINGS. To cost 9,000*l.* Premium 100*l.* Particulars from Messrs. Young, Ltd., 60, Fenchurch-street, E.C. (2*s.*).

FEBRUARY 3, 1913.—**Harrogate.**—SCHOOL.—The Harrogate Education Committee invite designs for a Council school in Skipton-road. See advertisement in issue of November 1 for further particulars.

FEBRUARY 4, 1913.—**Hayti.**—DESIGNS FOR A NATIONAL PALACE AT PORT-OF-PRINCE.—See "Competition News," December 20, page 748.

FEBRUARY 15, 1913.—**Winnipeg.**—CITY HALL.—Limited to British architects in Canada. Assessor, Mr. Leonard Stokes, F.R.I.B.A.

FEBRUARY 22, 1913.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in "Competition News," December 1, 1911, page 685.

MARCH 1, 1913.—**Rangoon.**—MUNICIPAL BUILDINGS.—The Committee of the Municipality of Rangoon invite designs for the new Municipal Buildings. Honoraria of 800*l.*, 200*l.*, and 100*l.* respectively for first, second, and third. See advertisement in August 2 and 30 for further particulars.

MARCH 1, 1913.—**Sofia.**—DESIGNS FOR A ROYAL PALACE AND LAW COURTS.—Particulars from the Commercial Intelligence Branch of the Board of Trade, Bevington-street, E.C. (see page 173, August 9, and page 350, September 27).

JULY 10, 1913.—**Town Planning Scheme.**—Promoted by the Institution of Municipal and County Engineers. Premiums, 10 guineas, 7 guineas, and 5 guineas.

NO DATE.—**Folkestone.**—PROPOSED KURSAL.—Cost not to exceed 20,000*l.* Premiums 100, 50, and 25 guineas. See "Competition News," page 542, November 8.

NO DATE.—**Motherwell.**—HIGH SCHOOL.—Dr. Burnet, assessor. Premiums 50*l.*, 30*l.*, and 20*l.*

NO DATE.—**Worthing.**—NEW CHURCH.—Sketch plans are invited for a church to be erected in South Lancing, to cost, when completed, from 4,000*l.* to 5,000*l.* See advertisement in issue of December 13 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

DECEMBER 28.—**Stafford.**—HOME.—Erection of a nurses' home at Stafford Asylum. Drawings and specification with Mr. W. James Nevett, the County Architect, County-buildings, Stafford. Deposit of 2*l.* 2*s.* for quantities.

JANUARY 3, 1913.—**Cardiff.**—ADDITIONS, ETC.—For additions and alterations to the Imperial Hotel, Mount Stuart-square, Cardiff, for the Alliance Buildings, Cardiff, Ltd. Plans and specifications seen, and quantities from Mr. Sidney Williams, Lic.R.I.B.A., architect, Wharfedale-street, Cardiff.

JANUARY 4.—**Cardiff.**—HOUSES.—For the erection of two houses, near Zoar Chapel, Bonvil-

stone, Cardiff. Plans and specifications with Mr. Near Griffiths, Lower Greenway, Bonvilstone.

JANUARY 4.—**Fowey.**—ALTERATIONS.—For minor alterations and improvements at Whitehouse Landing Place, Fowey, Cornwall. Plans and conditions with the engineer, Mr. H. Bulteel, 31, Whimble-street, Plymouth.

JANUARY 6.—**Fowey.**—HOSPITAL.—For the erection of Cottage Hospital, Fowey. Plans and specification with conditions of contract, with Mr. C. V. Jackson, Lees, architect, Northdown House, Llantegloe-by-Fowey. Deposit of 2*l.* 2*s.*

JANUARY 7.—**Glasgow.**—ROOM.—For the proposed new dining-hall, Coplawhill, Albert-road. Plans seen, and forms of tender from Mr. James Dalrymple, General Manager, 46, Bath-street, Glasgow.

JANUARY 9.—**Maesteg.**—HOUSE, ETC.—For the erection of a drill-hall and house for instructor at Maesteg. Plans and specification seen, and quantities on deposit of 1*l.* 1*s.*, from Mr. H. Alex. Clarke, architect and surveyor, Brilon Ferry.

* JANUARY 11.—**Iwade, Kent.**—SCHOOL.—The Kent Education Committee invite tenders for new Council school of special construction in stone and concrete. See advertisement in this issue for further particulars.

* JANUARY 15.—**High Wycombe.**—POST-OFFICE.—The Commissioners of H.M. Works and Public Buildings invite tenders for alterations to High Wycombe Post Office. See advertisement in this issue for further particulars.

JANUARY 18.—**Taunton.**—BUILDINGS.—The Somerset Rural Agricultural Association invite tenders for the erection of the showyard buildings, enclosures, etc., for their forthcoming show, to be held at Taunton. Drawings and specifications, with schedules and quantities, with Mr. H. O. Samson, Lic.R.I.B.A., Hammel-street, Taunton, Surveyor to the Association.

JANUARY 21.—**London.**—BUILDINGS.—The London C.C. invite tenders for the construction of buildings for public conveniences on the Victoria-embankment, near Blackfriars Bridge. Specifications, drawings, quantities, form of tender, etc., from the Chief Engineer of the Council, Sir Maurice Fitzmaurice, C.M.G., at the County Hall, Spring-gardens, S.W. Deposit of 1*l.*

NO DATE.—**Debenham.**—ENLARGEMENT.—The Managers of the Sir Robert Hiteham Girls' School, Debenham, invite tenders for the enlargement of the school, with cloakroom accommodation, etc. Plans and specification, on deposit of 1*l.* 1*s.*, from Mr. R. G. Pordham, architect, 2, Bolton-villas, Sidegate-lane, Ipswich.

NO DATE.—**Newnham.**—HOUSE.—For the erection of a house at Newnham, Gloucester. Deposit of 1*l.* 1*s.* for quantities to Mr. L. Willoughby Thomas, architect, Theatre Royal-chambers, St. Mary-street, Cardiff.

NO DATE.—**Torquay.**—ALTERATIONS.—For alterations to business premises, for Mr. Jas. Stevens. Architect, Mr. F. G. Moore, A.M.Inst.C.E., 9-10, Fleet-street, Torquay.

NO DATE.—**Torquay.**—BUNGALOW.—For erection of a bungalow at Livermed, for Prebendary A. P. Woodhouse, M.A. Architect, Mr. F. G. Moore, A.M.Inst.C.E., 9-10, Fleet-street, Torquay.

ENGINEERING, IRON, AND STEEL.

JANUARY 3.—**Dublin.**—HEATING, ETC.—For hot-water heating and ventilation at the new offices for the Commissioners of Public Works, St. Stephen's Green, Dublin. Drawings and specification, on deposit of 1*l.*, from Mr. H. Williams, Secretary, Office of Public Works, Dublin.

JANUARY 6.—**Kegworth.**—TANK, ETC.—For the construction of a Dortmund tank, new mud bede, and other appurtenant works at Kegworth Sewage Farm, Leicestershire. Plans seen, and

quantities from the Engineer, Mr. W. H. Radford, C.E., Albion-chambers, King-street, Nottingham, on deposit of 1*l.* 1*s.*

JANUARY 7.—**Mandover.**—BRIDGE.—For the section of a steel bridge over the River Towy, near the Towy Bridge Inn, Rhandirmwyn. Plans, specifications, and quantities with Mr. Henry A. Ellis, M.A., M.S.A., 10, Fisher-street, Swansea.

FEBRUARY 8.—**Bridport.**—BRIDGE.—For the erection of a bridge at Bridport. Plans, specifications, and particulars from the Engineer, Mr. Fredk. Cooper, East-street, Bridport. Deposit of 2*l.* 2*s.*

JANUARY 8.—**Buntingford.**—TANK.—For the construction of a precipitation tank at the Buntingford Sewage Disposal Works. Plans seen, and form of tender, with specification, from Mr. Ernest G. Thedy, the Council's Surveyor, Board-room, Buntingford.

JANUARY 11.—**Chorley.**—ENGINES.—For the supply of two gas-engines and two pumps. Particulars, on deposit of 1*l.*, from Mr. Alban Jolly, Surveyor to the Council, at 9, High-street, Chorley.

NO DATE.—**Lincoln.**—ROAD.—For making a main road from Wragby-road to Greetwell-road, and for sewerage and channelling the same. Quantities, on deposit of 1*l.*, from Messrs. W. Walskine & Son, surveyors, St. Edmund's-chambers, Silver-street, Lincoln.

FURNITURE, PAINTING, MATERIALS, etc.

DECEMBER 24.—**Dundee.**—BATHS.—For painter work at Central baths. Specifications seen, and quantities and forms of offer from Mr. Jas. Thomson, City Engineer, 91, Commercial-street, Dundee.

DECEMBER 31.—**Merthyr Tydfil.**—CASTINGS.—For the supply of iron castings. Specification and form of tender from the Borough Engineer, Town Hall, Merthyr Tydfil.

JANUARY 10, 1913.—**Warrington.**—BATH.—For the douche bath installation for the Bolton Council Extension, Leetchford, Warrington. Specifications and forms of tender from the Director of Education, Education Office, Sankey-street, Warrington, on deposit of 10*s.* 6*d.*

ROADS, SANITARY AND WATER WORKS.

JANUARY 1.—**Barnstaple.**—DRAINAGE.—For drainage work at Bell Meadow. Mr. E. Y. Saunders, M.R.S.I., Borough Surveyor, The Strand, Barnstaple.

JANUARY 9.—**Tonypreail.**—ROADS.—For making-up Station-road and lane connecting Station-road and Collens-road, Tonypreail. Plans and specification seen, quantities, and form of tender on deposit of 1*l.* from Mr. Thomas Saunders, Surveyor, School-street, Pontypridd.

JANUARY 16.—**Chelmsford.**—STREETS.—For the execution of street improvement works at the corner of Moulsham-street and Baddow-road. Forms of tender, particulars, plans, and specifications at the Borough Engineer's Office, 16, London-road.

JANUARY 22.—**Madras.**—PIPES, ETC.—The Corporation of Madras invites tenders for the supply and delivery of English stoneware pipes and specials, varying from 4 in. to 21 in. internal diameter, and aggregating a total length of about 165 miles. Forms of tender, by Mr. J. W. Madeley, M.A., M.Inst.C.E., M.A.M.Soc.C.E., etc., Special Engineer to the Corporation, etc., Madras, from Messrs. James Mansergh & Sons, Agents to the Corporation, 6, Victoria-street, Westminster, S.W., on payment of 5*s.*

Auction Sale.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDING MATERIALS FROM DEMOLITION, PECKHAM RYE, S.E.—On the Premises. Veyard & Yates		Jan. 9, 1913

RECENT SALES—continued from page 788.

Green. New Tyson-st., (Spainel Dog b., f.g.r. 151, reversion in 37 yrs.	4320
Ham. 19, or Tyson-st., f.g. rents 161, 108, version in 37 yrs.	315
Ham. 33 (odd), Turin-st., f.g. rents 284, re- version in 37 yrs.	550
Ham. 32 to 340 (even), Ham. 34, f.g.r. reversion in 50 yrs.	480
Ham. 33 (odd), Farnell-rd., f.g. rents 128, 108, version in 50 yrs.	2,620
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	900
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	370
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	215
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	675
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	215
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	235
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	170
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	700
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	200
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	735
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	160
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	320
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	350
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	1,300
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	370
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	235
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	630
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	1,450
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	100
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	365
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	400
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	380
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	240
Ham. 33 (odd), Farnell-rd., f.g. rents 421, version in 50 yrs.	1,090

TO CORRESPONDENTS.

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PRICES CURRENT OF MATERIALS.

*Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.		
Per 1000 Alongside, in River.	£ s. d.	
Best Stocks	1 14 0	
Picked Stocks for Paving	2 10 0	
Per 1000, Delivered at Railway Depot.	£ s. d.	
Flettons	1 13 0	Best Blue Pressed
Best Farnham	1 13 0	Staffordshire
Best Red	3 12 0	Do. Bulhouse
Best Red Pressed	3 12 0	Best Stourbridge
Best Red Facing	5 0 0	Fire Bricks
GLAZED BRICKS—	£ s. d.	
Best White	1 13 0	Double Headers 14 17 6
Ivory, and Salt	1 13 0	One Side and two
Glazed Headers 12 7 6	18 17 6	Ends
Headers	11 17 6	Two Sides and
Quoins, Bulhouse	15 17 6	one End
and 4 in. Flats 15 17 6	18 17 6	Splays & Squints 17 7 6
Dble Stretchers 17 17 6	18 17 6	
Second Quality 21 10s. per 1000 less than best.		
Thames and Pit Sand	6 9	per yard, delivered.
Best Portland Cement	36 0	per ton,
Best Ground Blue Lias Lime	19 0	"
Norw.—The cement or lime is exclusive of the ordinary charge for sacks.		
Grey Stone Lime	12s. 6d.	per yard delivered.
Stourbridge Fireclay	27s. 0d.	per ton at railway depot.

STONE.		
Per Ft. Cube.	£ s. d.	
BATH STONE—delivered on road wagons, a.s.		
Paddington Depot	1 7 3	
Do. do. delivered on road wagons, Nine Elms Depot	1 9	
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf	2 3	
White Bashed, delivered on road wagons, Paddington Depot, Nine Elms Depot, or Pimlico Wharf	2 4 4	
Per Ft. Cube, delivered at Railway Depot.	£ s. d.	
Ancestor in blocks	1 6	Closeburn Bed
Beer in blocks	1 6	Freestone
Greenhall in blocks	1 10	Red Mansfield
Darley Dale in blocks	2 4	Freestone
Black and Greenish Grey in blocks	2 3	Freestone
YORK STONE—Robin Hood Quality.		
Per Ft. Cube, Delivered at Railway Depot.	£ s. d.	
Scrapped random blocks	2 10	
Per Ft. Super. Delivered at Railway Depot.		
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8	
6 in. rubbed two sides ditto, ditto	2 6	
3 in. sawn two sides slabs (random sizes)	0 11 6	
2 in. to 2 1/2 in. sawn one side slabs (random sizes)	0 7	
1 in. to 2 in. ditto, ditto	0 6	
HARD YORK—		
Per Ft. Cube, Delivered at Railway Depot.	£ s. d.	
Scrapped random blocks	3 0	
Per Ft. Super. Delivered at Railway Depot.		
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8	
6 in. rubbed two sides ditto, ditto	2 6	
3 in. sawn two sides slabs (random sizes)	0 11 6	
2 in. self-faced random flags	0 5	

SLATES.		
Per 1000 of 1800 at Railway Depot.	£ s. d.	
20x10 best blue	13 2 6	unfading green 15 17 6
Bangor	13 2 6	20x12 ditto
20x12 ditto	13 17 6	20x12 ditto
20x10 1st quality	13 0 0	18x10 ditto
20x12 ditto	13 15 0	18x10 ditto
18x10 ditto	7 5 0	18x10 ditto
22x10 best blue	12 12 6	16x8 ditto
Portsmouth	12 12 6	16x8 ditto
16x8 ditto	6 12 6	

TILES.		
At Railway Depot.	£ s. d.	
Best plain red roof-tile (per 1000)	42 0	Best "Hartshill" faced (per 1000)
Hip and Valley (per doz.)	3 7 0	Do. pressed (per 1000)
Do. rouseley (per 1000)	5 0 0	Do. Ornamental (per 1000)
Do. Ornamental (per 1000)	52 6	Hip (per doz.)
Hip and Valley (per doz.)	4 0	Staffordshire (Hanley)
Best Buxton red, brown, or terracotta (per doz.)	42 6	Do. Brindley
Edw'd's (per 1000)	67 6	Hand-made sand faced (per 1000)
Do. Ornamental (per 1000)	60 0	Hip (per doz.)
Hip (per doz.)	4 0	Valley (per doz.)
Valley (per doz.)	3 0	

WOOD.		
At per standard.	£ s. d.	
Joals: best 3 in. by 11 in. and 4 in. by 11 in.	14 0 0	
by 3 in. and 11 in.	15 10 0	
Joals: best 3 by 9	13 10 0	

WOOD (Continued).

BUILDING WOOD (Continued)—		
At per standard.	£ s. d.	
Battens: best 2 1/2 in. by 7 in. and 2 in. by 7 in.	11 10 0	
8 in. and 3 in. by 7 in. and 8 in.	12 10 0	
Battens: best 2 1/2 by 6 and 3 by 6	10 0 0	
Deals: seconds	1 0	less than best.
Battens: seconds	0 10 0	
2 in. by 11 in. and 2 in. by 6 in.	9 10 0	
2 in. by 4 in. and 2 in. by 5 in.	9 0 0	
Foreign Sawm Boards—	0 10 0	more than battens.
1 in. and 1 1/2 in. by 7 in.	1 0 0	
4 in.	1 0 0	
Fire timber: best middling Danzig or Memel (average specification)	4 10 0	At per load of 50 ft.
Seconds	4 10 0	
Small timber (8 in. to 10 in.)	3 17 6	
Small timber (6 in. to 8 in.)	3 5 0	
Swedish balks	2 12 6	
Pitch-pine timber (30 ft. average)	5 5 0	
JOISTS' WOOD.		
At per standard.	£ s. d.	
White Sea: first yellow deals, 3 in. by 11 in.	24 10 0	
3 in. by 9 in.	23 10 0	
Battens, 2 1/2 in. and 3 in. by 7 in.	17 0 0	
Second yellow deals, 3 in. by 11 in.	19 0 0	
3 in. by 9 in.	18 0 0	
Battens, 2 1/2 in. and 3 in. by 7 in.	14 0 0	
Third yellow deals, 3 in. by 11 in.	14 0 0	
Battens, 2 1/2 in. and 3 in. by 7 in.	11 10 0	
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	
Do, 3 in. by 9 in.	18 10 0	
Battens	14 0 0	
Second yellow deals, 3 in. by 11 in.	16 10 0	
Do, 3 in. by 9 in.	15 0 0	
Battens	11 10 0	
Third yellow deals, 3 in. by 11 in.	13 10 0	
Battens	10 10 0	
White Sea and Petersburg—		
First white deals, 3 in. by 11 in.	15 0 0	
3 in. by 9 in.	14 0 0	
Battens	11 10 0	
Second white deals, 3 in. by 11 in.	13 10 0	
3 in. by 9 in.	12 0 0	
Battens	10 10 0	
Pitch-pine: deals	10 10 0	
Under 2 in. thick extra	10 10 0	
Yellow Pine—First, regular sizes	68 0 0	upwards.
Oldtimers	32 0 0	
Seconds, regular sizes	28 0 0	
Oldtimers	23 0 0	
Kauri Pine—Planks per ft. cube.	0 4 6	
Danzig and Statins Oak Logs—		
Large, per ft. cube.	0 3 0	
Small	0 2 6	
Waincoat Oak Logs, per ft. cube	0 6 6	
Dry Waincoat Oak, per ft. super.	0 10 0	
as inch	0 10 0	
Dry Mahogany—Honduras, Tebasco, per ft. super, as inch.	0 10 0	
Selected, Figury, per ft. super.	0 1 6	
as inch	0 1 6	
Dry Walnut, American, per ft. super, as inch	0 10 0	
Task, per load	18 0 0	
American Whitewood planks, per ft. cube	0 5 0	
Prepared Flooring, etc.—		
1 in. by 7 in. yellow, planed and shot	0 13 6	
1 in. by 7 in. yellow, planed and matched	0 14 0	
1 in. by 7 in. yellow, planed and matched	0 16 0	
1 in. by 7 in. white, planed and matched	0 12 0	
1 in. by 7 in. white, planed and matched	0 12 6	
1 in. by 7 in. white, planed and matched	0 13 0	
2 in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	
1 in. by 7 in.	0 10 0	
3 in. by 7 in. white	0 14 0	
1 in. by 7 in.	0 12 9	
6 in. at 6d. to 9d. per square less than 7 in.	0 15 0	
JOISTS, GIRDERS, &c.		
In London, or delivered by Railway Vans, per ton.	£ s. d.	
Rolled Steel Joists, ordinary	8 10 0	
Compound Girders, ordinary sections	10 0 0	
Steel Compound Stanchions	11 10 0	
Angles, Tees, and Channels, ordinary sections	10 0 0	
Flitch Plates	10 0 0	
Cast Iron Columns & Stanchions, including ordinary patterns	8 0 0	
METALS.		
Per ton, in London.	£ s. d.	
Iron—		
Common Bars	9 0 0	
Staffordshire Crown Bars, good merchant quality	9 5 0	
Staffordshire "Marked Bars"	11 0 0	
Mild Steel Bars	9 5 0	
Hoop Iron, basis price	10 0 0	
"Galvanised"	17 10 0	
(And upwards, according to size and gauge.)		
Sheet Iron Black—		
Ordinary sizes to 20 g.	10 5 0	
"24 g.	11 5 0	
"28 g.	12 15 0	
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes, 6 ft. by 3 ft. to 3 ft. to 20 g.	15 10 0	
Ordinary sizes to 22 g. and 24 g.	16 0 0	
"26 g.	17 0 0	
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 20 g.	18 10 0	
"22 g. and 24 g.	19 0 0	
"26 g.	20 10 0	

TORQUAY.—For proposed bungalow at Torquay

TORQUAY.—For proposed bungalow at Torquay:
Mr. C. F. Shewell. Mr. F. G. Moore, architect.
A.M.Inst.M.E., 9 and 10, Fleet-street, Torquay:—
R. F. Yeo & Sons... £499 10 | G. Webber..... £250
R. E. Narracott ... 472 0 | Phare & Son..... 400
† Recommended for acceptance.

WEST HAM.—For the erection of a Handicrafts Centre adjoining the Upton-lane School, Forest Road, for the West Ham Education Committee. Messrs. William & John H. Jacques, architects, 2, Fenchurch Lane, E.C. 3.

W. J. Maddison ...	£919	0	S. Blow, Ltd.....	£7
J. J. Quarterman	900	0	A. E. Symes.....	7
A. Webb	899	0	J. Barker & Co. ...	
J. W. Jerram	896	0	H. C. Horswill.....	
W. J. Clemens.....	883	10	J. T. Lutton,	
F. J. Coxhead	817	0	Stratford*.....	6
Turnbull & Son ...	800	0		

WEST HAM.—For the supply of school desks the West Ham Education Committee:

* Denotes accepted. † Denotes provisionally accepted.

LONDON.—For erection of fire brigade station and dwellings at Silvertown, West Ham E., for the Corporation.
Mr. J. G. Morley, Borough Engineer:

A. & S. Wheeler	£8,390	F. J. Cohead	£7,200
Leslie & Co., Ltd.	7,195	S. E. Moss	7,150
W. Lewis, Ltd.	7,195	J. E. Moss	6,915
E. Proctor & Sons	7,699	A. E. Syme	6,915
W. Payne	7,435	Stratford	6,915
H. C. Horswill	7,435	O. P. Drever	6,820
F. & G. Foster	7,435		

LONDON - For building a relief-station at Blackwall lane, East Greenwich, for the Guardians. Mr. A. Roberts, F.R.I.B.A., 21, London-street, Greenwich: -

F. & T. Thorne	£2,632	F. Webster & Son	£1,287
J. & C. Bowyer	1,150	T. H. Sawyer & Son	1,285
Griggs & Son	1,396	H. N. Martin	1,258
R. A. Love & Co	1,389	E. Mills	1,257
W. Mills & Son, Ltd.	1,379	H. Groves	1,836
E. Procter & Sons	1,359	W. S. Sheridan	1,193
J. & A. Smith	1,324	H. R. Sherrin	1,083
J. & F. H. Smith	1,290	H. Hill, Greenwich: -	

† Recommended to the Local Government Board for acceptance.

MATLOCK.—For additions to the Town Hall. Mr
J. Turner, Borough Surveyor, Matlock:—
J. W. Wildgoose £248 | E. Hopkinson £23
W. Bowden 245 | F. W. Taylor* 23

[All of Matlock.]

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Doultong Stone.
Portland Stone.

The Ham Hill and Doulting Stone Co., Lim
(Incorporating the Ham Hill Stone Co. and C. Trask & S.
The Doulting Stone Co.).
Norton, Stoke-under-Ham, Somerset.
London Agent:—Mr. E. A. Williams
16, Craven-street, Strand.

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Asphalte Co. (Mr. H. Glenn), Office, 42, Pou
E.C.—The best and cheapest materials for d

roofs, stables, cow-sheds and milk-rooms, garages, tun-rooms, and terraces. Asphalted tractors to Forth Bridge Co. T.N. 2644 Cent

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$\frac{1}{4}$ Rolled plate.....	24d.	Figured Rolled, Oxford	Bolled, Oceanic, Arctic, Muffled, and Bolled Cathedral, white.....	3d.
$\frac{1}{4}$ Rough rolled and rough cast plate.....	24d.	Ditto, tinted.....		
$\frac{1}{4}$ Rough rolled and rough cast plate.....	3d.			

OILS, &c.		£ s d
Raw Linseed Oil in pipes	per gallon	0 2 1
" " " in barrels	"	0 2 1
" " " in drums	"	0 2 7
Boiled " " in barrels	"	0 2 7
" " " in drums	"	0 2 10
Turpentine in barrels	"	0 2 3
" " in drums	"	0 2 3
Genuine Ground Lead, per ton	30	5 0
(In not less than 5 cwt. lots)		
Red Lead, Dry	"	26 12
Best Linseed Oil Putty	per cwt.	0 10 0
Stockholm Tar	per barrel	1 12

VARNISHES, &c.		Per gallon
		s. d.
Pine Pale Oak Varnish.....		0 10
Pale Copal Oak.....		0 10
Superfine Pale Elastic Oak.....		0 12
Pine Extra Hard Church Oak.....		0 12
Superfine Hard Elastic Oak for seats		0 14
Churches.....		0 14
Pine Elastic Carriage.....		0 12
Superfine Pale Elastic Carriage.....		0 12
Pine Pale Maple.....		0 10
Pine Pale Durable Copal.....		0 18
Superfine Pale Elastic Copal.....		0 18
Eggshell Flating Varnish.....		0 11
White Pale Enamel.....		0 12
White Pale Paper.....		0 12
Best Japan Gold Size.....		0 10
Best Black Japan.....		0 6
Best and Magna.....		0 10
Brunswick Black.....		0 8
Berlin Black.....		0 16
Knapping.....		0 10
French and Brush Polish.....		0 10

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